Miscellaneous.

Foreign Correspondence.

LONDON, 5th Feb., 1851.

The great Crystal Palace, as the building for the World's Industrial Exhibition hasbeen termed, is now nearly finished, and although not quite complete, it has been open for visitors for some time. . The price for admission has been about $1,25—a large fee, indeed; none but the higher classes have been able to avail themselves of its provisions, nor was it intended for any body else. This is right in one respect, but not in another; those who can pay, and are willing to do so, it is no harm to allow them an opportunity for that purpose. Another good thing is the purpose for which this money is set, apart viz., charitable purposes, and for rewarding the merited efforts of the industrious. Some scientific men have objected to the building as erected, on the ground of a want of strength: among the number is Prof. Airy, the Astronomer Royal, a man of great mechanical knowledge. His fears, it seems, have been dissipated by the Commissioners appointed to examine the building and report on the same. To look upon it, in all its vast extent and fairy-like fragility, a feeling of insecurity respecting its strength, is natural, but we have been so accustomed to witness large strutures, having giant pillars of stone for supports, that we are ready to forget the superior strength of iron, of which this building is mainly composed.

It is calculated that 20,000 persons will be easily accommodated in the building after all the articles for exhibition are arranged. This is a great number, but it is not too large. No one can form a true idea of the vast structure without looking upon it; it is a work which has never had a parallel in any age or country. A few months ago all the materials of which it is made were lying upon the ground in the form of unshapen, hard rocks; they have been submitted to the moulder's crucible, and are now standing in grandeur and in beauty, forming a structure unique and unlike anything ever erected by man since the world began. On the 30th of last month, during a very high wind, and such winds are very common here, part of the roof was suddenly displaced; this created an uneasy feeling about its insecurity, but it was ascertained that the cause of this was owing to a neglected piece of work. A great deal of the inside work will not be finished until the machinery is placed and the heavy articles properly arranged.

There is one point not yet definitely settled by the Commissioner's of the Exhibition—this is the scale of prices. Exhibitors, and those who are agents of exhibitors, together with the members of the public press, will be allowed free admission, but it is doubtful if at any time it will be thrown open free to the public. I think that a fee of about 1s. (25 cents) will be the lowest charged, and this will not come into effect for some time; not at least until the nobility and more wealthy classes have seen the whole in operation, and the fee for them will likely be about three or four dollars.

I suppose I may expect a good representation of American skill and genius displayed. France will no doubt stand very high in the scale of national exhibitors. The taste and skill of the French are proverbial.

Strong efforts are now making to obtain a reform of the British Patent Laws: it is high time they were reformed. I hope the present Parliament will reform them, and that before the Exhibition is opened. No man can expose an unpatented invention and feel safe, as the mere exposure of it publicly would invalidate the patent, if the said patent was subsequently secured. No poor man can obtain a patent in England; if a working man invents the most meritorious and useful machine, or makes one of the most important discoveries, he must get a man of wealth to assist in securing a patent, for assuredly he cannot do so himself, the fees being from $700 to $2,000 for the United Kingdom and the Colonies. A simplification of the mode of obtaining patents is demanded, and a reduction of the fees to about $130. I hope these reforms will be carried through so that justice may be done by the Patent Laws of the British realm to the poor inventor, as well as the rich. The journals devoted to the interests of inventors here, advocate a new law—a mixture of the American and the French codes. They say,—Don't let us have the American Patent Office, espionage system, by which so much injustice is done to applicants. The London Patent Journal, in quoting an article from the Scientific American about a reform of the English Patent Laws, wherein the American system is recommended to the attention of the British, says, "we like free trade in patents as in other things, but we do not want the practice of the Americans in passing judgment in the Patent Office upon applications." An improvement of the Patent Law recommended, is, that a patent be granted for 21 years, that $25 be paid down when granted, and $35 every year afterwards, until the term expires, unless it is found unprofitable, when the patentee can let it expire just by not paying his yearly tax. I think this is a good plan, and is well worthy of your attention in America. It is derived from the French system, where the government prosecutes for infringement.

I will endeavor to give you information regularly, respecting all matters connected with the World's Fair. EXCELSIOR.

Growth of Shade Trees.

