

GRANGE VISITOR

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

VOL. XX. NO. 15.

CHARLOTTE, MICHIGAN, AUGUST 1, 1895.

WHOLE NO. 471.

Memories of Early Michigan.

HON. ENOS GOODRICH.

II

Since the first white man set foot on Michigan soil there has never been a period of immigration equal to that of 1836. The tide of moving population from east to west was like the current of an irresistible stream. No railroads had reached the Great Lakes and steamers were crowded with emigrants and their belongings—consisting of all kinds of domestic animals, and farm implements of every imaginable form and description. Two of my elder brothers had preceded me, traveling with ox team through Canada, in February, and as soon as Lake Erie was fairly open to navigation in the spring the family hegira took place. Eighteen miles from Old Clarence landed us on the docks at Buffalo, and with quiet weather an easy passage of two days and nights brought us to the territory which was to be our future home. So great was the rush of emigration that teamsters demanded and received fabulous prices for their services. In addition to our own horse team we hired another, paying thirty dollars for the round trip of fifty miles.

OUR NEW HOME.

The spring had been exceedingly dry and the swampy region between Detroit and Royal Oak was dry and dusty. It was the 20th day of May a little before noon, when we arrived at our destination. In two or three hours afterwards a cold rain set in, and it seemingly rained incessantly for the next two or three months. In June, the water on the flats of Kearsley's stream was higher than I have ever known it, in all my sixty summers in Michigan. But here we were, safely landed in our Michigan home, for home it was, though it had neither door, window, nor chimney. Rough, loose boards had been thrown down upon the sleepers above and below, but the gaping chasms between the logs had never been chinked. Here the aged mother, her sons, daughter, and two grand-children, were cooped up in this lantern of a habitation with the cold rain pouring in torrents around us. But there was one redeeming feature, we had a good roof above us and blankets were made to serve the office of doors and windows until others were provided. In the west end of the house where it was intended to construct a chimney, a broad floorless space had been left, and there upon the ground we built our fires, while the ascending clouds of smoke which spread through the building and passed out at the chinks served a useful purpose, in expelling the swarms of mosquitoes which seemed determined to eat us alive.

The process of home making was pushed forward with commendable energy under adverse circumstances. The heroism of the aged mother and her daughter deserve to be recorded upon the brightest pages of pioneer history. There is an inspiration about home making in a new country which can only be understood by those who have passed through the ordeal, and it is worthy of note that woman has ever been found cheerfully submitting to the untold privations of the condition without a murmur, and ever ready to cheer on the male members of the family with encouraging words and actions, when afflictions and privations seemed insupportable, and the stoutest hearts were ready to sink in despair.

FIELD WORK.

As soon as the habitation could be made tolerable, the field work must be commenced and pushed with unremitting energy. Prices of everything were exorbitant, and the limited supply of money remaining after purchasing the ample amount of government land was melting away "like snow in the days of the sun." Sixty dollars a head for cows, twenty-four dollars a barrel for flour, and forty dollars a barrel for pork, were the ruling prices, to which a liberal margin must be added for transportation. Two more yoke of oxen must be purchased, and added to the two yoke driven through Canada, to make the indispensable "breaking-up team," for which the round sum of three hundred dollars must be paid. And the indispensable

"breaking-up plough" from the far famed R. T. Merrill of "Piety Hill," must be had to complete the outfit. Anticipating the indispensable potato patch, I hired Elijah Carmer, with his horse team, to ransack the county of Oakland for a load of seed potatoes. Carmer was one of thirty families who in '36, and '37, came from Old Clarence, N. Y., to invade the wilderness of Atlas, Michigan. When, after scouring Pontiac, Farmington, Troy, and half a dozen more of Oakland's oldest townships, he returned with his load of seed potatoes, the cost, delivered at our home in Atlas, being two dollars and thirty-five cents a bushel. They were planted rather late, but produced a fine crop. During that and the succeeding summer the breaking up of rose willow and hazle brush plains constituted our standard occupation. If the reader has ever had experience in holding a breaking up plow propelled by 8 or 10 energetic oxen, "persuaded" by an equally energetic driver, with a whip fifteen feet long, he can imagine the kind of healthful exercise to which my eldest brother and myself were subjected. Plow and chains, yokes and irons, all had to be of the strongest kind; and when frequently a tuft of rose willow sod would roll up under the massive plow beam, my 190 pounds avoirdupois frequently went "kiting" high above the backs of the rear team, and making a landing that was decidedly promiscuous. In such cases, the plow which would not stand the strain of ten stalwart oxen, under a pressure of blue beech, was thrown aside as unseaworthy.

THE SECOND SEASON.

The close of the second summer found us with 150 acres under the plow. During these two seasons we worked together as a family, and we progressed as only families can who pull together. It is here worthy of remark that during these first two summers in our new home, both ourselves and our neighbors were blest with unusually good health. Those malarial fevers which proved such a curse to our pioneer settlers had not yet found us. Enjoying good health, we worked hard, ate heartily, and slept soundly, and these ingredients constitute in a great measure the sum of human happiness.

I might fill a volume with reminiscences, but one incident must suffice to close this article. Our nearest blacksmith was a Mr. Shaw, ten miles distant, in the town of GrumLaw, which is the Indian for Grand Blanc, and the particular site was that of the present Altruist community of "Whigville." Thither we must frequently repair to get our plow irons repaired. The average weight of a plow coulter for one of our "Piety Hill" breaking plows, could not have been less than 20 pounds. One morning, (it must have been July 1836,) I shouldered the coulter and struck out on foot for Shaw's, or Whigville, ten miles distant; and on my way home assisted in the raising of a large barn on the farm of Judge Davison. That same barn is still standing on the same old Davison farm, which is now owned by the heirs of the late Lewis O. Medling. But it must be nearly 50 years since the hand of staunch old Norman Davison, who laid out that farm, "forgot its cunning," and the head which planned it was laid low in the dust. A few years since, I visited his grave in the obscure, weedy cemetery of Atlas village. And here let me enter a protest against the sacrilegious change of name from Davisonville, to Atlas, for well had the grand old pioneer earned the honor which the name conferred upon him. There upon the moss grown stone which overtops his grassy mound, I read that Norman Davison was the first settler of the town of Atlas, having settled there in 1831. I think, however, that there is a slight mistake, as from the most reliable data I have met, the man who first settled in Atlas was Parson Farrar, on section 18, of that township—the difference in date was but slight.

AT MARKET VALUE—Most popular story of the day. Opening chapters in next issue. Tell your neighbor about it.

All wire fences get loose, sag and break, except Buchanan fence. See advertisement page 8.

"The Lubin Proposition"—Concluded.

This system while always unjust was nevertheless persisted in. And because the producers of agricultural staples in our country were until recently the almost exclusive users of agricultural machinery, they could afford to pay the unjust costs of protection, and still come out ahead.

The time has, however, come when this one-sided and unjust system must cease, for if we persist in continuing this injustice now, when agricultural machines are in the hands of the cheapest field labor in the world, and when production is down to or less than cost, we not alone commit an injustice, but we become destroyers of the Republic. I do not believe that the farmer is any more "nature's nobleman" than is the shoemaker, but I do believe that the land-owning farmer is absolutely necessary in the preservation of our American institutions; for, in the nature of things, a free republican people must have a conservative body and a progressive body. While the land-owning farmers remain on their farms we have in them the conservative body, and in the citizens of the cities we have the progressive body. If our economic conditions are such as to drive the farmers to the cities, and should their places be taken by a degraded cheap-living peasant-tenantry, then are the days of our Republic numbered, and we see in the present condition the beginning of the end.

There are two remedies for the removal of the injustice and inequality. One is in the absolute abolition of the protective system and its replacement by free trade; the other is in providing a method of protection for agricultural staples so that its prices in our country are enhanced as imports and home manufactures are enhanced.

The first mode of removing the inequality is, to my mind, not practicable in our time, because the people do not want free trade, would not vote for it, and even if they did they would be likely to return to protection with a change in the administration.

The time may probably come when free trade may not only prevail in the United States but throughout the world. That time, however, is so far distant as to render this mode of equalizing the present inequality utterly impracticable.

Those who persistently reject any other mode of equalization of present conditions, except it be by free trade, are likely to do the cause of the farmer more mischief by their opposition than any practical good they may be able to accomplish.

Free trade would certainly place the producer of agricultural staples on a level with those now protected, but what would become of the American standard of wages? The free-trader believes that it would remain where it is, or if it decline, that the compensating fall in prices would equal any loss. The protectionists, on the other hand, claim that free trade would drive our wage rate down to the European level, and with no compensating decline in rents or in food staples, for these are already lower in the United States than in Europe. They further claim that the European wage rate is half and less than half of what it is here, that with free trade the United States would enter as a world's competitor in manufactures, and that the world's competition would be keener than ever, and that the lowering process would continue; that all this would be a deteriorating and revolutionary step too radical in its far-reaching results for the peace and perpetuity of American institutions.

Let us now turn our attention to the proposition of the Government bounty on exports of agricultural staples as a means of equalizing the inequality that now exists in our country between the relative values of agricultural staples and of manufactures.

In the first place, I desire to draw attention to the fact that a bounty on exports differs radically from a bounty on production. The sugar bounty, for instance, was a bounty on production, and which was paid on every pound raised. A bounty on exports calls for payment on the exports only, which, when done, enhances, not alone the price of the quantity exported, but likewise enhances the price to the very same extent of the greater quantity for home use without any further payment by the Government. This is so because there is no distinction between the price paid by

the exporter and the buyer for home use; therefore, when the export price is raised, the home price is also raised to same degree.

I wish, secondly, to state that I am speaking of no novelty here, that an export bounty on wheat was in operation in England before the abolition of protection in that country, and that the price of wheat rose with the full measure of the export bounty.

The Government bounty on exports, together with the protective tariff, will accomplish for agricultural staples what the protective tariff now does for manufactures. Every dollar received as protective duty represents several other dollars by reason of home manufactures, the enhancement of which was made possible by the dollar collected as duty, so with the export bounty. Every dollar paid out on export agricultural staples will likewise represent several other dollars in the equal enhancement of the price of the greater quantity for home consumption.

To illustrate the export bounty plan: If we take the wheat crop of 1892 we find that the total production was 611,780,000 bushels, of which there were exported 225,665,812 bushels, leaving for home consumption 386,114,188 bushels.

Now, a government bounty of 1 cent a bushel would have cost the Government \$2,256,658.12, and the enhancement to the producers would have been \$6,117,800.

A 5-cent bounty on the export would have cost the government \$11,283,290.60, and the producers would have realized in enhanced prices \$30,589,000.

By the payment of a 10-cent bounty per bushel the cost to the government would have been \$22,566,581.20, and the producers would have realized in enhanced prices \$61,178,000. It is not deemed necessary to give other examples of corn, cotton, or other staples, as the example given is plain enough.

I will now endeavor to briefly answer several objections which have been offered against this proposition. The first is, that the speculators would reap the benefits of the bounty. Before they could do this, a combination would have to be formed, which would have to include all the wheat buyers in this country, for the absolute control of the world's shipping, and for the entire crop besides. If this can be done in our country now, it could have been done in England when this system was in operation there. Wheat there rose to the full measure of the bounty paid, and there were as sharp wheat speculators in England then as there are now in the United States. If the shipping of the world and the entire crop of agricultural products could be cornered by a syndicate under the bounty system, it can be done as profitably without it. The producers have more to fear from option transactions, from those who sell wheat or cotton and who have no wheat or cotton to deliver and who do not intend to deliver any, than from those who buy and sell agricultural staples.

We had a world's advantage when we were the almost exclusive user of agricultural machinery, and we lost this advantage when these machines were placed in the hands of the cheapest labor countries in the world.

A bounty on exports will not give us the power to raise, nor will it lower the world's price; it will simply enhance the price in our country, and which enhancement is to compensate the producer of agricultural staples for the cost of protection on manufactures. He should ask for no more, and ought not to receive less, and when he does receive what is here advocated he will only receive what is justly due him. For this proposition does not advocate special legislation, but, on the contrary, seeks to do away with the special legislation now existing in the interest of all, except and at the expense of the producer of agricultural staples.

Another objection offered is that an American bounty on exports of agricultural staples will stimulate other nations to do likewise. In the first place, there are not many countries producing a surplus for export, and these are not of a kind that can afford to do so. But suppose they were, what then? It could do no harm at all, for a bounty on exports can only have the effect of raising the home price.

Continued in next issue.

Field and Stock.

How to Select a Good Dairy Cow.

PROF. FRED B. MUMFORD.

There are few persons connected in any way with the occupation of farming who do not sooner or later have to exhibit some judgment in the selection, handling, and care of a cow. A knowledge, therefore, of some of the fundamental principles necessary in the selection of dairy animals may not be out of place in this article. A consideration of these principles is especially valuable to those who depend upon dairying in whole or in part as the main business of the farm. A good judge of dairy excellence in cattle considers this subject under three general divisions: First, the external conformation; second, pedigree; and third, actual performance at the pail.

FIRST—THE EXTERNAL CONFORMATION.

Experienced breeders of dairy cattle have observed that excellence in these lines is usually accompanied by a certain general form of the animal. For instance, typical dairy animals should be wedge-shaped, looking from before, above, and the side. They should be broad across the hips, having well sprung ribs, showing great capacity for the consumption of food. These desirable qualities with others are often combined in a scale of points or score card, and used in judging dairy cattle. This indicates the relative importance to be attached to the various external qualities that are visible to the casual observer. Below will be found the form of score card used at the Michigan Agricultural College.

Department of Practical Agriculture.

MICHIGAN AGRICULTURAL COLLEGE.

Score Card B.—DAIRY CATTLE.

SCALE OF POINTS. PERFECT.

