The Farm.

SPRING WORK ON THE FARM.

In a well regulated factory, the manager can often tell what the men will be doing each day, for a week or a month ahead. But it is not so on a farm. We know what work there is to be done, but are never certain as to the particular time when we can do it. And the success of a farmer depends a great deal on having everything in its place, in working order, and ready for use at any moment. It is at all times, but particularly so at this season, a good plan to write down everything that you propose to do, and what to do it with, and how, going as much into detail as possible. Ask a farmer what work he has to do this spring, and he will reply: "I have got to plow twenty acres of corn stubble for oats, and break up twenty acres for corn." And a person that knew nothing about farming might suppose, from his reply, that this was all he had to do. It is evident that the farmer regards this as his principal and most important spring work. In one sense of course this is true. But in point of fact the plowing of this forty acres of land is the very last thing that requires his consideration. It is the little foxes that spoil the grapes. The farmers of the United States sustain more damage, every year, from a little stagnant water beneath the surface of their fields than from the great floods on our mighty rivers. There is here and there a farmer who spends so much time in getting ready, that he has no time left to do the work. A farmer should train himself to think and lay plans in advance, and get everything he is likely to need ready for immediate use, but when the time comes for the performance of the work he must throw off his coat and labor with his might. He must pay great attention to such important little things as he is inclined to overlook and neglect, and he must study his operations until he finds out what are the points of greatest importance. An experienced thresher pays more attention to some of the little pinions that revolve rapidly than to the main driving wheel. He looks at every part of his machine, but more frequently at those which are most likely to get out of order. And so it is in farming. The steady, big jobs, will almost take care of themselves. It is the little details that are apt to be neglected, and yet upon them mainly depends the profit or loss of the whole year's operations. Look well to the pennies, the pounds will take care of themselves.—*American Agriculturist.*

DRAINAGE IN ENGLAND.

Drainage is of such vast import that no farmer can work to advantage unless this operation is fully and well done. It requires the most careful supervision and attention in all its details; for should drainage be imperfectly done, 'tis worse for the land than if it had not been drained—for imperfect work destroys the natural leakage that has been going on for generations. When 'tis necessary to operate, the first consideration should be the nature of the subsoil, and whether intended for permanent pasture or arable. If for the latter, and the subsoil should be of a strong clay tendency, the depth should not be less than four feet, and not more than twenty-one feet apart from drain to drain; on more porous soils, both the depth and width should be increased and in some instances a single drain will sufficiently dry a whole field. This is the case where a single spring exists and the residue of the land of a dry nature; but my experience is that drainage does great good in our most apparent dry subsoils, even should no water ever lodge on such land. I have known sandy land in England always foul and rough with couch grass—which is the arable farmer's greatest enemy—till one or two very deep drains have been inserted, and where even at the depth of ten feet no water was visible, still the subsoil if held in the hand a short time would leave moisture upon it. After drainage the couch grass would entirely disappear in two years. The next important thing is the size of the drain tile. The pipe should always be of such dimensions that never more than half should fill with water and the other half remain for the dimensions of air, for should the drain-pipe become quite filled with water, and no air admitted, it can never operate, but will become stagnant in the soil. The drains, when freshly cut and the pipe properly placed, should remain open for a week or two, so as to enable the subsoil to become thoroughly pulverized, and should always be replaced in the drain in a dry state. The drainage will at once act upon the land. Whereas, if the sub-soil should be replaced in the drain in a raw or fresh state, it will take two years before action takes place. I have drained some thousands of acres in England—soils of all descriptions—and I found by experience that it was impossible to drain too deep. The average price per acre on one large estate was from £5 to £8, completed. The work was generally executed by piece or task-work, the men earning good wages; and as the winter season is the best time to operate, gentlemen requiring draining to be done connot better employ their capital than giving such kind of work to the laborer during inclement weather when little else can be done.

LONDON DETECTIVE POLICE.

Nearly every one has heard of the London detectives. They form a class distinct from the regular police force. In addition to the arrangement of beats and fixed points, each division sends forth a certain number of plain-clothes men, whose duty it is to supplement as detectives the efforts of the constables in uniform. They go out dressed up as sailors or laborers, or others, and were it not for the cleanliness of their faces and the severe cut of their hair, to say nothing of their methodical tread, they would pass very well. As it is any thief worth his salt is able to distinguish one of them at a glance; but at a little distance even thieves' sharpness might be deceived. To be a detective is, in the eye of the ordinary policeman, not only to be classed as a sharp and responsible man, but to be a lucky and money-making man. They are divided into two branches—the divisional detectives, and those of Scotland Yard. The latter are, in a measure, the staff of the force, and form in some sort a connecting link between headquarters and the various divisions.