A venerable octagenarian now residing in Brooklyn, when 15 years of age, planted four elms, less than 3 in. in diameter, before the dwelling of his father, in the beautiful village of Stockbridge, Mass. He has recently made enquiries respecting them; and learns from their present owner, that they measure 9 feet 10½ in. in circumference, 6 feet from the ground. That they spread over a circle 50 feet in diameter, and rise 68 feet in length as near as can be ascertained, affording a delightful shade, greatly increasing the value and beauty of the property, and being highly ornamental to the place. Who would not by a similar forethought and trifling labor, thus provide for the pleasure and happiness of generations yet to come. This gives a growth of over ½ an inch per annum in the diameter of trees, and a fact beyond dispute worth noting. W.

(For the Scientific American.)

Spontaneous Combustion in Cotton.

I see in Arthur's Home Gazette that the Board of Underwriters in New York wish to ascertain, by chemical tests, "is cotton subject to spontaneous combustion?" I do not know whether it is a hoax or not, but you may tell them to take a small lock of cotton, say from ¼ to ½ oz. and saturate it well with well-boiled linseed oil, such as painters commonly use, squeeze all the superabundant oil from it, and lay it in the sun, in a hot day, and it will take fire by spontaneous combustion in twenty minutes,—in the shade it may be two or three hours. I have tried it many times, to gratify the curious and convince the skeptical. The cotton must be pressed together as compact as can well be done in the hand, and must not be disturbed by loosening it after you saturate it. It is nothing new under the sun that cotton or hemp will take fire by being saturated with oil, but that it should ignite so quick is what has astonished me. Some kinds of boiled oil will cause the cotton to ignite much quicker than others, owing, I suppose, to the dryers used in boiling. I do not know what was put into the oil, when boiled, which I have experimented with, as it came from New York ready boiled for use. A. D. BROWN.

Clinton, Ga., Feb. 16, 1851.

[We have known of many such cases as that described by our correspondent. In preparing cotton goods for what is termed the "Adrianople Red," a great deal of olive oil is used, and there are hundreds of cases on record where such goods have ignited spontaneously when piled up in heaps. It is Bertholett, we believe, who treats this subject somewhat extensively. Great care should be exercised by those who are packing cotton, so as not to allow grease and oil to get among it.

Ground Pumpkins and Good Brooms.

The above caption may seem rather quaint to some, but nevertheless implies the whole meaning of this little article better than any other title which suggested itself.

Ground dried pumpkins is an article of merchandise, prepared by the United Society of Shakers, at Harvard, Mass., and is the best substitute for the pumpkin "yellow and ripe from the field," that we know of. Good pumpkin pies may be made at all seasons of the year, by obtaining the pumpkin ingredient as above, and following the annexed direction for use:—

To one pound of pumpkin, add 12 quarts of milk and one egg to each pie. Stir the pumpkin with the milk, set it in boiling water from 20 to 30 minutes, then add more eggs, sweetening, spice, &c., to suit the taste.

Pies thus made will have the delicate appearance of squash with the flavor of the pumpkin. Crackers and water may be used as a substitute for milk, when milk cannot be had.

We have been favored by the Harvard Society of Shakers, through one of their members, Mr. E. Myrick, with a sample of brooms for which they will please accept the Editor's thanks. Any one wishing good New England pumpkin pies at any season of the year, and a good broom to sweep the kitchen which will not disconnect from the handle, had better send orders to the care of Mr. E. Myrick, addressed to South Groton, Mass., and we will guarantee they will not be disappointed in either article when received.

Paine's Light in Britain---A Mistake.

In a communication to our worthy cotemporary, the London Mechanics' Magazine, of Feb. 1st., Mr. S. L. Freemont has made a mistake in attributing to the Editor of the Scientific American any doubt about water being less than a compound body. The editor has never expressed himself in such a manner as to convey any other idea than he believed water was a protoxyde of hydrogen. Mr. Freemont entertains the same views exactly as we do.

Paine's Light is creating quite a sensation in England—a patent has been taken out there for it, and one applied for recently at Washington. Our cotemporary, the London Patent Jour. of Feb. 8th, has a correspondent signing himself "C," who makes some very excellent remarks on the subject. He says, "a bright white light is very deceptive as to its illuminating power when judged of merely by its appearance. Hediscovered this by examining the electric light displayed in London. He also states that from all evidence yet adduced, (and the letter of Dr. Colton, and the articles of Mr. Wright, have been re-printed in England), nothing has appeared to overthrow the report of the Scientific Committee who investigated the subject.

Queenston Suspension Bridge.