GENERAL APPEARANCE:

Form, wedge-shaped, viewed from front, side and above.....10
Quality, hair fine; skin soft, medium thickness; bone clean.....5
Temperament, nervous.....5

HEAD:

Muzzle, clean cut; mouth large; nostrils large; face lean, long.....2
Eyes, full, mild, bright.....2
Forehead, broad.....2
Ears, medium size, yellow inside, fine texture.....1
Horns, small, at base.....1

FOREQUARTER:

Neck, thin, medium length.....3
Withers, lean, sharp.....3
Shoulders, light, oblique.....2
Chest, deep through lungs.....3
Legs, straight, clean boned.....1

BODY:

Girth, 18 in. ft. in.....4
Ribs, long, broad, far apart; large stomach.....5
Back, high, lean.....3
Chine, large, open.....4
Loin, broad.....3
Flank, deep.....3
Navel, large.....1

HINDQUARTER:

Hips, wide apart.....3
Rump, long and high.....3
Pin bones or thurls, high, wide apart.....3
Thigh, thin, incurving.....3
Escutcheon, spreading and high.....1
Udder, long, not fleshy, attached high; quarters even.....4
Teats, large, evenly placed.....4
Milk Veins, large, tortuous, branching.....3
Milk Wells.....5
Legs, clean boned, far apart.....1
Total.....100

Name of Animal.....Date.....

Owner.....

The above scale of points is supposed to represent the typical form of a dairy cow, and while it by no means furnishes positive assurance of great excellence, yet it is in connection with the other two points a valuable help in determining the probable value of the cow.

SECOND—PEDIGREE.

There is a mistaken notion among most farmers that only pure bred or thoroughbred animals have a pedigree. Every animal has a pedigree. We think a better understanding of the word pedigree is, that a pedigree is, simply a record of the ancestors of an animal and may or may not be a valuable one. A pedigree is valuable in proportion to the number of good animals appearing among the ancestors of the one in question. So, in the selection of a dairy cow, if we know the dam, the grand-dam, and the great grand-dam, and know that they were good performers, excellent dairy animals, we have some reason to expect good performances on the part of the animal under consideration. So we should always find out just as much as possible concerning the animals entering into the pedigree of the individual to be selected.

THIRD—ACTUAL PERFORMANCE AT THE PAIL.

This point is perhaps the most important of all because it matters not how perfect the qualities of the animal or how good the pedigree if the animal cannot produce profitable amounts of milk or butter, she is worthless for the purpose intended. So it is of the utmost importance when selecting a cow to determine, if possible, her yield. This determination should not be limited to the amount of milk but it should determine also, if possible, the per cent of butter fat contained in this milk. The Babcock test is so common that nearly every farmer can, with a little trouble, have samples of milk tested.

Nearly every creamery in the country is supplied with one of these machines, and

it is but a few minutes work to determine the value of milk in per cent of butter fat.

If these three points mentioned above are thoroughly investigated there is no reason whatever for not being able to determine a good cow. First, an examination as to external conformation; second, investigation of the good qualities of her ancestors; and third, her ability to produce large quantities of milk and butter.

Agricultural College.

Bee Notes.

CHAS. B. HOYT.

Extracted honey is the best and healthiest sweet for children.

Crimson clover bids fair to become one of our best honey plants.

We can surely prevent swarming when running for extracted honey.

Bees do not freeze during the winter, but often starve because they cannot move about and get their honey; hence they should be warmed up occasionally.

It has recently been proven that sunshine will kill disease germs as quickly as anything, and will destroy foul brood germs in a couple of days.

Italians for beginners, but the best business bee is a cross between a black and an Italian.

A great many farmers lose their bees by having them in too dense shade. Never place them in shade except in the three hottest months.

Nearly every farmer should keep two or three colonies; keep them from swarming, work them hard and produce all the honey the family can eat.

For the amateur, out-of-door wintering is the best if the bees are properly packed, with not more than four inches of dry chaff or saw dust, packing either in outside cases or double walled hives.

James Heddon claims that he has bred out the swarming instinct and has a race of non-swarmers even when producing comb honey. With his hive and method of handling it may work, but let experimenter Taylor say whether or not they are really bred up to that point.

Such seasons as this and the past three or four demonstrate the fact that the specialist in bee-keeping is working at a disadvantage compared with the farmer with a few swarms. A few colonies will do well where more could not make a living.

Lessons of the Hour that we Should Learn.

L. B. RICE.

Every calamity that befalls us brings with it some lesson that we should learn and treasure up for future use. Now, in this unprecedented drouth we may not find some important lesson, that we, as tillers of the soil should learn well and treasure up? Are there not some changes in our methods of cultivation we should make that will enable our crops to withstand the dry seasons much better than at present?

This is told of those colonies of Russian Menonites located in western Kansas, who have brought with them their habits of industry and economy, and who live almost entirely within themselves.

These people visit our towns but seldom, and then to bring to market their grain and to take home lumber and material for their great barns, and some few articles of commerce not produced by themselves. It is said that if the seasons are dry, they plow a little deeper, and cultivate a little oftener, and when the harvest comes they still bring to the market great loads of white bags of grain, and return to their homes with loads of lumber to build more barns.

From these simple people let us learn the lesson of frequent cultivation to produce, or rather conserve moisture. Some would say that in such dry seasons as this there is no moisture in the ground husbanded, that it is dry clear down beyond the reach of plants. This may be true in a certain measure, yet there is no spot so dry that there is no moisture coming from the ground. When I was a boy in school, I remember that one of the mysteries we learned in philosophy was, that if a bell glass were placed on the driest spot of earth that could be found, drops of water would collect on the inside. This would prove that capillary attraction is always at work bringing water from the lowest parts of the earth to the surface, whence evaporation takes it up and carries it away. Now we want to learn to assist capillary attraction in its work of bringing up water, and at the same time arrest the work of evaporation in carrying it away.

What are the best conditions for capillary attraction to extend its influence in

raising water above its natural level? I shall let philosophy answer this question: "The smaller the tubes the higher the water will rise in them." Thorough cultivation gives a deep furrow and makes all of the soil fine to the bottom of it. Clods and lumps and open spaces between, checks the action of capillary attraction and of course less moisture is brought up. But making the earth all fine is not enough. The space between the particles may be too open. The soil is too loose—that is the "tubes" are too large. To remedy this, the heavy roller is used. Now the happy farmer looks complacently over his field that has been rolled as smooth as a board and says, "I have complied with all of the conditions and must expect a heavy crop." Now right here is the lesson to be learned. Thousands of fields of oats all over the country were put in this way and yet they are dried up. Where is the trouble? The trouble is that the soil is firm clear to the surface, and the water raises to the surface and the sun and dry winds carry it off in evaporation faster than capillary attraction can bring it up. Consequently there is nothing left for the plants and they have dried up. We must arrest the action of evaporation and save the moisture. How? Simply in this way. After the rolling has been completed we will put on a smoothing harrow with very short teeth, or some tool like the Breed weeder, and make the surface fine and light and loose, too loose for the moisture to be raised to the surface, and this acts as a mulch, a "dust mulch," and the dry winds and the sun's bright rays are repelled by it, and the moisture held from being evaporated. In the case of grain where seeding has not been done the weeder may be run over it several times after the grain has come up, greatly to its advantage. In hood crops keep up the cultivation as often and as long as you can.

One of the best farmers near here said to me a few days ago, "Your frequent cultivation is all right, but it must be deep enough to bring the moisture to the surface or it will be all time thrown away. It is of no use to stir in this dry sand." Here was his trouble, he had been cultivating too deep, and it was dry sand as deep as he had cultivated, and now he would go deeper and bring up more moisture to be evaporated from his plants. He should have given shallow cultivation from the start, and his Planet Jr. cultivator should have had the smoothing attachment to level and fine up the ground. I had a piece of dried up muck sod plowed for buckwheat. The man reported that it was dry to the bottom of the furrow, and it would be of no use to put grain on it. I told him to drag it thoroughly with a smoothing harrow, making a fine dust on the top. He did so, and though there was no rain, in a few days there was moisture within a few inches of the surface. In passing through the country I never saw corn cultivated as well as it is this year, and it looks remarkably well considering the drouth. Now let this be the watchword—plow deep and well; compact the ground afterwards, then make the surface loose by frequent and shallow cultivation.

Port Huron.

Capillarity vs. Evaporation.

In the July 4th number of the VISITOR, R. M. Kellogg discourses about the virtues of capillarity and the manipulations necessary to induce its action in the soil during periods of a drouth. For his methods of preparing soil, for his especial line of production, I have only words of commendation; but for his philosophy I have very little regard. His method of deeply stirring and fining the soil has the effect, as he says, of holding "several times as much water as in their natural condition," but when he packs it again to "connect all with the lower substrata so that capillary action will bring the water from the water level," he is assuming too much for this natural law, and is drawing too largely upon his imagination for his facts. He ought to be consistent and insist that his wife shall water her plants from the saucer at the bottom of the pots, and induce the water to rise into the earth by "stirring the surface about one inch." This would be a practical demonstration of capillarity if it would work. Water will ascend in dry earth to some extent by the law of diffusion, but that has its limitations as has capillary attraction. Capillary action only occurs in fibrous materials, or where tubes can be formed continuous to some extent, and the height to which water will ascend by this attraction under the most favorable circumstances, is very limited.

ACTION OF CAPILLARITY.

I find no two persons explain the action of "capillarity" in the soil in the same way. Mr. Kellogg would first break up 20 inches of the surface and then pack it again to "connect" it with the "lower strata." He then stirs the surface about an inch to break off the capillary tubes I suppose, to "prevent its escape"—that is, the water would come to the surface and overflow or dry up, if he didn't do this. One

would suppose or reason from this that the soil before being broken up, was in just the condition to favor capillary action, and if he stirred an inch of that surface he would get all the water desired. The facts are just the opposite from this, and Mr. K's reasoning, like that of every other "capillarity" expositor fails to convince.

It is a perversion of a natural law and is only kept in service because of the momentum it has gained by its use before the public in speech and in print. There is no doubt about the moisture in Mr. K's soil, although he may be a trifle hyperbolic when he says he can squeeze water out of it and run his hand into it the length of his arm. About how the moisture got there, however, Mr. K. and I shall differ. I shall still insist that it started on its upward journey, naturally and philosophically, by evaporation—was arrested in its course upward, also philosophically and naturally, by condensation.

AN EXPLANATION.

I cannot explain this glibly and flippantly, by an assertion of my own, expecting Mr. K. or other readers of the VISITOR will accept it as true. And I cannot take the space in this paper to go into the whole philosophy of temperature humidity, etc., that is necessary for its elucidation. I have been making some tests of soil temperature in my corn field and in the pasture field adjoining, that let in a load of light upon the problem. Some general facts, however, I shall state: Water sinks into the soil by gravitation—is spread about somewhat by diffusion, but never comes back again as water naturally. Water evaporates at all temperatures, and the atmosphere takes up all it can at that temperature. When the vapor meets a lower temperature it parts with a portion of its moisture. For example, the invisible vapor of the air meets a colder current, and clouds—visible vapor are formed; the cloud meets a colder current and water, falling in drops, is squeezed out of it. Fogs form in the cool valleys only to be evaporated or taken up into invisible vapor again as the temperature rises with the sun. Dews form, and the pump "sweats" by the vapor of the north coming in contact with cooler surfaces or lower temperatures. Vapor is constantly arising from the earth, but in inconstant volumes and at different temperatures. If this vapor anywhere in its upward course, from the lowest level to the topmost land, meets a cooler stratum than that from which it started, it parts with a portion of its measure. If the surface soil is cooled during the night lower than that two feet below, or 20 feet below, a part of the water in the ascending vapor is left in this cooler stratum. I ask Mr. K., or any reader of the VISITOR, to take his jug of cold water to the field and set it on the dry soil, and we can prove this in an hour. If Mr. K. will then insist that the almost wet soil under the jug got there through "capillarity," then his veneration for tradition must overcome his judgment. If I could cool the upper six inches of my corn field down permanently to 20 degrees below the stratum 24 inches below it, that would be all the irrigation plant I would desire. This morning at sunrise it was 8 degrees colder, standing at 64 at the surface, while two feet below it was 72 degrees. Yesterday at noon the figures were 90 and 74 degrees respectively, while the pasture field was 110 and 84 degrees. This morning the pasture was 60 above and 72 below. Mr. Kellogg's mellow soil retains all the moisture he gets, while my pasture field gets so hot it evaporates because there is no mellow earth to hold it and the temperature gets a good deal higher.

Mr. Kellogg says "let this subject be the topic for farmers' gatherings, and accumulate experiences and results. This is my contradiction to the fund of "experience and results," and my excuse for its presentation.

A. C. GLIDDEN.

Paw Paw.

Broad Tires in Quakerdom.

A law known as the Harvey act has been passed by the legislature in Pennsylvania, with the object of promoting the use of broad tires on heavy wagons. It provides that those owning and using draught wagons with tires not less than four inches in width for hauling loads of not less than 2,000 pounds shall receive a rebate of one-fourth of their assessed highway tax, the rebate not to exceed five days' labor on the roads in any one year. This is only a modest step in the maintenance of good roads, but nevertheless one to be commended.

—Rural Mechanic.

In view of the hopeful condition of trade advancement, in prices, and general prosperity, it stands horticulturalists in hand to see that orchards receive proper treatment and the products handled to the best advantage.—J. C. Evans.

A dozen hens are worth more to a man than \$100 out on interest at eight per cent, and there is but little risk attached to the ownership of that many hens, whereas there is always considerable risk in loaning money in any amount.—Western Rural.

WOMAN'S WORK.

Where Town and Country Meet.

Away, where stretches that hazy line,
Where the town and country meet,
That line where the city's confines lie,
And begin the meadows so sweet,
It seems to me that a mystic spell
Possesses my heart and brain,
When I cross the boundry and enter awhile
To walk in Nature's domain.

I feel as I catch the first sweet breath
Of clover-scented air,
That a higher power my whole soul claims,
And I pause for a moment there,
And wonder if waiting at Heaven's gate,
With all life's battles complete,
I shall not feel as I do when I stand
Where the town and the country meet.
—Modeste H. Jordan, in *July Ladies' Home Journal*.

They Are Dead.

There was a man who never told a lie—
But he's dead;
Never said it was wet when the weather
Was dry—

Never said
He'd caught fish when he hadn't caught one,
Never said that he'd done something that
he hadn't done,
Never scolded his wife, and never got mad,
And wouldn't believe that the world was so
bad;
A respecter of men, a defender of woman,
Who believed the divine, and in that which
was human;
Meek as Moses—he never was understood,
And the poor man died of being too good,
And he's dead.