If a murder be committed, the inspector of the locality details a couple of his plain-clothes men to make inquiries. The men chosen have generally some knowledge of the place and the people about, and they learn what they can relative to the matter. A report is sent up to Scotland Yard, and if the case be important it is put into the hands of one of the crack detectives there. He goes down to the locality, and puts himself into communication with the divisional detectives, who have been talking to apple-momen, examing pot-boys, and sounding cabmen with commendable industry. He requires them to yield up all their knowledge, laboriously acquired, and they do so, with the best grace they can, inwardly cursing him and the commissioner who sent him. For although they have the pains of making all the inquiries, and have stood the expense attending the getting of a clue which may ultimately lead to the desired capture, they will now have none of the glory of success, and only a small portion of any reward which may be offered. Sometimes the divisional detectives, who do the work, get only £10 out of a reward of £200, which is generally offered on the occasion of a great crime. A swell detective, if he gets his name into the papers, and he generally does, will get the lion's share, not only of public applause, but of any substantial reward the case may bring.

Scientific.

THE SITE OF TROY.

The latest effort to determine the exact spot where once stood the great city of Troy—the Ilion of Homer's Iliad—is being made by Dr. Heinrich Schliemann, a German *savant*, whose name is familiar for his scientific travels, in Nicaragua. The Doctor commenced his investigations of the basin of the Scamander river in 1871, and selected the site of New Ilion, a city built in the sixth or seventh century, B. C., on the supposed location of Troy, but which now no longer exists. The great disadvantage connected with this most interesting research is, that nothing absolutely certain survives to indicate, to begin with, that Troy, even in the days of Troy, was anything more than a fable and a tradition. Dr. Schliemann, however, steadfastly upholds the opinion that a city called Troy once existed, but its remains have not yet been discovered. If these ruins can be discovered, he says, they can be found only on the spot where New Ilion stood. He has pursued his investigations on Mount Hisarlak, a lofty hill bordering on the alluvial plain of Scamander. He has dug to a depth of thirty-three feet below the surface of the hill, and has discovered many interesting remains of human handiwork in the shape of stone implements of rough manufacture; bronze and copper articles; wide earthen burial vases; urns, tripods, drinking vases, hand-mills of stone, and house walls, consisting of large stones, cemented by mud; idols of a priap-like exterior, and also rough drawings of owl heads. In the layers nearer the surface, he found a great number of articles made of terra-cotta and resembling boys' tops. One of these contained a nicely engraved inscription in Phœnician characters, consisting of six letters. Dr. Schliemann does not, however, connect these discoveries with Troy, but, on the contrary, is of the opinion that these mounds are much older than the Trojan war—probably by a thousand years or more. An interesting archeological fact in these discoveries is, that implements of the stone period are found in layers above that of the bronze or copper period.—*Washington Patriot.*

AN APOCRYPHAL COMET.

A report has obtained circulation, probably without foundation, says an exchange, that a Geneva Professor has discovered an immense comet, which from its direction must collide with the earth on the 12th of August next. It is also stated that many weak minded people, both in this country and Europe, are very much alarmed at the announcement. So far from such an event being unwelcome to scientific men, nothing could be more acceptable to them to have a large comet approach near enough to the earth and switch its tail in the face of mankind, for no such body (save Enck's, a very small and distant one) has made its appearance in the heavens since the great value of the spectroscope in the determination of the constitution of such wandering bodies, were fully understood. The next comet which does approach very near the earth will be closely scanned, and will enable science to determine, with great precision, in regard to its physical characteristics.

As to any harm being apprehended from any such source, there is little need for fear. It has been quite fully determined that the most of them at least are comparatively harmless bodies—nothing in fact but huge "gas-bags" scarcely more tangible than the streak of light sent out into space by a lantern on a dark, foggy evening. There is but little doubt but that the earth has passed through the tails of at least two comets within the last forty years, without knowing it at the time—the phenomena attending the passage having, in both cases, been attributed, at the time of the passage to some peculiar atmospheric phenomena. The first one, about 1837, is well remembered by the writer. The atmosphere over nearly, or all this continent was aglow with a red lurid light, which caused alarms of fire in various parts of the country—the atmosphere having the appearance given by the reflection of a fire at a great distance on a slightly foggy night. The continuance of the phenomena was observed for several hours.

Invention of Suspension Bridges by the Chinese 1,900 Years Ago.

The most remarkable evidence of the mechanical science and skill of the Chinese at this early period, is to be found in their suspended bridges, the invention of which is assigned to the Han dynasty. According to the concurrent testimony of all their historical and geographical writers, Sangleang, the commander of the army under Kaou-tsoo, the first of the Hans, undertook and completed the formation of roads through the mountaneous province of Shense, to the west of the capitol. Hitherto its lofty hills and deep valleys had rendered a communication difficult and circuitous. With a body of 100,000 laborers he cut passages over the mountains, throwing the removal soil into valleys, and where this was not sufficient to raise the road to the required height, he constructed bridges, which rested on pillars or abutments. In another place he conceived and accomplished the daring project of suspending a bridge from one mountain to another across a deep chasm. These bridges, which are called by the Chinese writers, very appropriately, flying bridges, and represented to be numerous at the present day, are sometimes so high that they cannot be traversed without alarm. One still existing in Shense, stretches 400 feet from mountain to mountain, over a chasm 500 feet. Most of these flying bridges are so wide that four horsemen can ride on them abreast, and balustrades are placed on each side to protect travelers. It is by no means improbable (as M. Pauthier suggests) that, as the missionaries to China made known the fact more than a century and a half ago, that the Chinese had suspended bridges, and that many of them were made of iron, the hint may have been taken from thence for similar constructions by European engineers.