This second structure which spans Niagara River has recently been opened to the public. The towers are built on each side, and it is 1,043 feet from tower to tower. There are to be ten cables in all, each cable made of 250 wires; each wire warranted to bear 1,500 pounds. The cables are firmly anchored in the rock, and pass over two massy stone towers some 14 feet high. The cables, when extended, have the shape of a rainbow turned upside down. Instead of the planking and pathway being over the cables, it is under them, and the work to be sustained by iron rods suspended from the cables. The planking to be 20 feet wide, intended at present for teams. It is said to be the greatest suspension bridge in the world.

[The Wheeling Bridge is 1,010 feet from centre to centre of the towers. The strands of wire used are No. 10, capable of sustaining the amount of pounds stated above. Mr. Ellett used 550 strands in each cable. The Niagara Bridge uses more than a half less (6-11) number of strands. The ten cables will, therefore, support only 1,625 tons, less the weight of the structure. The Wheeling Bridge is capable of supporting 4,950 tons, less the weight of the structure. We suppose there is a mistake somewhere, as the Queenston Bridge should be built stronger.

Choice Receipt for Dyeing.

SCARLET.—Dip the cloth in a solution of alkaline or metallic salt, then in a cochineal dye and let it remain sometime, and it will come out permanently colored. Another method. Half a pound of madder, half an ounce of cream tartar, one ounce of marine acid, to a pound of cloth. Put it altogether and bring the dye to a scalding heat. Put in your materials and they will be colored in ten minutes.

The dye must be scalding hot. Rinse your goods in cold water as soon as they come from the dye.

[We copy the above from an exchange, in order to point out the errors, for assuredly they are very great. It is stated above that the cloth should "be dipped into a solution of alkaline or metallic salts." This is wrong; if the cloth were dipped into a solution of common salt, it would not answer. Metallic and alkaline salts are entirely different. To dye a good scarlet, let the cloth be well cleansed from all grease and dirt, and put into a tin or clean copper vessel as much clean water as will cover the cloth well. Put in one ounce of ground cochineal for every pound of cloth, and boil it five minutes, then add a wine glass full of the chloride of tin, one ounce of cream of tartar for every ounce of cochineal, stir all up, and enter the cloth all as free and loose as possible; boil for one hour, and a beautiful scarlet is the result. After this, rinse the cloth in clean cold water and dry in a warm place.

The Atlantic and Arctic.

At a meeting of the Architectural and Archæological Society on Wednesday, the Chairman, Mr. Frank Howard, asked whether the breaking down of the Atlantic had anything to do with the peculiarly polished and steel-like appearance of the machinery observed by Mr. Arthur Holme? Mr. Horner observed, that Mr. Holmes' remarks applied to the Arctic. There was a great difference between the engines of those boats. The Arctic had the most highly finished engines that had come from the other side of the Atlantic.—[Liverpool Times.

The Baltic.

This noble steamship arrived at her wharf on Thursday last week, taking all our citizens by surprise, by her quick passage of only twelve days from Liverpool. A writer in the Tribune, signed Philopanti, made the Baltic quite inferior to the Asia. Another signing himself Practice made out Philopanti to be quite ignorant of the facts in the case. As we have already stated, this shows there is an amount of ignorance all round about on the subject.

Gold Solutions.

There are three solvents of gold, aqua-regia, or nitro-hydro-chloric acid, aqueous chlorine, and a mixture of the chromic and hydrochloric acids; this last mixture, as well as chlorine, is inconvenient and uncertain, but the nitro-muriatic acid dissolves it very readily, forming with water a solution of almost the only salt of gold, though the metal unites with several of the elements,—oxygen, bromaine, iodine, &c.

Æthereal Solution of Gold.

To the above solution add sulphuric ether, this will separate the gold from the acid, and the ether holding the gold in solution will float upon the surface of the acid, from which it may be poured off, and kept for use in a dark place or an opaque bottle, it being decomposed by light.

Macadam in Paris.

The mud produced on the macadamised part of the Boulevards is (says the *Moniteur du Soir*) to be turned to account. A person, named Taboureau, has obtained permission to carry it away for the purpose, after having had it carefully washed and sifted, of having the silicious particles made into bricks to clean knives with. A hectolitre of the mud produces ten bricks, which are sold at 20c. each, and so give 2f. for each hectolitre. It is said that a good workman can earn 20f. a-day by this new kind of industry.

The Hudson River is now open to Albany, and the steamboats are soon to go up.