There was a woman who had never gossiped a bit—

She's dead too,
Who hated all scandal, nor listened to it;
She believed in mankind, took care of her
cat,
Always turned a deaf ear to this story or
that;
Never scolded her husband—she never had
one;
No sluggard was she, but rose with the sun;
Never whispered in meeting, didn't care for
a bonnet,
Or all of the feathers that one could put
on it;
Never sat with the choir, nor sang the
wrong note;
Expressed no desire to lecture or vote;
For the poor soul was as deaf as a post—
also dumb;
You might have called forever, and she
wouldn't have come.
And she's dead,
—Jeannette La Flamboy, in *The Outlook*.

The Child.

FLORA C. BUELL.

Pictures.

These silent but persuasive teachers enter every home and find a welcome, for what child does not like to look at pictures? The work of the artists as portrayed in recent magazines, at an art loan, or even at the World's Fair, may be forgotten, but not so those illustrated pages we learned to love when just large enough to turn the leaves. The pleasure found in things familiar is so great in childhood that old pictures give as much satisfaction as new, and the inner resistance being less, deep impressions are made.

A grief stricken father was unable to account for the determination of his three sons to go to sea. A guest pointed to a picture in the sitting room of the home for the answer. It was a beautiful ship upon the water.

In pictures as in everything there are good and bad. The poorly colored, ill-shapen creep in with the correct and clear. A good engraving for the wall is always better than a daub oil painting.

The advertising card brings to all, numberless pretty and instructive scenes; with these come the objectionable figures, out of proportion and misleading, which should be sorted out and burned at once.

The child's magazine which has good sized, distinct representations of domestic animals, household pets, and plenty of boys, girls, and babies, is invaluable.

One of your faithful Patrons has taken the Harper's magazine for years; she does not find time to read it, but the pictures are useful to the children." Another upon being asked if he took a certain paper replied, "No, I do not take any paper I would not wish my children to see." If every parent in our land were as cautious, how soon obscene pictures and vile literature would cease to be.

A complete picture is excellent food for the memory, reason, and imagination. Ralph sits by his mamma and tells her all about it; he knows who of the children are happy and who unkind; he can tell where they are, what game they are playing, if it is summer or winter, or if the wind is blowing or the sun shining. He gives names to them and their pets and an impromptu story follows. Perhaps it is a scene in a strange land, a manufacturing establishment, or a modern machine, how thoughtfully he plying the questions. A modest mother said, "I put those books away when Harold's papa is not here, because I can't answer his questions."

Mothers and fathers, supply your homes freely with these great educators, encourage the love for the pure, study and live with your children, and who shall dare measure the influence?

Ann Arbor.

What is Woman's First Duty, Her Fireside or Country?

I am not one of those women who think it their duty to go forth and enlighten the world on all the questions of religion and politics, that come before the people. neither do I think a woman should be a student of law or finance. But she should have enough knowledge of the affairs of state to teach her children what their duty will be as citizens of a republic, until they reach an age where the struggle of life will call on them to do their own thinking and planning. Even then the care and advice of a mother will have an influence for good which will be nearer truth and purity than they can get from any other source.

While I deprecate the ambition and unladylike desire of some women to run everything, from the school district to the White House, do believe that the advice of wives and mothers has a purifying effect among the greatest statesmen of the land. To illustrate the power of true womanly woman, I will ask you to go back with me a few years in history, and review a little of the great fight made to exterminate the curse of African slavery in this republic. While Sumner was hurling thunder bolts wreathed in flowers, and Giddings, Garrison and Greeley were delivering sledge-hammer blows to wipe the curse from our land, it was left to Harriet Beecher Stowe to open the eyes of the people with her book, "Uncle Tom's Cabin," which did more to eradicate the evil than all the work of those great men. I mention this incidentally, to demonstrate the fact that it really seems necessary for woman to quit the fireside for a short time now and then, to infuse a little of her gentle purity into the great strife which is necessary to complete the works of reform carried on by the sterner sex.

I believe that on general principles women prefer the fireside, and they would be less inclined to desert it, if there were less temptations and allurements thrown in the paths of their sons and daughters, to lead them astray. The evil acts of man are the general cause of woman's leaving the fireside to engage in public strife, but her love for her offspring compels her to do so often, when her native modesty makes public work repulsive, but duty forces her to continue from sheer self defense. Therefore, I believe that when pitfalls become so plentiful that mere children are allured from the path of rectitude, it becomes the duty of women to protest. And to those men who think certain women are out of their place, we will say: These are the institutions where our children are ruined; you remove them, and we will have no occasion to go before the public. But they still remain, and, as long as men allow them to do so, woman must leave the fireside part of the time, to call the attention of man to his duty. And I am also convinced that if men would do their whole duty, a woman's place would be at the fireside and she would prefer it.

We are willing to admit that there are a few cases of the "Big Head" among women, but among men it often becomes epidemic. To illustrate, I will ask you to search history, and see if you can find any place in this free and enlightened country, where there has been a monument erected to the memory of the mothers of our country. Thousands of women went to the war to save lives, and they, as nurses, did save many lives. Yet there is no monument to their memory, while there are thousands of shafts erected to the memory of the men who did the killing. We hear of the "Pilgrim Fathers," and the "Fathers of our Country," the "City Fathers" and the "Fathers of the Church," but no mothers. and if you search literature, it would seem as though this country was got up on a father basis, without a mother in it.

ALICE I. JACQUES.

Our Home and Social Influence.

Read at Alameda Grange in 1894, by Miss Grace Olds.

Influence,—how great is the amount of space which this word claims. How can we to the best advantage, fit our small share into God's great plan? Our daily life, be it into good or evil, has its influence over those with whom we associate. We must be a light to illumine, or a tempest to destroying. I am quite sure that if we were more often reminded of this, we would find ourselves living more perfect lives. Our influence may not be strong enough to accomplish something which we have in view, but we certainly have every day opportunities of speaking a kindly word to our dear parents, or to aid them in their daily toil. It may be the means of turning their thoughts heavenward, or at least help to brighten their lives while they are permitted to remain with us. Or, we may by devoting even a small amount of attention to the amusement of our younger brothers and sisters, help to calm their childish trifles, and guide them safely to true manhood and womanhood.

Did you ever think of a man's influence on his way to church? That if some of his neighbors see him passing by, they will try to hide their disregard for the Sabbath from

him? And as they note his interest, his prompt attendance, and his cheerful good morning, as he passes by, is it strange that the man who before having met him, spent Sunday by visiting, sleeping, novel reading, or perhaps worse, dresses himself tidily and goes to church to find the same entertainment which interests his neighbor, from whom he has learned to respect his Maker?

Does this not teach us that we must use our best influence in every possible place? For often what we consider our disadvantages, may really be our most indispensable advantages. Is there not the same influence in kind faces? I once heard of a young man who, having met with misfortune and loss of property, was seeking employment in the city. As he walked along the avenue one evening near one of the windows of a brilliantly lighted store, he caught sight of a gray head bending over a desk; suddenly the face was raised and turned for a moment toward the street. At sight of his face there came a glimpse of hope to the wanderer. I'll go and tell that man my story, was the involuntary resolve. He will listen, at least, he looks so kind. The elderly gentleman thus sought was not rich, nor widely influential, but he was what he looked to be—he was kind. What he did for him cannot be told in detail, but he saved from despair and gave him hopes of a happy future. The good man did not know that he was helping one whose life was soon to end, but so it was. What if the help had not come when it did? It was a chance that an angel might have coveted.

But there was something of which Mr. Carson was unconscious which went before everything else and brought him his golden opportunity. He looked so kind; he did not call the youth, he did not even see him, but he drew him unaware. His expression, when he knew not that anyone saw him, was the means of grace.

Kind words and deeds voluntarily given are precious, but that grace in the heart which makes the face look kind, reveals the pure, innocent influence which is so greatly prized. Life is entirely made up of opportunities, where the touch of a living hand may make or mar that which presents itself.

How many times a single word uttered or traced upon paper has had influence upon some undecided person that was so serious that the effect will never be known until the records of eternity reveals it.

As we hurry along through life do we suppose that we are without influence? Does it seem possible that anyone could think that as we stand with the world, we have no responsibilities? Are we not constantly losing golden opportunities to do the Master's work. Some of these opportunities are continually bobbing up and down before us; some of them never come but once. How seldom that thought, they only come once. Do we ever stop to think of the cares of a brother or sister? Do we try to scatter sunbeams in their path? Was there a chance to speak a kindly word, to do a kindly act, or even the little deed that was so small that it did not need words to tell it? The friendly glance, the tear of sympathy, even the finger pointed to God? Were not these our golden opportunities that come but once? We are on the way to that beautiful city, and as we move along let us use our greatest influence, let us live, "not a life, but a noble life."

The Juveniles.

Daisy and Dobbin.

Daisy, with her new umbrella,
Went to walk one rainy day,
Never heeding wind or wetness,
On she paddled, blithe and gay,

Till she saw our old horse Dobbin
Tied to grandpa's hitching-post—
And she said: "You poor old fellow,
Guess you're drowned to death almost;

"Why don't folks have horse umbrellas?
Oh, I know what I can do
While I go to see my grandma,
I will lend this one to you.

"Papa says folks don't return 'em,
But you're honest, Dobbin dear!
Here's a strap to tie it on with,
So I'll fasten it right here!"

Dobbin gazed in grave amusement
At his strange unusual plight,
But he wasn't one bit angry—
Daisy's heart he knew was right,

And when other folks were laughing
At the funny, childish deed,
Dobbin thought: "Well, let them tease her,
"Daisy knows a horse's need."—Ex

The Forgetful Brook.

Down by the edge of the brook
A little flower there grew;
Into the water she'd look,
With eyes of blinking blue.

What is your name, little maid?
Said the laughing brook one day.
"Forget-me-not," she said;
But he did, as he ran away.

Destruction of An Indian Fort.

The Plymouth settlers and the Indians for many years were good friends. The Indians saw the whites cutting down the

trees and growing crops. They saw them making houses and villages. The whites visited the hunting grounds of the Indian. These things made the Indians think that the English in a few years more would drive them from their homes.

At last trouble arose and all the Indian tribes in New England joined together to fight the whites. They attacked the villages and farm-houses, and many men, women and children were slain.

The whites quickly sent out soldiers to fight the Indians. The white troops were too strong for the Indians, and Phillip and his warriors were driven from Mt. Hope.

One tribe, the Narragansetts, had a fort built of stakes fastened together. It was in the town of South Kingston, Rhode Island. Here many Indians had fled for safety. But the soldiers fell upon them and destroyed wigwams and forts.

The whites were victorious. The land of the Indians is now the home of thousands of people. Large cities and villages have been built up. But the Indians have wasted away. Only one or two families now remain, and these are poor specimens of the proud Indians who once lived in freedom in the wilds of New England.

—Ex.

Davie Wanted to be a Newsboy.

Davie's mamma read him all about the New York newsboys, and that many of them had no homes and had to sleep out doors all night.

"I thing that would be real fun," said little Davie. "I wish I could be a newsboy and sleep out of doors."

"You may try it, if you wish, Davie," replied his mamma.

Willie was one of his playmates, and he told him all about it. That will be nice," said Willie. "You can take the carriage robes and sleep on the haymow. I will bring you some cookies to eat if you wake up hungry in the night."

Davie thought this would be just the thing he would like to do. Both boys went out to the barn, and up in one corner there was a good chance to make a bed. Davie went to the carriage house and brought in two warm robes, and spread them over the hay. He said it was better than being at home.

After supper Willie brought him three nice cookies, and just as it was growing dark he said good-night to Davie and went home.

Davie thought it must be time to go to bed, so he laid down and covered himself up nice and warm in the robes. The bed seemed soft and he closed his eyes and tried to go to sleep. The barn was large, and the night was growing dark. Between the boards he could see the twilight, and every now and then there was a strange sound. Davie thought he could hear some creature trying outside to get into the barn.

He began to be afraid, but just then he thought of the cookies. They tasted good to him, but he was not at all hungry. Then he covered up his head and tried to go to sleep. Again, he heard strange sounds, and the tears began to come into his eyes. He thought of his mamma and papa and wished he could see them. It didn't seem so nice after all.

A little longer he tried to go to sleep, but all the time he kept thinking of the nice pretty pictures on the wall in his own room, that he saw every morning when he opened his eyes. All at once he bravely rose up and started in the darkness across the floor towards the door. How his shoes rattled as he felt his way along, and his heart beat very fast! He opened the door and ran home as fast as his little legs could carry him.

"Why, here's our Davie," exclaimed mamma as a little boy rushed in and threw his arms about her neck.

"I do love my home, mamma, and I don't want to be a newsboy."

Morton on Meat.

It has been said of some man that "he never opens his mouth without putting his foot in it." We are inclined to think J. Sterling Morton must have been the man. His latest effusion is on the subject of meat inspection and condemnation. For several years all meat not able to pass inspection has been consigned at once to the rendering vat and all danger of it being used for food, either here or elsewhere, has been avoided. Now comes our mealy-mouthed "farmers' friend" and issues a rule which nullifies this part of the inspection law by allowing the packers to dispose of the meat by branding it with the word "condemned" if they prefer, instead of turning it into the tanks. This gives the packers a chance to make money at the expense of the people's health. The whole thing has been aptly compared to Dogberry's famous instructions to the prisoner to go free unless he was willing voluntarily to be arrested. An excellent thing for J. Sterling's friends—the packer's trust.—*Western Rural*.

It is a slow baby that does not know which of its relatives is most easily imposed upon.—*Puck*.

THE GRANGE VISITOR

CHARLOTTE, MICH.

The Official Organ of the Michigan State Grange.

Published on the First and Third Thursdays of Each Month

EDITOR:

KENYON L. BUTTERFIELD, LANSING, MICH.

To whom all exchanges and all articles for publication should be sent.

MANAGERS AND PRINTERS:

FERRY & McGRATH, CHARLOTTE, MICH.

To whom all subscriptions and advertising should be sent.

TERMS 50 Cents a Year, 25 Cents for Six Months. In Clubs of 20 more 40 Cents per Year each. Subscriptions payable in advance, and discontinued at expiration, unless renewed.

Remittances should be by Registered Letter, Money Order or Draft. Do not send stamps. To insure insertion all notices should be mailed no later than the Saturday preceding issue.

Entered at the Postoffice at Charlotte, Mich., as Second Class matter.

NEXT ISSUE, AUGUST 15.

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. We hope every Grange in the state will work earnestly in all these departments, so that by a more united effort we shall rapidly increase our numbers, extend our influence, and attain more and more completely those ends which we seek.

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.

Look out for that great "Picnic Edition"!!!!!!