CURIOSITIES ON MOTION.—Is any change operated on a man by a change in the velocity of his motion round the axis of the earth? Suppose, for instance, a dweller in latitude 60 were to suddenly change his residence to the Equator, he would double his velocity. For while at latitude 60, he travels with the earth at the rate of 500 miles an hour, at the Equator he does 1,000 miles an hour. Again, at latitude 72 the Greenlander is lazily carried round a paltry 130 miles an hour—while the North Pole calmly revolves about once in 34 hours. Of course the motion is unfelt, because all things move together; but the change from the tropical to an artic climate is so great that it may possibly produce physical or mental effects of which we are as yet unconscious. Of course the steering of a ship from north to south must be sensibly effected by the constant acceleration from west to east. On the long railways of Russia, too, I believe it is found that the rails are uniformly more worn on one side than on the other, in consequence of this force.—*Gentlemen's Magazine.*

GUN COTTON.—Gun cotton is now manufactured in England to an amount exceeding 100 tons per annum. The cotton fibre is reduced to a pulp, as in paper making, in which condition the excess of acids is readily removed. The pulp is compressed into discs, under a pressure of eighteen tons to the inch, and then dried. The discs are ⅛ inch to 7 inches in diameter, and ½ inch to 2 inches thick. In the open air this compressed cotton burns intensely, but without explosion, but when properly exploded under close confinement, its strength is from two to five times that of the same weight in gunpowder. If accidently wetted, this form of gun cotton can be redried by exposure to the sun, or even by gentle heat, without risk of explosion or deterioration.

CHINESE ASTRONOMY.—Prof. Jno. Williams, of the Royal Astronomical Society of England, has lately published a book of Observations on Comets, in which he makes a brief allusion to the progress in this branch of science which has been made by the Chinese. He seems to recognize as authentic, observations recorded 2,300 years before the Christian era.

DICKENS AND HIS WIFE.

Gail Hamilton, in the *Independent*, thus discourses about one of the world's latest and dearest idols:

I have no tenderness for Mr. Dickens. I do not believe in his deep soul of truth and goodness, or in his noble and pure sympathy with what is highest and best. "I desire, in the most public and universal manner," to declare that a regiment of little Nells and Tiny Tims cannot redeem the man who publicly dishonors the mother of his many children. Mr. Dickens, holding the pen of a ready writer, told his story glibly to the world. Mrs. Dickens, suffering the deepest wound a woman can know, has remained steadfastly silent. The wife's silence is full of dignity; the husband's speech bristles with disgrace. He feels no shame in saying that he lived with a woman as his wife, exacting from her all the duties and enforcing all the suffering of a wife, until he had consumed all the vigor of her youth; and that he has then turned her away, and announces to the world that she was unfit for him! He feels no shame in saying, virtually, that while this woman was living in his house as his wife, another woman was also in his house, holding in regard to both himself and his children a position which belonged to the legal wife and mother. England is beating her obstinate head against marriage with a deceased wife's sister; but here it is a wife's sister superceding the living wife. It was Mr. Dickens who made this public property. By his last will and testament he even stretched his dead hand out of the grave to injure his discarded wife; and neither in this world, nor the next, nor the world after the next, shall a man escape the cordial hatred of at least one heart for such coarse and shameless selfishness.

A WOMAN OF GOOD TASTE.

You see this lady turning a cold eye to the assurances of shopmen and the recommendation of milliners. She cares not how original an article may be, if it be ugly, or how recent a shape, if it be awkward. Whatever laws fashion dictates, she follows a law of her own, and is never behind it. She wears very beautiful things which people generally suppose to be fetched from Paris, or, at least, made by a French milliner, but which as often are bought at the nearest town and made up by her own maid. Not that her costume is either rich or new; on the contrary, she wears many a cheap dress, but it is always pretty, and many an old one, but it is always good. She deals in no gaudy confusion of colors, nor does she affect a studied sobriety; but she either refreshes you with a spirited contrast, or composes you with a judicious harmony. Not a scrap of tinsel or trumpery appears upon her.

She puts no faith in velvet bands, or gilt buttons, or twisted cording. She is quite aware, however, that the garnish is as important as the dress; all her inner borders and beadings are delicate and fresh; and should anything peep out which is not intended to be seen, it is quite as fit as that which is. After all, there is no great art either in her fashions or her materials. The secret simply consists in her attention to her station, her age, and her figure. And no woman can dress well who does not attend to these points. After this, we need not say that whoever is attracted by the costume will not be disappointed in the wearer. She may not be handsome nor accomplished, but we will answer for her being even-tempered, well-informed, thoroughly sensible, and a complete lady.