We hope Secretaries will not forget Grange news for the next issue, which will be the "Picnic Edition." Notes should be sent at once in order to secure insertion.

Farmers' institute societies are being rapidly organized. The interest in the northern counties of the state is especially encouraging. Any county not yet organized should proceed to get in line at once.

We hope that Patrons will take hold of the VISITOR at the August picnics, and "boom" it. We shall have one of the best VISITORS ever issued. Write to the publishers for sample copies.

We are pained to announce the death of Mr. Thos. A. Millar, who has for some time so kindly contributed the puzzles to the Juvenile department of the VISITOR. The puzzles will for the present be discontinued.

From what Sister Mayo says we judge that there are rather more children ready than applications. This work has reached a stage where Grange honor is at stake. We must come to the mark we have set for ourselves.

A revised edition of "Benefits of the Grange" with Declaration of Purposes has just been issued from the office of the Lecturer of the National Grange. This is a neatly printed circular, put up in an attractive form and intended for Grange campaign purposes. Deputies and other Grange workers will be supplied with this and other Grange documents by applying to the Master or Secretary of State Grange or by sending direct to Alpha Messer, Lecturer of the National Grange, Rochester, Vt.

We notice that the United States Department of Agriculture has a new seal. It took a whole act of congress to authorize it and the present secretary of agriculture selected the design which consists, as described officially, "of a shock of corn, with a plow at base, with a back ground of 44 stars representing the states, and inscribed in the outer edge 'United States Department of Agriculture, 1862-1895.'"

There is nothing particularly objectionable in the design, until it comes to the plow, which is a left hand plow. We wonder if this is the plow that Farmer

Morton hitched onto soon after his appointment and with which he has been plowing left hand furrows all over the agricultural interests of the country for the past two years.

If the Grange of Michigan were only an individual instead of thousands, and his name Uncle Dick, we would draw near to him and whisper in his ear, or shout if necessary, this solemn truth: "You, Uncle Richard, own and control one of the finest papers in Michigan, but you do not give it the support necessary to maintain its expense. If half your children would sign for this paper, the GRANGE VISITOR, it would pay a profit; if all would support it, the paper would afford you such a revenue that you could do much good with the surplus." But, unfortunately we can only talk to only those who already take the VISITOR. To you we say: The coming issue is to be the "Picnic Edition." It will contain the picture of a man you all admire—one which all Grangers will frame. It will contain valuable contributions from many of the leading Grangers of the state, and in it will be found the opening chapters of Grant Allen's great serial story with the—to farmers—very suggestive title "At Market Value." An effort will be made at each farmers' picnic this month to have the merits of the VISITOR presented with a view to increasing its circulation so that every Granger in the state may be not only proud of his paper but of its financial success. May we not hope that all Grangers who gets this word will do what they can to secure additional subscribers for the VISITOR this month?

August is the month of farmers' picnics and few farmers will refuse a chance to get so good a paper as the VISITOR at its low price. Let us pull together.

THE FARM PAGE OF THE VISITOR.

Last winter the committee on resolutions, we believe at the State Grange, recommended that at least half the space in the VISITOR should be given up to practical farm articles. We regard this as out of proportion to the relative amount of time given such topics in our Grange work; but if we tried to carry out the idea suggested, we should have to clip from the papers almost entirely. It is a strange fact that we have great difficulty in securing original articles on these practical topics. So many Patrons whom we ask to contribute for our farm page fail to respond that it is sometimes very discouraging. What we want for that page are not essays, nor finely written scientific discourses, but we want the everyday farm experiences and hard headed opinions of everyday and sensible farmers. Why can't we have these, and have them more abundantly? Why will you not help us, Patrons, by sending us notes and observations which come to you in your work, or by making comments on articles which do appear in our columns?

We wish that our readers would be free to have their say, and would help us by sending in frequent contributions of the sort mentioned. You can help us improve the paper more than you imagine if you will do this.

PRACTICAL TOPICS IN GRANGE.

A few Granges hold their meetings with the same regularity and frequency in summer as in winter. But from our observation we believe that the majority of Granges in Michigan consider the summer season as a sort of vacation time in Grange work. Of course it is impracticable to have the same variety and weight in Grange programs during the summer season. Men and women who toil with their hands every day of the week are too weary at the week's close to engage in debate upon literary or economic subjects.

But it does seem as if those Granges that neglect to improve the summer months by meeting frequently and by discussing subjects of practical moment at the time when discussion will be of most value, are missing one of the greatest benefits the Grange affords. It appears to us that if it is profitable to discuss crop growing and marketing in winter, such discussion will be doubly profitable if carried on when the particular crops under consideration are being grown and marketed. Why should

not the Grange, during the growing season, be an institute, where farmers meet and give their experiences and talk over methods and results? If those who sometimes croak about the Grange being of little practical value would urge and attend meetings devoted to this sort of discussion, and would take part in them, we believe they would get their money's worth in the Grange.

Let us see if we can not make the Grange of more money value to its members.

SUMMER READING.

After a man has labored in the hay field all day he is in no condition to read Adam Smith's "Wealth of Nations." The average man wants to go to bed and get a full quota of "nature's sweet restorer." We know from personal experience the difficulties to be encountered by a young and vigorous farmer who tries to improve the spare moments of a summer's day by reading. But these same summer days are so opportune for improvement that it should be every young farmer's ambition to improve them. What shall he read? and how can he get the time? In the first place there are the farm papers. If well conducted, these papers discuss farm topics at a time when they are of most interest and value. One or two of the best farm papers will furnish enough of such articles for summer. Then there are farm books, such as those in the Farm Home Reading Circle. They contain valuable matter for reference; and it is a splendid idea to be able to brush up again on chapters read during the previous winter, at a season when they are timely. Of course the experiment station bulletins are accessible, and there is no better time to refer to them than in the season when the crops they discuss are in vogue. If one is systematic and persevering, it might not be a bad idea to have a scrap book, well indexed, made up of clippings from reputable farm papers, bearing on the various crops and operations of the farm. Only a few will ever do this, but it would doubtless be a valuable proceeding. Each man will find his favorite method for this sort of summer reading, but there is little question of the value of such reading. As to time, the only practicable way is to improve the spare moments. Plan a little as to what book or paper you will have handy, and then get in the habit of taking up that book or paper whenever you have five or ten minutes to spare. No man is so busy that these spare moments do not come to him. Read topics in their season that you may get the most benefit.

We hope these points will inspire a few young men to form a habit of reading for information and self improvement.

GOING TO COLLEGE.

It will not be long before streams of young men and women will be pouring from the farms of Michigan to the various colleges of the state. In spite of the hard times, these ambitious young people will start their college courses. For it is a well known fact that our colleges and university yearly receive the bulk of their new students from the farm. Wheat may be high or it may be low, but with almost continually increasing volume the stream of young men and women bent on education sets in on its annual flow. The honest brawn of the farm is thus transformed into the cultured brain of the whole nation. Our people, we fear, too little realize the healthful influence of this flow of healthy blood from country to city, especially when it is transmuted through the medium of a college career. What the farm loses the nation gains. "The farmer feeds them all," not only with bread but with brain. Every vocation pays tribute, in the persons of its brightest and best, to the farm boy and girl.

But in thinking over the business of life, and in choosing the college where the adequate training for that business may be obtained, we pray the farm boy, and girl too, not to forget farming and our Agricultural College. True, it is discouraging work farming nowadays. But we trust that better days are dawning, and it is everywhere recognized that the young men who prepare themselves to farm with brain and science find avenues of success open before them.

The Agricultural College is the farmers'

college. The primary idea of the College is to give the sons of farmers, or others who wish to follow farming, opportunity to obtain a practical and scientific knowledge of farming operations and at the same time to give such a general education as shall enable its graduates to rank as gentlemen of culture. Any young man who thinks that his life work may be in contact with the soil should consider well before he decides to remain away from our Agricultural College. If he can not take a full course, he will gain much from one or two years' work. We hope that the new class at the College this fall will be larger than ever before.

THE GRANGE AND NATIONAL LEGISLATION.

The National Grange has exerted a powerful influence upon the congressional legislation of this country. The story of the achievements in this line is a familiar one, and stands to the everlasting honor of the Grange and as a monument to the wisdom and power of the great Grange leaders.

But these questions always occur in movements of this kind: Have we done all we could? Can we improve in our methods or attain greater results? So what we have to say upon the relation of the Grange to national legislation will not be at all in the spirit of criticism, but a humble attempt to make some suggestions that may be helpful in rendering our noble Order a more effective instrument in the hands of the farmers.

As we understand it, the policy of the National Grange has been to place its legislative matters in the hands of a strong committee, who would present the wishes of the Grange to the proper congressional committee, and by letters, and their personal presence, endeavor to carry to the minds of congressmen the idea that the great body of the farmers of the country is represented by the Grange and thereby to persuade congress to enact the desired legislation. The results of such a policy have been quite satisfactory. The National Grange is regarded as a conservative, intelligent, strong body.

During the last few years there have been several measures before congress, advocated by the Grange, which have not had due consideration by our national legislators. Pure food bills, anti-grain gambling bills, and free mail delivery projects, have not succeeded so well as the sentiments of our farmers would warrant. Is there not some way to bring a greater pressure to bear upon congress, and thus gain more of what we want?

To this end we make the following suggestion: Let the National Grange, at its next session, determine upon some one or two measures that the farmers desire enacted. Instruct the legislative committee to distribute, among all the states, literature showing the value of such legislation. Let them work with and through similar committees of the several state Granges. Let the subordinate Granges be asked to discuss the subjects thoroughly and to send petitions and to write letters to the congressman from their district.

This plan is not new, but we believe that our National Grange has never organized the work as thoroughly as this suggestion contemplates. We remember that our people in Michigan have been requested in a general way to write letters and postal cards to our congressmen, but we do not remember that we have been asked to systematize our appeals and to endeavor to push matters to a successful issue, so far as our state could do its share. We have reason to think that the majority of our present congressmen from Michigan would listen gladly to any reasonable requests that the Michigan Granges should make of them, and that they would vote in accordance with our wishes.

We hope that the National Grange may see fit to more fully organize its legislative work. For we sincerely believe that more effective work could be accomplished by such organization.

From 1875 to 1895.

Dallas County, Ia., 4-16-96.

Mr. O. W. INGERSOLL,
Dear Sir: Enclosed you will find another order for your Rubber paint. It was in the year 1875 that I last ordered from you and my order was filled with care and accuracy, and has lasted and looked well ever since that time.

Yours Truly,

NATHAN A. MOURER, Box 218,

See Advt. Ingersoll's Liquid Rubber Paints.

A Good Chance to Help.

It is most commendable, the deep interest that the people of Detroit have evinced in the ample means provided for the transportation of the beneficiaries to the Grange Fresh Air Outing; the work is most thoroughly provided for at that point. A letter from Miss Field of Grand Rapids bears this helpful paragraph: "Oh, how this charity, just this is needed! I am ready to send a girl of fifteen and her sister to the home of Mr. and Mrs. A. E. Palmer of Kalkaska. The girl has worked very hard helping the mother who has baked to support herself and children, being left a widow. The girl is worn out and all run down, and must have a change of some kind. There are two little girls, daughters of a washer woman, who have worked very hard tugging back and forth great baskets of clothes for a year, and I hope to get them into the home of Mrs. Wilcox of the same place. The G. R. & I. railroad is exceedingly kind, giving transportation. Who could refuse to such as these shelter, food and a good time for two weeks?"

One sister with a great heart, frail body, and all the work that comes to the average farmer's wife, says: "Times are hard, crops almost nothing; I have all the work I can manage, but I'll take two little ones, and can place six or eight more in good homes."

Miss Estey of Detroit says, "I have four nice girls now all ready and so many making demands to go, let me hear from you as to places."

Dear Patrons, if the crops have failed, there is something to live upon. If there is all the work you know how to meet, I believe if we share what we have with others who need just this; if it takes a little more strength and effort to meet the extra demand made upon us all that is required shall be met somehow. "With what measure ye meet it shall be measured to you again, pressed down, shaken together, running over."

At the last session of the State Grange a strong resolution was introduced by Sister Gray of Traverse City Grange, asking that the work be vigorously pushed this coming year. It was heartily adopted without a single dissenting vote. Shall we not carry out the work and wishes of that body? It is a good work, right in line with our principles, and let all the Patrons respond by offering their homes to one of these for just two weeks.

MARY A. MAYO.

Crop Report For July.

U. S. Department of Agriculture.

The July returns to the Statistician of the Department of Agriculture by the correspondents thereof make the following averages of condition: Corn, 99.3; winter wheat, 65.8; spring wheat, 102.2; all wheat, 76.2; oats, 83.2; winter rye, 82.2; spring rye, 77; all rye, 80.7; barley, 91.9; rice, 84.4; potatoes, 91.5; tobacco, 85.9

CORN.—The report on acreage of corn, which is preliminary, shows 107.8 as compared with the area planted in 1894, which was a little over 76,000,000 acres, being an increase of 6,000,000 acres, and aggregating in round numbers 82,000,000 acres.

The averages for the principal corn states are: Ohio, 104; Michigan, 106; Indiana, 104; Illinois, 105; Wisconsin, 105; Minnesota, 112; Iowa, 106; Missouri, 107; Kansas, 117; Nebraska, 107; Texas, 112; Tennessee, 107; Kentucky, 102. The average condition of corn is 99.3, against 95 in July last year and 93.2 in 1893.

The averages of condition in the principal states are as follows: Ohio, 91; Michigan 90; Indiana, 95; Illinois, 92; Iowa, 105; Missouri, 109; Kansas, 104; Nebraska, 95; Texas, 118; Kentucky, 96; Tennessee, 98. Average condition for the whole country is 99.3.

WINTER WHEAT.—A good yield is indicated from Maryland and the Pacific Slope, and a greatly reduced crop in New York, Michigan, Illinois, and Wisconsin—continued drought having checked growth in stalk and head. In Missouri and Kansas rains have improved the condition since June 1, but the yield will be low and the quality poor. A lower condition, owing to Hessian fly and chinch bug, in Pennsylvania, Virginia, and Michigan, and to hot dry winds in California, is also reported.

The condition of winter wheat is 65.8, against 71.1 in June and 83.2 last July. The percentages of the principal states are: New York, 78; Pennsylvania, 88; Kentucky, 85; Ohio, 60; Michigan, 69; Indiana, 52; Illinois, 50; Missouri, 68; Kansas, 42; California, 82; Oregon, 95, and Washington, 93.

Returns from 38 states and territories indicate that the amount of wheat yet remaining in farmers' hands 5.7 per cent of the 1894 crop, or 26,250,000 bushels in all.

OATS.—Suffering badly from dry weather, as reported from New York, Pennsylvania, Michigan, and Indiana, but recent rains have brought considerable improvement in Iowa, Missouri, and Kansas. A short, thin crop and injury by chinch bugs in Illinois.

The condition of oats is 83.2 against 84.

3 June 1, and 77.9 July 1, 1894.

IRISH POTATOES.—Increase of area under this crop continues since 1892; now 7.9 per cent greater than last year, only seven states showing a decrease. Minnesota increases its area by one-third, and four other states by one-fourth. Condition average 91.5, being reduced by low figures for important producing states: 57 for Illinois, 70 for Indiana, 74 for Ohio, and 87 for Michigan. Condition reported low also in the Virginias, North Carolina, Tennessee, and Kentucky. On the upper Mississippi (north of Illinois) and Missouri the reports are above normal; similarly in Arkansas and Texas. A large yield (condition 118) on a largely increased area reported in Florida. Some damage from the potato bug and other insects this year, but less than usual. Where a low condition is reported, the cause is drought and late frosts.

CLOVER.—Condition this year, 73.9. At the same date in 1894, 80.2; in 1893, 92.6; in 1892, 95.5; in 1891, 89.3.

Figures for some large hay states exceptionally low. For New York, 62; Pennsylvania, 73; Ohio, 48; Michigan, 36; Indiana and Illinois, 54; Wisconsin, 46. South Dakota, Colorado, Washington, Oregon, and California are nearly normal. Drought and frosts have been the chief causes of low condition. Plant largely winterkilled in the more northern states. Some slight injury from cutworms reported in Kentucky and Indiana, from grasshoppers in Michigan, and from the army worm in California. Recent rains have brought some improvement in Kansas and a few states to the eastward. Alfalfa is growing in favor in regions of deficient rainfall; it is reported from Nebraska as having wintered well and as so thriving without irrigation as to be "the most promising crop of all."

TIMOTHY.—Condition now 70.8; in 1894, 77.3; in 1893, 89.8; in 1892, 96.8; in 1891, 87.4. A drought throughout the whole North Atlantic and North Central divisions, from New England to Kansas, accounts for this unprecedentedly low condition. Ohio, Michigan, Indiana, and Illinois report only one-third to two-fifths of a crop. Local improvement from recent rains noted, as with clover. Frost in the more northern states, and insects in others, were minor causes of injury.

PASTURE.—There is a general complaint of drought, except on the Gulf Coast and in the Rocky Mountain region, where the condition is above 100. The states worst affected are Ohio, Michigan, Indiana, and Illinois, where the condition is under 50, and New York, Pennsylvania, West Virginia, and Wisconsin, in which it is 75 or less. During June the condition of pastures declined from 88.1 to 78.7.

FRUIT.—Apples: The condition of apples has materially lowered since the report of June. Losses have been especially marked in important states having already low conditions, viz, the New England states, New York, Pennsylvania, Michigan, Wisconsin, and Minnesota. In the Piedmont region the outlook is decidedly more favorable.

In Missouri and contiguous states the decline has been slight, not above 3 per cent in any case, but the conditions are not as high as in the Piedmont orchards. On the Pacific Coast the conditions fell 8 to 11 per cent, but the prospects there are still good. Frost at time of bloom, subsequent drouths, and heavy dropping are the main causes of the impaired prospects.

Peaches: Returns relative to the peach crop show a general decline in conditions. Georgia and Connecticut alone of the leading commercial states have now a high percentage, the former having moved up to 106, a gain of 1 point, the latter declining to 90 from 94. New Jersey has lost twelve points and now stands at 73; Delaware 13, standing at 70. Maryland has advanced from 63 to 66. The condition of Virginia, 59, is lower than in July by 13 points. Michigan has prospect of less than half a crop, while the percentage of Ohio, 22, is the lowest of all. In California the condition figure declined from 88 on June 1 to 77 on July 1.

Grapes: Frosts have done much damage to this crop, especially in the more northern belt and in the central west.

A Model Official.

There is no man in the country being more talked about than Theodore Roosevelt. It is not because the people of the United States have special interest in the excise laws to which New York is subjected, but for the reason that they admire the fearless and impartial enforcement of these laws by the man upon whom the duty of so doing is imposed by virtue of his office. He is showing an example of official courage that municipal executives everywhere will do well to emulate. It is such rugged fearlessness as his that must be depended upon to check the tide of corruption and destroy the body politic to that high estate in which alone there is safety. He is displaying that spirit of loyalty to the law which is the guarantee of its enforcement, and his attitude in the present emergency is worth far more to the cause of reform than are the direct results which he is ac-

complishing. There was the right ring in his recent statement that "I would rather see this administration turned out for enforcing the laws than see it succeeded by violating them."

There is an immense amount of loyalty and patriotism embodied in this utterance. If the underlying sentiment were to be adopted by every official in the land the work of needed reform would be accomplished and the perpetuity of our institutions assured. When Mr. Roosevelt found the excise laws upon the statute books he did not question the right of the legislative power behind them or seek to exercise judicial authority in passing upon their constitutionality. He simply said that the laws were there for his enforcement, leaving him without discretion in dealing with those affected. And his position is unassailable. It has become too common a thing for our laws to be nullified through the dereliction of those entrusted with their enforcement. There is need of more men like Mr. Roosevelt in the public service, and when found they should be retained. —*Detroit Free Press.*

The Farmer to the Rescue.

On numerous occasions the Free Press has urged a recognition of the practical good sense that should govern in the development of the upper peninsula of Michigan, confident that the logic of events would bring about an adoption of the ideas which it urged for the consideration of those interested. There are few sections blessed with such a wealth of resources and it is not surprising that in the eager rush of capital to realize upon them there is a departure from the slower methods adopted where permanency of settlement and prosperity are contemplated. The apparently unlimited supply of pine was an attraction that could not be resisted with any view to building for the future of that part of the state. It came as near being ready money as any commodity in which great investments could be made, and the slaughter of the forests was vigorously prosecuted without thoughts of what would follow.

But now a new problem is presented to the district beyond the straits, and it is gratifying to see her people arising to the demands of the emergency. The land has been largely shorn of its pine forests. The luring harvest that nature placed upon the surface, has been garnered. The invading hosts have withdrawn, and now it is realized that their work was one of destruction and not of material development. As the ground work of steady, healthy and lasting growth, agriculture must be established. The farmer must provide the means of subsistence for those in the mines and factories, as well as all others who cast their lot with the upper peninsula people. The soil is fertile and prolific, the products to be raised are varied, and the great interests yet to be developed there will insure remunerative markets. With inexhaustible mines, an immense amount of hardwood to be utilized, fine shipping facilities and a demand that will never cease to exist, the rapid filling up of the country is assured if the farmer does his part. To find a base of supplies elsewhere means such an increase of expense as cannot be borne in these days of keen competition. The time has come when the cultivation of the soil is a necessity. —*Detroit Free Press.*

Prejudice Against Wealth.

Pessimists and demagogues are trying to make it appear that the wealthy people of this country are utterly devoid of patriotism and are rapidly advancing towards the customs, manners and traditions of the old world aristocracy. That there is a snobbish element in this country who try to ape this foreign aristocracy no one will deny, but that a large proportion of the wealthy class in this country are sensible Americans is shown by the fact that since January 1, 1895, gifts and bequests aggregating nearly \$11,000,000 have been made to various public institutions and objects of charity in this country.

If the root of private charity could be made out it would doubtless swell the amount to a round \$20,000,000. Such bequests and almost boundless charity are unknown in foreign lands. It is wrong to teach that the rich in this country are all bad men or that all their wealth was accumulated by dishonest ways. The plain truth in regard to such matters should be known. The fact is there are but few people anywhere who would not become rich if they could. We are not rich, because of our desire to be poor, but because of our inability to accumulate or realize wealth.

In our poverty we think we would be noble hearted and generous if we were rich, but are we sure that riches would entirely eliminate from ourselves the element of selfishness which we despise and abhor in others. There is but little danger from individual wealth in this country. It is the great combinations of capital that are dangerous and all of these combinations are subjected to government control whenever they menace the rights or liberties of the people. This being true we should di-

rect our efforts to the control of the government and thus bring these dangerous combinations under the direct control of the people. Well directed efforts along this line will bring tangible results, but the senseless tirade against the rich which we often hear, is absolute folly. —*Our Grange Homes.*

The Bond Contract.

It is no exaggeration to state that this contract between the syndicate and the Government is a most extraordinary document. Not only did the syndicate agree to furnish gold and restore the Treasury reserve, which they have done, but they agreed to keep the gold in Treasury until October next irrespective of the rate of foreign exchange. Thus during the past few months we have witnessed sterling rates for exchange at a point making it profitable for gold to go abroad, yet none went out. The creation of a debt balance in Europe by the purchase there of about \$32,000,000 in gold, and the sale there of nearly \$35,000,000 worth of American securities within three months, is only a small part of the effort made to maintain a favorable rate for foreign exchange. Evidently the "financial influence" and "all legitimate efforts" of this syndicate "to protect the Treasury of the United States," when backed by nearly \$600,000,000 of capital and the influence of the largest bankers in the world, means the ability at times to suspend the operation of the laws of trade. This is true in a sense. As a matter of fact, although not generally known—few, if any, in the Belmont-Rothschild-Morgan syndicate (except those named), know that not only have financial interests of other governments been made to wait on the requirements of the Treasury of the United States, but profitable financial transactions in exchange have been waived, have not been taken advantage of here and in Europe, in order that gold may stay in the Treasury and the credit of this Government be maintained. The dominating influences in the European and American worlds of finance are interested to see that gold does not go out when rates of exchange indicate a profit, and "Wall Street," *i. e.*, the syndicate, has foregone and will forego such opportunities. This reads somewhat uncommercially, it is true, but when the operations of the syndicate are made known of all men, if they ever are, the account of a banker refusing to export gold when such a transaction offered him a profit, because of his relation to or with the syndicate which proposed to maintain the gold reserve in the United States Treasury, in comparison will be a commonplace. —*From Wall Street and the Credit of the Government,* by Albert C. Stevens, in the July Review of Reviews.

The Pure Food Contest.

Commissioner McNeal and his assistant, Mr. Stewart, called at our office recently and we had a pleasant chat. The commission is constantly on the alert for violations of our pure food laws. The opposition that has been developed through the impartial enforcement of these laws is bringing them into prominence throughout the country and the honest sentiment of the country is emphatically in their favor. The president of the Ohio Pharmaceutical association in his annual address recently, at Sandusky, commended both the law and the manner of its enforcement under Commissioner McNeal. He declared that the commission had pursued an honorable, fair and impartial course, and that the enforcement of the law produced a good effect upon the industries involved, as well as giving purer foods and medicines to the people. He advised druggists to get the confidence of the people by furnishing pure articles, and to sustain the law that sought to drive out the frauds. This is the right kind of talk. An effort will be made this winter to get the word "knowingly" inserted in all the laws relating to the sale of adulterated or counterfeit products. That would destroy all protection. If the commission had to prove that the dealer sold these things knowing them to be such, a successful prosecution could never be made. Farmers should be a unit in support of our pure food laws. No other class is injured so much by these fraudulent and imitation products. —*Ohio Farmer.*

STATE OF OHIO, CITY OF TOLEDO, }
LUCAS COUNTY } 85

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. CHENEY & CO., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of Catarrh that cannot be cured by the use of HALL'S CATARRH CURE. FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, 6th day of December, A. D. 1886.

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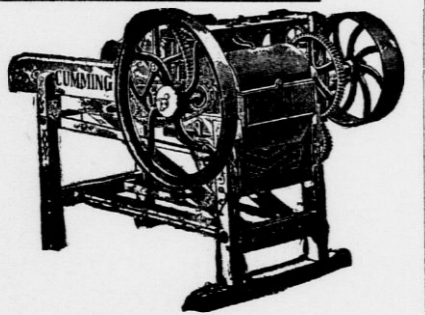
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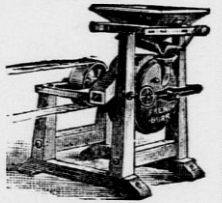


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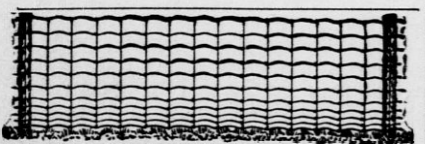
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Estimates furnished on application. Special prices for 1895. Write for "Book on Mills." **NORDYKE & MARMON CO.,** No. 400 Day St., Indianapolis, Ind.



SCIENCE CONFIRMS HORSE SENSE.

A majority of the first class Railroads of the United States and Canada are using **The Page** fence. Scientific tests and comparisons led to this result. Strange to say the best practical farmers of both countries, led only by experience and good common sense, had already decided in its favor, and now Park Commissioners and Cemetery Officials seem bound to make the decision unanimous. We have sold double the amount of park fence this season than heretofore in the whole history of the business.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

College and Station.

Composition and Use of Fertilizers.

CONTINUED.

Bulletin Oregon Station.

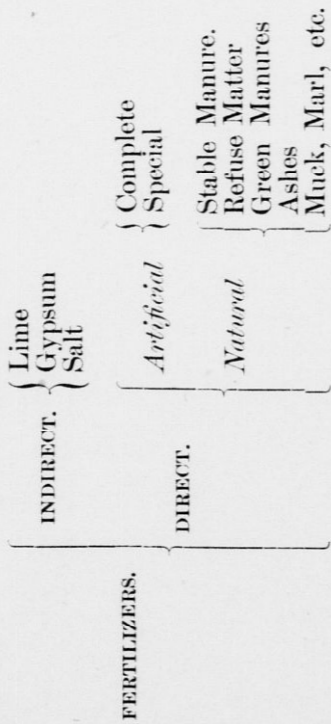
THE OBJECT OF FERTILIZERS OR MANURES.

A rich soil contains an abundant supply of the elements above described and supplies all the necessary plant food. A virgin soil is usually rich, but as soon as the land is under cultivation the plant begins to draw from the soil and the materials are not all returned. Sooner or later the land becomes infertile and it is necessary to return a part of the ingredients which have been removed by the plants. Experience has shown that there are but three ingredients which need close attention, viz: phosphorus, potash and nitrogen. Therefore it is only these, together with calcium, oxygen, hydrogen and carbon which will be discussed at this time. The reason for including the four substances last mentioned is that three critical ingredients may be the better understood.

In worn soils or such as do not give good returns (provided the soils be in good physical condition) it will usually be found that one or all of the first three ingredients mentioned are deficient, or if they are present they are not in an available (soluble) form. In all cases care should be taken to have the soil in a proper physical condition. Here in Oregon this matter is too often neglected; large quantities of wheat and other crops being allowed to drown in the water which should be removed by under-drainage.

To prevent the deterioration of soils is the aim of all modern agriculture. Soil exhaustion, however, is rather a relative term than an absolute one, and usually applies to a certain crop, since a change of crops develops latent soil resources, and upon this fact is based the principle of rotation. Any soil will maintain its fertility so long as the annual depletion is returned in an available form either naturally or artificially, the degree of fertility being dependent upon the minimum quantity of any essential plant food. "The plant can make no substance out of nothing, or without a sufficient supply of each and every one of all the essential ingredients of its composition." It is the object of manures and fertilizers to furnish to any soil a larger supply of the essential food ingredients.

CLASSIFICATION OF FERTILIZERS.



EXPLANATION OF TERMS.

A fertilizer, in general terms, is any substance which added to the soil tends to produce a better growth of plants.

An indirect fertilizer is one, which, while it may not furnish to the soil plant food, so acts upon the matter already in the soil as to change more or less of it from an unavailable to an available form. A substance is said to be available when in a soluble form, although it is probable that no actual solution, in the common acceptance of the term, occurs.

A direct fertilizer is one which is in such a condition that the roots of the plants can take it up readily, or the food material is available.

Artificial fertilizers are also called chemical or commercial fer-

tiziers, and are prepared mixtures sold under trade names, the material of which they are composed being largely the waste products of many industries, and substances found in natural deposits.

Complete fertilizers are such as contain all three of the critical ingredients, nitrogen, potash, and phosphoric acid.

Special fertilizers contain only one two of the above mentioned ingredients. They are also called incomplete fertilizers.

Continued next issue.

Farms and Farm Valuations.

Michigan Census Bulletin No. 5.

The total land area of the state is 36,443,346.40 acres. The total land area of the southern four tiers of counties is 11,145,881.60 acres; of the central counties,—fifth and sixth tier from the south line of state,—5,567,449.72 acres; of the northern counties,—all in the lower peninsula north of the sixth tier,—9,113,544.46 acres, and of the upper peninsula, 10,616,470.62 acres.

The number of acres in farms in the state is 15,296,078, or 42 per cent of the total land area. In the southern counties the area in farms is 89 per cent, in the central 58 per cent, in the northern 19 per cent, and in the upper peninsula 5 per cent of the total land area.

The total number of farms reported is 178,051, and the total area in farms 15,296,078 acres, or an average of 85.91 acres in each farm. The average size of farms in 1884 was 94.37 acres. The area of improved land in farms is 10,379,515 acres, which is 67.86 per cent of the total area in farms and an average of 58.30 acres in each farm. The area unimproved is 4,916,563 acres an average of 27.61 acres in each farm.

Of the total area of improved land 9,149,370 acres, or 88.15 per cent are tilled, this including fallow and grass in rotation whether pasture or meadow, and 1,230,145 acres are in permanent meadows permanent pastures, orchards, vineyards, nurseries and market gardens.

Of the total area of unimproved land 2,939,517 acres are woodland and forest, and 1,977,046 acres "other unimproved."

Compared with 1884 there is an increase of 443,852 acres in farms, of 1,404,859 acres in the area improved, and of 1,151,829 acres in the area tilled, and a decrease of 961,007 in the area of unimproved land in farms.

The area in farms increased in the four years from 1880 to 1884, 1,044,986 acres, or more than two and one-third times the increase in the ten years from 1884 to 1894.

The number of farms reported in the southern four tiers of counties is 111,193; total acres in farms, 9,868,189; acres improved, 7,545,806; and acres unimproved, 2,322,383. Of the total acres improved 6,713,384, or 88.96 per cent are tilled, and 832,422 are in permanent meadows, permanent pastures, orchards, vineyards, nurseries, and market gardens. Of the acres unimproved 1,360,698 are in woodland and forest, and 961,685 in "other unimproved."

In the central counties the total number of farms is 41,948, and the acres in farms, 3,215,419; acres of improved, 1,977,546; acres unimproved, 1,237,873. Of the acres improved 1,752,674, or 88.62 per cent, are tilled, and 224,872 are permanent meadows, permanent pastures, orchards, vineyards, nurseries and market gardens. Of the acres unimproved 727,398 are woodland and forest, and 283,469 are "other unimproved."

In the northern counties the number of farms is 20,541; total area in farms, 1,710,140; acres improved, 699,273; acres unimproved, 1,010,867. Of the acres improved, 568,099, or 81.24 per cent are tilled, and 131,174 are permanent meadows, permanent pastures, orchards, vineyards, nurseries and market gardens. Of the acres unimproved 727,398 are woodland and forest, and 283,469 are "other unimproved."

In the upper peninsula the number of farms is 4,369; total acres in farms, 503,330; acres improved, 156,890; acres unimproved, 345,440. Of the acres improved 115,213 or 73.44 per cent are tilled, and 41,677 are permanent meadows, permanent pastures, orchards, vineyards, nurseries and market

gardens, and of the acres unimproved, 249,700 are woodland and forest, and 95,740 are "other unimproved."

The area in farms in the southern counties is 64.52 per cent; in the central counties, 21.02 per cent, in the northern counties, 11.18 per cent, and in the upper peninsula, 3.28 per cent, of the total area in farms in the state, and the area of improved land in farms in the southern counties is 72.70 per cent, in the central counties 19.05 per cent, in the northern counties 6.74 per cent, and in the upper peninsula 1.51 per cent, of the total area of improved land in farms in the state.

Compared with 1884 there is in the southern counties an increase of 506,610 acres in the area of improved land, and a decrease of 618,701 acres in the area of unimproved land, making a total decrease of 112,091 acres in the farm area of this section.

In the central counties there is an increase of 583,488 acres in the area of improved land, and a decrease of 237,425 acres in the area of unimproved land, making a total increase of 346,063 acres in the farm area of this section.

In the northern counties there is an increase of 246,629 acres in the area of improved land, and a decrease of 148,653 acres in the area of unimproved land, making a total increase of 97,976 acres in the farm area of this section.

(Continued to eighth page.)

A STUDY IN SCARLET.

By A. CONAN DOYLE.

PART TWO.

[The Country of the Saints.]

"I went to a doctor last week about it, and he told me that it was bound to burst before many days passed. It has been getting worse for years. I got it from overexposure and underfeeding among the Salt Lake mountains. I've done my work now, and I don't care how soon I go, but I should like to leave some account of the business behind me. I don't want to be remembered as a common cutthroat."

The inspector and the two detectives had a hurried discussion as to the advisability of allowing him to tell his story.

"Do you consider, doctor, that there is immediate danger?" the former asked. "Most certainly there is," I answered.

"In that case it is clearly our duty, in the interests of justice, to take his statement," said the inspector. "You are at liberty, sir, to give your account, which I again warn you will be taken down."

"I'll sit down, with your leave," the prisoner said, suiting the action to the word. "This aneurism of mine makes me easily tired, and the tussle we had half an hour ago has not mended matters. I'm on the brink of the grave, and I am not likely to lie to you. Every word I say is the absolute truth, and how you use it is a matter of no consequence to me."

With these words, Jefferson Hope leaned back in his chair and began the following remarkable statement. He spoke in a calm and methodical manner, as though the events which he narrated were commonplace enough. I can vouch for the accuracy of the subjoined account, for I have had access to Lester's notebook, in which the prisoner's words were taken down exactly as they were uttered.

"It don't much matter to you why I hated these men," he said. "It's enough that they were guilty of the death of two human beings—a father and a daughter—and that they had therefore forfeited their own lives. After the lapse of time that has passed since their crime, it was impossible for me to secure a conviction against them in any court. I knew of their guilt, though, and I determined that I should be judge, jury and executioner all rolled into one. You'd have done the same, if you had been in my place.

"That girl that I spoke of was to have married me 20 years ago. She was forced into marrying that same Drebbler and broke her heart over it. I took the marriage ring from her dead finger, and I vowed that his dying eyes should rest upon that very ring, and that his last thoughts should be of the crime for which he was punished. I have carried it about with me and have followed him and his accomplice over two continents until I caught them. They thought to tire me out, but they could not do it. If I die tomorrow, as is likely enough, I die knowing that my work in this world is done, and well done. They have perished, and all by my hand. There is nothing left for me to hope for or to desire.

"They were rich and I was poor, so that it was no easy matter for me to follow them. When I got to London

my pocket was about empty, and I found that I must turn my hand to something for my living. Driving and riding are as natural to me as walking, so I applied at a cab owner's office and soon got employment. I was to bring a certain sum a week to the owner, and whatever was over that I might keep for myself. There was seldom much over, but I managed to scrape along somehow. The hardest job was to learn my way about, for I reckon that of all the mazes that ever were contrived this city is the most confusing. I had a map beside me, though, and when once I spotted the principal hotels and stations I got on pretty well.

"It was some time before I found out where my two gentlemen were living, but I inquired and inquired until at last I dropped across them. They were at a boarding house at Camberwell, over on the other side of the river. When once I found them out, I knew that I had them at my mercy. I had grown my beard, and there was no chance of their recognizing me. I would dog them and follow them until I saw my opportunity. I was determined that they should not escape me again.

"They were very near doing it, for all that. Go where they would about London, I was always at their heels. Sometimes I followed them on my cab and sometimes on foot, but the former was the best, for then they could not get away from me. It was only early in the morning or late at night that I could earn anything, so that I began to get behindhand with my employer. I did not mind that, however, as long as I could lay my hand upon the men I wanted.

"They were very cunning, though. They must have thought that there was some chance of their being followed, for they would never go out alone and never after nightfall. During two weeks I drove behind them every day and never once saw them separate. Drebbler himself was drunk half the time, but Stangerson was not to be caught napping. I watched them late and early, but never saw the ghost of a chance, but I was not discouraged, for something told me that the hour had almost come. My only fear was that this thing in my chest might burst a little too soon and leave my work undone.

"At last one evening I was driving up and down Torquay Terrace, as the street was called in which they boarded, when I saw a cab drive up to their door. Presently some luggage was brought out, and after a time Drebbler and Stangerson followed it and drove off. I whipped up my horse and kept within sight of them, feeling ill at ease, for I feared that they were going to shift their quarters. At Euston station they got out, and I left a boy to hold my horse and followed them on to the platform. I heard them ask for the Liverpool train, and the guard answered that one had just gone, and that there would not be another for some hours. Stangerson seemed to be put out at that, but Drebbler was rather pleased than otherwise. I got so close to them in the bustle that I could hear every word that passed between them. Drebbler said that he had a little business of his own to do, and that if the other would wait for him he would soon rejoin him. His companion remonstrated with him and reminded him that they had resolved to stick together. Drebbler answered that the matter was a delicate one, and that he must go alone. I could not catch what Stangerson said to that, but the other burst out swearing and reminded him that he was nothing more than his paid servant, and that he must not presume to dictate to him. On that the secretary gave it up as a bad job and simply bargained with him that if he missed the last train he should rejoin him at Halliday's Private hotel, to which Drebbler answered that he would be back on the platform before 11 and made his way out of the station.

"The moment for which I had waited so long had at last come. I had my enemies within my power. Together they could protect each other, but singly they were at my mercy. I did not act, however, with undue precipitation. My plans were already formed. There is no satisfaction in vengeance unless the offender has time to realize who it is that strikes him, and why retribution has come upon him. I had my plans arranged by which I should have the opportunity of making the man who had wronged me understand that his old sin had found him out. It chanced that some days before a gentleman who had been engaged in looking over some houses in the Brixton road had dropped the key of one of them in my carriage. It was claimed that same evening and returned, but in the interval I had taken a molding of it and had a duplicate constructed. By means of this I had access to at least one spot in this great city where I could rely upon being free from interruption. How to get Drebbler to that house was the difficult problem which I had now to solve.

"He walked down the road and went into one or two liquor shops, staying for nearly half an hour in the last of them. When he came out, he staggered in his walk and was evidently pretty well on. There was a hansom just in front of me, and he hailed it. I followed it so close that the nose of my horse was within a yard of his driver the whole way. We rattled across Waterloo bridge and through miles of streets, until, to my astonishment, we found ourselves back in the terrace in which he had boarded. I could not imagine what his intention was in returning there, but

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I went on and pulled up my cab a hundred yards or so from the house. He entered it, and his hansom drove away. Give me a glass of water, if you please. My mouth gets dry with the talking."

I handed him the glass, and he drank it down.

"That's better," he said. "Well, I waited for a quarter of an hour or more, when suddenly there came a noise like people struggling inside the house. Next moment the door was flung open, and two men appeared, one of whom was Drebber, and the other was a young chap whom I had never seen before. This fellow had Drebber by the collar, and when they came to the head of the steps he gave him a shove and a kick which sent him half across the road. 'You hound!' he cried, shaking his stick at him. 'I'll teach you to insult an honest girl!' He was so hot that I think he would have thrashed Drebber with his cudgel, only that the cur staggered away down the road as fast as his legs would carry him. He ran as far as the corner, and then, seeing my cab, he hailed me and jumped in. 'Drive me to Halliday's Private hotel,' said he.

"When I had him fairly inside my cab, my heart jumped so with joy that I feared lest at this last moment my aneurism might go wrong. I drove along slowly, weighing in my own mind what it was best to do. I might take him right out into the country, and there in some deserted lane have my last interview with him. I had almost decided upon this when he solved the problem for me. The craze for drink had seized him again, and he ordered me to pull up outside a gin palace. He went in, leaving word that I should wait for him. There he remained until closing time, and when he came out he was so far gone that I knew the game was in my own hands.

"Don't imagine that I intended to kill him in cold blood. It would only have been rigid justice if I had done so, but I could not bring myself to do it. I had long determined that he should have a show for his life if he chose to take advantage of it. Among the many billets which I have filled in America during my wandering life, I was once a janitor and sweeper out of the laboratory at York college. One day the professor was lecturing on poisons, and he showed his students some alkaloid, as he called it, which he had extracted from some South American arrow poison, and which was so powerful that the least grain meant instant death. I spotted the bottle in which this preparation was kept, and when they were all gone I helped myself to a little of it. I was a fairly good dispenser, so I worked this alkaloid into small, soluble pills, and each pill I put in a box with a similar pill made without poison. I determined at the time that when I had my chance my gentlemen should each have a draw out of one of these boxes, while I ate the pill that remained. It would be quite as deadly and a good deal less noisy than firing across a handkerchief. From that day I had always my pill boxes about with me, and the time had now come when I was to use them.

"It was nearer 11 than 12, and a wild, bleak night, blowing hard and raining in torrents. Dismal as it was outside, I was glad within—so glad that I could have shouted out from pure exultation. If any of you gentlemen have ever pined for a thing and longed for it during 20 long years and then suddenly found it within your reach, you would understand my feelings. I lit a cigar and puffed at it to steady my nerves, but my hands were trembling and my temples throbbing with excitement. As I drove, I could see old John Ferrier and sweet Lucy looking at me out of the darkness and smiling at me just as plain as I see you all in this room. All the way they were ahead of me, one on each side of the horse, until I pulled up at the house in the Brixton road.

"There was not a soul to be seen, nor a sound to be heard, except the dripping of the rain. When I looked in at the window, I found Drebber all huddled together in a drunken sleep. I shook him by the arm, 'It's time to go out,' I said.

"All right, cabby," said he. "I suppose he thought we had come to the hotel that he had mentioned, for he got out without another word and followed me down the garden. I had to walk beside him to keep him steady, for he was still a little top heavy. When we came to the door, I opened it and led him into the front room. I give you my word that, all the way, the father and daughter were walking in front of us.

"It's infernally dark," said he stamping about.

"We'll soon have a light," I said, striking a match and putting it to a wax candle which I had brought with me. "Now, Enoch Drebber," I continued, turning to him and holding the light to my own face, "who am I?"

"He gazed at me with bleared, drunken eyes for a moment, and then I saw a

horror spring up in them and convulse his whole features, which showed me that he knew me. He staggered back with a livid face, and I saw the perspiration break out upon his brow, while his teeth chattered. At the sight I leaned my back against the door and laughed loud and long. I had always known that vengeance would be sweet, but had never hoped for the contentment of soul which now possessed me.

"You dog!" I said. "I have hunted you from Salt Lake City to St. Petersburg, and you have always escaped me. Now at last your wanderings have come to an end, for either you or I shall never see tomorrow's sun rise." He shrank still farther away as I spoke, and I could see on his face that he thought I was mad. So I was for the time. The pulses in my temples beat like sledge hammers, and I believe I would have had a fit of some sort if the blood had not gushed from my nose and relieved me.

"What do you think of Lucy Ferrier now?" I cried, locking the door and shaking the key in his face. "Punishment has been slow in coming, but it has overtaken you at last." I saw his coward lips tremble as I spoke. He would have begged for his life, but he knew well that it was useless.

"Would you murder me?" he stammered.

"There is no murder," I answered. "Who talks of murdering a mad dog? What mercy had you upon my poor darling when you dragged her from her slaughtered father and bore her away to you accursed and shameless harem?"

"It was not I who killed her father!" he cried.

"But it was you who broke her innocent heart!" I shrieked, thrusting the box before him. "Let the high God judge between us. Choose and eat. There is death in one and life in the other. I shall take what you leave. Let us see if there is justice upon the earth or if we are ruled by chance."

"He covered away with wild cries and prayers for mercy, but I drew my knife and held it to his throat until he had obeyed me. Then I swallowed the other, and we stood facing one another in silence for a minute or more, waiting to see which was to live and which was to die. Shall I ever forget the look which came over his face when the first warning pang told him that the poison was in his system? I laughed as I saw it and held Lucy's marriage ring in front of his eyes. It was but for a moment, for the action of the alkaloid is rapid. A spasm of pain contorted his features. He threw his hands out in front of him, staggered, and then, with a hoarse cry, fell heavily upon the floor. I turned him over with my foot and placed my hand upon his heart. There was no movement. He was dead!

"The blood had been streaming from my nose, but I had taken no notice of it. I don't know what it was that put it into my head to write upon the wall with it. Perhaps it was some mischievous idea of setting the police upon a wrong track, for I felt light hearted and cheerful. I remembered a German being found in New York with 'Rache' written up above him, and it was argued at the time in the newspapers that the secret societies must have done it. I guessed that what puzzled the New Yorkers would puzzle the Londoners, so I dipped my finger in my own blood and printed it on a convenient place on the wall. Then I walked down to my cab and found that there was nobody about, and that the night was still very wild. I had driven some distance when I put my hand into the pocket in which I usually kept Lucy's ring and found that it was not there. I was thunderstruck at this, for it was the only memento that I had of her. Thinking that I might have dropped it when I stooped over Drebber's body, I drove back, and leaving my cab in a side street I went boldly up to the house, for I was ready to dare anything rather than lose the ring. When I arrived there, I walked right into the arms of a police officer who was coming out and only managed to disarm his suspicions by pretending to be hopelessly drunk.

"That was oow Enoch Drebber came to his end. All I had to do then was to do as much for Stangerson, and so pay off John Ferrier's debt. I knew that he was staying at Halliday's Private hotel, and I hung about all day, but he never came out. I fancy that he suspected something when Drebber failed to put in an appearance. He was cunning, was Stangerson, and always on his guard. If he thought he could keep me off by staying indoors, he was very much mistaken. I soon found out which was the window of his bedroom, and early next morning I took advantage of some ladders which were lying in the lane behind the hotel, and so made my way into his room in the gray of the dawn.

"I woke him up and told him that the hour had come when he was to answer for the life he had taken so long before. I described Drebber's death to

him, and I gave him the same choice of the poisoned pills. Instead of grasping at the chance of safety which that offered him, he sprang from his bed and flew at my throat. In self defense I stabbed him to the heart. It would have been the same in any case, for Providence would never have allowed his guilty hand to pick out anything but the poison.

"I have little more to say, and it's as well, for I am about done up. I went on cabbing it for a day or so, intending to keep at it until I could save enough to take me back to America. I was standing in the yard when a ragged youngster asked if there was a cabby there called Jefferson Hope and said that his cab was wanted by a gentleman at 221b Baker street. I went round, suspecting no harm, and the next thing I knew this young man here had the bracelets on my wrists and as neatly shackled as ever I was in my life. That's the whole of my story, gentlemen. You may consider me to be a murderer, but I hold that I am just as much an officer of justice as you are."

So thrilling had the man's narrative been, and his manner was so impressive, that we had sat silent and absorbed. Even the professional detectives, blasé as they were in every detail of crime, appeared to be keenly interested in the man's story. When he finished, we sat for some minutes in a stillness which was only broken by the scratching of Lestrade's pencil as he gave the finishing touches to his shorthand account.

"There is only one point on which I should like a little more information," Sherlock Holmes said at last. "Who was your accomplice who came for the ring which I advertised?"

The prisoner winked at my friend jocosely. "I can tell my own secrets," he said, "but I don't get other people into trouble. I saw your advertisement, and I thought it might be a plant, or it might be the ring I wanted. My friend volunteered to go and see. I think you'll own he did it smartly."

"Not a doubt of that," said Holmes heartily. "Now, gentlemen," the inspector remarked gravely, "the forms of the law must be complied with. On Thursday the prisoner will be brought before the magistrates, and your attendance will be required. Until then I will be responsible for him." He rang the bell as he spoke, and Jefferson Hope was led off by a couple of warders, while my friend and I made our way out of the station and took a cab back to Baker street.

CHAPTER VII.

We had all been warned to appear before the magistrates upon the Thursday, but when the Thursday came there was no occasion for our testimony. A higher Judge had taken the matter in hand, and Jefferson Hope had been summoned before a tribunal where strict justice would be meted out to him. On the very night after his capture the aneurism burst, and he was found in the morning stretched upon the floor of the cell, with a placid smile upon his face, as though he had been able in his dying moments to look back upon a useful life and on work well done.

"Gregson and Lestrade will be wild about his death," Holmes remarked as we chatted it over next evening. "Where will their grand advertisement be now?"

"I don't see that they had very much to do with his capture," I answered.

"What you do in this world is a matter of no consequence," returned my companion bitterly. "The question is, What can you make people believe you have done? Never mind," he continued more brightly after a pause, "I would not have missed the investigation for anything. There has been no better case within my recollection. Simple as it was, there were several most instructive points about it."

"Simple!" I ejaculated.

"Well, really, it can hardly be described as otherwise," said Sherlock Holmes, smiling at my surprise. "The proof of its intrinsic simplicity is that without any help, save a very few ordinary deductions, I was able to lay my hand upon the criminal within three days."

"That is true," said I.

"I have already explained to you that what is out of the common is usually a guide rather than a hindrance. In solving a problem of this sort the grand thing is to be able to reason backward. That is a very useful accomplishment and a very easy one, but people do not practice it much. In the everyday affairs of life it is more useful to reason forward, and so the other comes to be neglected. There are 50 who can reason synthetically for one who can reason analytically."

"I confess," said I, "that I do not quite follow you."

"I hardly expected that you would. Let me see if I can make it clear. Most people, if you describe a train of events

to them, will tell you what the result would be. They can put those events together in their minds and argue from them that something will come to pass. There are few people, however, who, if you told them a result, would be able to evolve from their own inner consciousness what the steps were which led up to that result. This power is what I mean when I talk of reasoning backward, or analytically."

"I understand," said I.

"Now, this was a case in which you were given the result and had to find everything else for yourself. Now, let me endeavor to show you the different steps in my reasoning. To begin at the beginning, I approached the house, as you know, on foot and with my mind entirely free from all impressions. I naturally began by examining the roadway, and there, as I have already explained to you, I saw clearly the marks of a cab, which, I ascertained by inquiry, must have been there during the night. I satisfied myself that it was a cab and not a private carriage by the narrow gauge of the wheels. The ordinary London growler is considerably less wide than a gentleman's brougham."

"This was the first point gained. I then walked slowly down the garden path, which happened to be composed of a clay soil, peculiarly suitable for taking impressions. No doubt it appeared to you to be a mere trampled line of slush, but to my trained eye every mark upon its surface had a meaning. There is no branch of detective science which is so important and so much neglected as the art of tracing footsteps. Happily I have always laid great stress upon it, and much practice has made it second nature to me. I saw the heavy footmarks of the constables, but I saw also the tracks of the two men who had first passed through the garden. It was easy to tell that they had been before the others, because in places their marks had been entirely obliterated by the others coming upon the top of them. In this way my second link was formed, which told me that the nocturnal visitors were two in number, one remarkable for his height, as I calculated from the length of his stride, and the other fashionably dressed, to judge from the small and elegant impression left by his boots.

"On entering the house this last inference was confirmed. My well booted man lay before me. The tall one, then, had done the murder, if murder there was. There was no wound upon the dead man's person, but the agitated expression upon his face assured me that he had foreseen his fate before it came upon him. Men who die from heart disease or any sudden natural cause never by any chance exhibit agitation upon their features. Having sniffed the dead man's lips, I detected a slightly sour smell, and I came to the conclusion that he had had poison forced upon him. Again, I argued that it had been forced upon him from the hatred and fear expressed upon his face. By the method of exclusion I had arrived at this result, for no other hypothesis would meet the facts. Do not imagine that it was a very unheeded idea. The forcible administration of poison is by no means a new thing in criminal annals. The cases of Dolsky in Odessa and of Leturier in Montpellier will occur at once to any toxicologist.

"And now came the great question as to the reason why. Robbery had not been the object of the murder, for nothing was taken. Was it politics, then, or was it a woman? That was the question which confronted me. I was inclined from the first to the latter supposition. Political assassins are only too glad to do their work and to fly. This murder had, on the contrary, been done most deliberately, and the perpetrator had left his tracks all over the room, showing that he had been there all the time. It must have been a private wrong and not a political one which called for such a methodical revenge. When the inscription was discovered upon the wall, I was more inclined than ever to my opinion. The thing was too evidently a blind. When the ring was found, however, it settled the question. Clearly the murderer had used it to remind his victim of some dead or absent woman. It was at this point that I asked Gregson whether he had inquired in his telegram to Cleveland as to any particular point in Mr. Drebber's former career. He answered, you remember, in the negative.

"I then proceeded to make a careful examination of the room, which confirmed me in my opinion as to the murderer's height and furnished me with the additional detail as to the Trichinopoly cigar and the length of his nails. I had already come to the conclusion, since there were no signs of a struggle, that the blood which covered the floor had burst from the murderer's nose in his excitement. I could perceive that the track of blood coincided with the track of his feet. It is seldom that any man, unless he is very full blooded,

breaks out in this way through emotion, so I hazarded the opinion that the criminal was probably a robust and ruddy faced man. Events proved that I had judged correctly.

"Having left the house, I proceeded to do what Gregson had neglected. I telegraphed to the head of the police at Cleveland, limiting my inquiry to the circumstances connected with the marriage of Enoch Drebber. The answer was conclusive. It told me that Drebber had already applied for the protection of the law against an old rival in love, named Jefferson Hope, and that this same Hope was at present in Europe. I knew now that I held the clew to the mystery in my hand and all that remained was to secure the murderer.

"I had already determined in my own mind that the man who had walked into the house with Drebber was none other than the man who had driven the cab. The marks in the road showed me that the horse had wandered on in a way which would have been impossible had there been any one in charge of it. Where, then, could the driver be unless he were inside the house? Again, it is absurd to suppose that any sane man would carry out a deliberate crime under the very eyes, as it were, of a third person who was sure to betray him. Lastly, supposing one man wished to dog another through London, what better means could he adopt than to turn cab driver? All these considerations led me to the irresistible conclusion that Jefferson Hope was to be found among the jarveys of the metropolis.

"If he had been one, there was no reason to believe that he had ceased to be. On the contrary, from his point of view, any sudden change would be likely to draw attention to himself. He would probably, for a time at least, continue to perform his duties. There was no reason to suppose that he was going under an assumed name. Why should he change his name in a country where no one knew his original one? I therefore organized my street arab detective corps and sent them systematically to every cab proprietor in London until they ferreted out the man that I wanted. How well they succeeded and how quickly I took advantage of it are still fresh in your recollection. The murder of Stangerson was an incident which was entirely unexpected, but which could hardly in any case have been prevented. Through it, as you know, I came into possession of the pills, the existence of which I had already surmised. You see, the whole is a chain of logical sequences without a break or flaw."

"It is wonderful!" I cried. "Your merits should be publicly recognized. You should publish an account of the case. If you won't, I will for you."

"You may do what you like, doctor," he answered. "See here!" he continued, handing a paper over to me. "Look at this!"

It was The Echo for the day, and the paragraph to which he pointed was devoted to the case in question.

"The public," it said, "have lost a sensational treat through the sudden death of the man Hope, who was suspected of the murder of Mr. Enoch Drebber and of Mr. Joseph Stangerson. The details of the case will probably never be known now, though we are informed upon good authority that the crime was the result of an old standing and romantic feud in which love and Mormonism bore a part. It seems that both the victims belonged in their younger days to the Latter Day Saints, and Hope, the deceased prisoner, hails also from Salt Lake City. If the case has had no other effect, it at least brings out in the most striking manner the efficiency of our detective police force and will serve as a lesson to all foreigners that they will do wisely to settle their feuds at home and not to carry them on to British soil. It is an open secret that the credit of this smart capture belongs entirely to the well known Scotland Yard officials, Messrs. Lestrade and Gregson. The man was apprehended, it appears, in the rooms of a certain Mr. Sherlock Holmes, who has himself, as an amateur, shown some talent in the detective line, and who, with such instructors, may hope in time to attain to some degree of their skill. It is expected that a testimonial of some sort will be presented to the two officers as a fitting recognition of their services."

"Didn't I tell you so when we started?" cried Sherlock Holmes, with a laugh. "That's the result of all our Study In Scarlet—to get them a testimonial!"

"Never mind," I answered. "I have all the facts in my journal, and the public shall know them. In the meantime you must make yourself contented by the consciousness of success, like the Roman miser—

"Populus me sibi lat, at mihi plaudo Ipse domi simul ac nummos contemplar in arca."

THE END.

Farms and Farm Valuations.

(Continued from page 6.)

In the upper peninsula there is an increase of 68,132 acres in the area of improved land, and of 43,772 acres in the area of unimproved land, making a total increase of 111,904 acres in the farm area of this section.

While there is an increase in the acreage of improved land in each of the four sections of the state, there is an increase in the acreage of unimproved land only in the upper peninsula. In the northern counties, where only 19 per cent of the land is included in farms, there is a decrease of 148,653 acres in the area of unimproved land in farms.

DITCHES.

The number of rods of open ditches on farms is returned at 7,912,857 and of tile ditches 8,957,434. The number of rods in each section is reported as follows: Southern counties, open, 5,573,133, tile, 7,902,750; central counties, open, 2,117,602, tile, 1,011,386; northern counties, open, 170,331, tile, 35,786, and upper peninsula, open, 51,791, tile, 7,512. Compared with 1884 there is an increase of each kind of ditch in the several sections as follows: Southern counties, open, 526,953, tile, 4,158,473; central counties, open, 944,953, tile, 593,322; northern counties, open, 100,389, tile, 28,856, and upper peninsula, open, 38,618, tile, 6,458. The aggregate increase in the state is 1,610,913 rods of open, and 4,787,109 rods of tile ditch.

FARM VALUES.

The value of farms, including land, fences and buildings in the state is shown to be \$528,249,503 as compared with \$571,443,462 in 1884, a decrease of \$43,193,959. The value in the southern counties is \$406,827,555; in the central counties \$85,023,930; in the northern counties, \$30,165,871, and in the upper peninsula, \$6,235,147. Compared with 1884 there is a gain in the central counties of \$10,247,873, in the northern counties of \$6,070,183, and in the upper peninsula of \$2,178,032, but there is a loss in the southern counties of \$61,690,047, making the total loss in the state \$43,193,959.

The average value of farms per acre in the state in 1884 was \$38.48 and in 1894, \$34.54; the average value in the southern counties in 1884 was \$46.94, and in 1894, \$41.23. The average decrease per acre in the state is \$3.94, or 10.24 per cent, and in the southern counties, \$5.71, or 12.16 per cent.

Farm implements in the state are valued at \$21,134,616, a decrease compared with 1884, of \$762,870.

The value of implements in the southern counties is \$14,575,204, or \$2,963,567 less than in 1884. In the central and northern counties and the upper peninsula, implements are valued at \$2,200,697 more than in 1884.

Livestock in the state is valued at \$53,150,113 as compared with \$70,626,248 in 1884, a decrease of \$17,476,135. The value in the central and northern counties and upper peninsula is \$2,485,238 more than in 1884, but in the southern counties there is a loss of \$19,961,373.

The aggregate decrease in value of farms, farm implements and live stock in 1894 compared with 1884 is, for the state, \$61,432,964, and for the southern counties, \$84,614,987.

COST OF FERTILIZERS.

The cost of fertilizers in the census year was for the state, \$219,074. There was less paid than in 1884 in each section of the state except the upper peninsula. The aggregate decrease was \$46,599.

WAGES.

The amount paid for wages for outdoor farm labor during the calendar year 1893 was, in the state, \$10,735,357, and for indoor labor, \$1,180,044. The amount paid for outdoor labor was \$1,187,698 less, and for indoor labor \$429,696 less, than in 1883. In the southern counties the amount paid for outdoor labor was \$7,825,891, a decrease of \$1,286,507, and for indoor labor, \$881,571, a decrease of \$438,728 compared with 1883. In the central and northern counties the payments for both outdoor and indoor labor were somewhat higher in 1893 than in 1883.

VALUE OF FARM PRODUCTIONS, 1893.

The estimated value of all farm productions of the state in 1893, is \$81,270,848, an increase of \$2,781,475 compared to the value of productions in 1883 as reported in the census of 1884. The increase is wholly in the central and northern counties and upper peninsula. The productions in the central counties are valued at \$14,296,107, an increase of \$3,264,780; in the northern counties at \$6,735,632, an increase of \$3,020,010, and in the upper peninsula at \$1,562,413, an increase of \$713,942. In the southern counties the value is stated at \$58,676,696, a decrease of \$6,217,257.

Notices of Meetings.

WESTERN POMONA GRANGE.

The next meeting of Western Pomona Grange will be held at Trent Grange hall, August 22 and 23. A large attendance is desirable.

Program.

Address of Welcome, Worthy Master of Trent Grange; Response, H. C. Tuttle; Question, "How far is co-operation advantageous?" J. T. Bettis; "The beauties of nature and its influence upon character," Mrs. K. Martin. "What is the Grange doing to advance the cause of education?" Adam Yager; "Does this country need bimetalism?" Tom F. Rogers; "Healthy homes and how to make them," S. Stauffer; "Plain cooking, how to make it palatable and attractive to the farmer's family," Mrs. Celestia Woodard; "How can we receive the greatest benefit from our county fairs?" D. C. Wells.

The above program will be interspersed with vocal and instrumental music, recitations, etc.

MANSOR M. SMITH, Lecturer.

GRAND UNION PICNIC.

On August 22, 23, 24, under the auspices of Berrien county Pomona Grange, there will be a grand union picnic at Pottawatomie park, on the lake near Riverside station on the Chicago and West Michigan R. R.

The Grange teachers' organizations, and fraternal societies of this and adjoining counties are cordially invited to join in a three days' rally at this beautiful park. We are planning for an interesting program to be shared jointly by the various societies; and officers and members of the various organizations are kindly requested to communicate with the writer for assignment on the program.

Wm. L. KANE, Chairman program committee, St. Joseph, Mich.

The next meeting of the South Lowell District Council will be held at South Lowell Grange hall on the first Saturday in August. Let us make this the best meeting ever held with that Grange. Let each member bring a resolution to be discussed, or a question to be answered. I will ask my question now. Why don't some member of every family represented in the Grange take the GRANGE VISITOR? D. H. ENGLISH, Secretary.

Grange News.

ALLEGAN COUNTY POMONA GRANGE

held their July meeting with Allegan Central Grange July 18. The hall was nicely decorated with flowers and evergreens, and well filled with Patrons when the Master's gavel called to order at 10:30 a. m. Grange opened in fourth degree and took up the regular order of business. At 12 o'clock we were invited to the dining room where dinner and ice cream was served by Allegan Grangers. At 1:30 p. m. Grange called to order in open session and those outside the gates were invited to our literary exercises. Our hall was soon filled, and the program was opened with a song by Allegan Grange choir, followed by an address of welcome by Sister Mary Wahne, which was replete with words of good cheer and congratulations to the Grange for the many advantages and pleasure for its members. A response by sister Felton of Moline Grange was filled with good suggestions to the Order, calling our attention to the need of more work in the interests of agriculture, and a better understanding of the objects of our Order.

We next listened to a solo by Miss Holton, which was greatly enjoyed by the audience. The question of "Taxation" was opened by Bro. Eley, and brought out quite a discussion pro and con, resulting in many new thoughts to those present. A paper by Sister Laura Jewett was listened to with close attention and showed much thought by the writer. A short talk on the question "To where are we drifting?" by L. C. Root. Song by Wayland Grange choir; recitation by Miss Holton which was received with great applause.

A question by Bro. Tracy of Glenn brought out a lengthy discussion and some good points. The meeting then closed with a song. The Grange instructed the Master to invite National Master Brigham to speak in Allegan the last of August. But a letter just received from Master Horton stating that Bro. Brigham's time in our state is so short, it will be impossible for him to visit Allegan. I therefore urge all Patrons of Allegan county to meet Bro. Brigham at Gunn Lake, August 31, 1895.

L. C. Root, Master Allegan County Pomona Grange.

Danby Grange, No. 185, observed Children's Day June 8. It has been the usual custom of our Grange to procure as good a speaker as we could find for the day, but the children and some of the old folks thought the program too lengthy, so this year it was decided to let the children furnish the program principally. There were five schools represented and about three hundred in attendance.

Bro. Dennis Guilford acted as chairman of the day. The exercises commenced at half past ten with a song, followed by prayer by Bro. Fred Towner; next an address of welcome by Worthy Master Charles H. Peake. The remainder of the exercises consisted of music, recitations, dialogues, and songs by the children, after which dinner was served to all, together with lemonade and peanuts. Thus ended one more of the bright days of our lives.

We have just had a rousing contest at Danby Grange. Charter members declare it to be the best contest ever held in our hall. It was conducted on the plan of married members and single members on the other side with a schedule of points as follows:

Subscription to the VISITOR, 300; new members, 300; dialogue each part, 120; song and music by one, 120; singing alone, 100; recitation, 100; writing and reading essay, 100; instrumental music, 80; select reading, 30; speech, 30; presence, 20.

The single members were so confident of coming out victorious that if they did, the married members were to furnish ice cream and cake, and the married members expressed a willingness that they should, only they wanted them to earn their treat. But the final count showed the total count to be 44,480; married members 26,050, single members 18,430. Balance in favor of married side 7,620. Of course the young folks furnished the ice cream and cake in grand and efficient style.

There were 92 different persons helped to make the contest a success, and it was the means of sending 53 subscriptions to the VISITOR and four new members to our Grange. Grand recitations were given in this contest by members past three score years, and many took part that were given in this contest by members past three score years, and took part that were in the habit of sitting idle.

MRS. AMELIA PEAKE.

Magazine Notes.

B. O. Flower has a stirring paper in the August ARENA called "The August Present." He deals in a view of hopefulness and enthusiasm with the present and the future which so many find so gloomy for civilization, and finds in religion and science, the unrest in society, in the new impulse to the study of economics, and in the modern interest in the science of sociology, evidences of a greater renaissance of human thought than the Age of Pericles or the Reformation and Renaissance of the fifteenth century. A new and profound spirit of the identity of humanity is added to the intellectual activity that alone distinguished other great eras, and this is the result of modern scientific investigation into the phenomena of nature. The world can now be better, if men will only hold fast to knowledge and not let themselves retrograde through passion, greed and prejudice and the brute instincts. It is a striking review of the forces in modern life that lead us to take hopeful views.

The August ATLANTIC MONTHLY contains several articles which are calculated to create widespread interest. One of the most striking contributions is by Jacob D. Cox on "How Judge Hoar Ceased to be Attorney-General." Mr. Cox was a member of Grant's Cabinet with Judge Hoar, and this paper is an important chapter in our recent political history. Percival Lowell, in his fourth paper on Mars, tries to answer the questions, "Is Mars inhabited, and if so, by what kind of people?" The second of Mr. Peabody's papers is on French and English Churches.

"Chautauqua: Its Aims and Influence" is the title of an exhaustive article by Prof. Albert S. Cook, of Yale University, in the August number of THE FORUM. He describes the Chautauqua system of education, explains its aims, and tells of the far-reaching influence it is exerting, not only in the United States, but throughout the world.

The NORTH AMERICAN REVIEW for August opens with a trenchant paper on "The Menace of Romanism," by W. J. H. Traynor, President of the A. P. A. He contends that the papacy is to-day, as it ever was, a thorough despotism, and declares that the A. P. A. will continue its work to prevent the perversion of the American constitution to papal dogmas.

Mr. A. B. Hepburn, president of the Third National Bank of New York, has written for the August number of THE FORUM an article fully explaining the operations of the Bond Syndicate, pointing out the excellent results which have followed its work.

We Are Slaves to Greed.

If to be free is to live in a country (the United States) where you are in mortal dread of the press and the police, where you are heartily ashamed of having any one connected with you engaged in politics, where corruption reigns in every department of the government and the municipalities, where the only aristocracy is that of wealth and not of honor, and where the liberal professions are all counted lower than Wall street, where, in effect, men are

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Table listing names and addresses of members of the Michigan State Grange, including E. O. Ludd, Mrs. E. D. Nokes, R. A. Brown, etc.

Revised List of Grange Supplies Kept in the office of Sec'y of the MICHIGAN STATE GRANGE. And sent out post-paid on receipt of cash order, over the Seal of a Subordinate Grange, and the signature of its Master or Secretary.

OFFICIAL DIRECTORY

Table listing officers of National Grange, Michigan State Grange, and Executive Committee, including Master J. H. Brigham, Secretary E. W. Davis, etc.

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