

Scientific American

NEW-YORK, JUNE 25, 1853

Industrial Worlds' Fairs.

The most repulsive aspect in which men can be viewed, is in deadly strife—one man seeking to destroy the life of another—and yet what is history but a series of descriptions of massacres, battles, sieges, and cities laid in ashes; despots and mighty conquerors with their butchering hordes pass in glittering array from page to page. Man appears to be the most vicious of all animals in respect to the wanton destruction of his own species. Hatred and strife, because of the evils which they entail should be avoided by all wise men and all enlightened nations. In order to accomplish this object, the spirit of mutual good will should be generally cultivated. As a means of accomplishing this end, we hailed the "World's Fair" of 1851, in London, as the grand pioneer of a series of such exhibitions, which would rotate triannually among all the civilized nations of the earth, and which would tend to bind them closer and closer by the fraternal cords of an enlightened self interest, and honest emulation to excel in the arts of peace. Our hopes respecting such future results are now exceedingly faint. The prospect of a World's Fair, one worthy of the name in France in 1855, in America in 1858, and so on rotating among all the enlightened nations of the world, as we at one time anticipated, will not, and cannot, we are sure, be realized. This year there are in two different and separate countries, two Worlds' Fairs in name, but only local affairs in reality. One is now open in the city of Dublin, Ireland; the other is to be in New York City. The Irish Crystal Palace is said to be exceedingly creditable to the people of Dublin, but we have seen no illustration of it excepting that funny one in the New York Daily Times, consisting of five o's, all in a row. The New York Crystal Palace has yet to earn a good name if it can. We, however, consider that the Crystal Palace of Dublin, and especially the one in our own city, barriers to future World Fairs. We hope we may be mistaken, but it is not possible that nations can unite periodically in great industrial exhibitions attesting their strength and wealth in disjointed and extraordinary local efforts. We do not allude to annual State and county industrial fairs, as these are not attended with great expense to exhibitors, and rather serve to fit them for successful competition among the nations; we only allude to very expensive fairs like the New York Crystal Palace, which we consider anything but honorable to our country, as it blocks up the pathway to a future World's Fair in America, one worthy of its greatness, and the genius and skill of its enterprising people. Let us look calmly at the case as it stands, and see if we have not good reasons, as lovers of our country, for feeling deeply on this subject.

The New York Crystal Palace is the property of a joint stock company composed of merchants, lawyers, and stock-jobbers. It was projected by the the American Commissioner to the Worlds Fair of 1851, and was designed for money making objects; in fact, the project has been looked upon as such an excellent speculation for paying good dividends, that the stock has been running up and down from par to seventy per cent above it. It has been represented abroad as a World's Fair—a national exhibition, instead of the fair of a mercantile company, in order to make it highly successful, hence the Queen of England has appointed a Royal Commissioner to represent her Court in the person of the Earl of Ellesmere, who has come to our shores in a fine frigate appointed for that purpose, and with a brilliant staff of joint Commissioners consisting of Charles Lyell Bart, and Professors Wilson, Dilke, Wallis, and Whitworth—all distinguished men in the pursuits of science. These men were no doubt appointed with a perfect understanding that they were coming to a World's Fair—under national patronage—instead of the Crystal Palace of a mercantile company. They no doubt expected to find a fair worthy of the spirit of our people, one that would be a faithful index

of our country's genius and power; but instead of finding a magnificent and large structure corresponding in dimensions with our great population—twenty six millions—they have found only an unfinished but neatly designed building, placed so unfavorably that it is dwarfed by a neighboring water reservoir, and surrounded with dust, dirt and groggeries. We hope that when the exhibition opens, a favorable impression will be made upon those distinguished foreigners who have come here to view the handiworks of our people.

At present things cannot but make a most unfavorable impression upon them—but neither our government nor our people are responsible for any disappointment in their expectations.

Present Condition and Temperature of the Planets Jupiter and Saturn.

James Nasmyth, an ingenious engineer—inventor of the steam hammer, &c., an excellent astronomer, draughtsman, and painter, has communicated to the Franklin Journal a copy of a paper read by him before the Royal Astronomical Society, of London, on the subject indicated by the above caption. He assumes the hypothesis of the original molten condition of the earth to be established, and going back he attributes the evidences of ancient deluges to be easily explained by the cooling of the earth, the condensation of water, and the falling in from time to time of the earth's crust towards the centre as our globe cooled. There was a time, he believes, owing to the heat of the globe, when no water could rest upon our earth in a liquid form, but as the crust of our globe cooled, some parts sunk down, the waters were condensed, and thus seas and lakes were formed. He believes that the conditions of cooling and condensation are now going on in Jupiter, and that Saturn is so hot that no water rests upon its bosom, but surrounds it in vapor, of which her rings are formed.

Mr. Nasmyth's views may be correct and they may not; they do not at least explain all the deluge phenomena on our globe, nor can they answer all the objections which may be brought against them. For example, his hypothesis supposes that all the matter of which the sun and all the planets is composed was once connected in a molten state, and that the sun is still a molten mass. Now if Mr. Nasmyth is correct, how does it happen that against all the laws of cooling bodies—the earth—far in the inside of Jupiter and Saturn, cooled before these planets. The only answer given is that these bodies are so much larger than the earth; but that is not a sufficient one, as Jupiter revolves on his axis in 9 hours, 56 minutes, and being twelve hundred times the bulk of the earth, his surface velocity is more than twenty-four hundred times that of the earth; consequently his cooling action is exactly so much greater than that of the earth. His theory also cannot account for the absence of water in the moon, but would give seas and lakes to that satellite. An inhabitant of the moon, if there were one, and he a plutonist, would come to the conclusion by Mr. Nasmyth's method of speculation, that our planet was in a molten state now. Lieut. Maury in his description of the "Equatorial Cloud Ring" says:—"A belt of equatorial calms and rains encircle the earth, were the clouds which overhang this belt luminous, and could they be seen by an observer from one of the planets, they would present to him an appearance not unlike that which the rings of Saturn do to us."

Here is a phenomenon explained, which in Jupiter and Saturn would go to prove those planets to be in a different condition from that set forth by Mr. Nasmyth.

Paid Fire Department.

The "Nonpareil," of Cincinnati, says the system adopted by that city, of paying the fire department, works admirably. It has proved as efficient as the volunteer system, and is attended with perfect harmony, economy, quiet, and order. It is stated that they have used the steam engine with entire success. Our readers will recollect we gave a concise description of this engine but a few weeks since. We understand it is the design now to construct a system of telegraphic communication to give notice of fire. We have been aware, for some time, that Cincinnati

was taking the lead in her ample system of security from fire; when will New York show like signs of spirit and philanthropy. The firemen of New York City are noble hearted, or they would not labor with such zeal as they do, and with so little encouragement.

Lime Water—Cure for Carbonic Acid Gas.

A correspondent (Wm. Collier) of the "London Mining Journal" imparts a piece of valuable information respecting the beneficial effects of lime-water to cure persons affected with carbonic acid gas. He states that two of his workmen were employed to clean out a "carbonator,"—a large iron cylinder, 15 feet deep and 8 feet diameter, which was used at his chemical works, and through which a current of carbonic acid gas passed from a neighboring lime-kiln. This current of gas should have been shut off while the men were at work, but in this instance, by some neglect, it was not, so that when one of the men went down to the bottom to work, he dropped on his back, and could not answer the man at the top who was to assist at the operation. The latter made the alarm and said, "the other had dropped down dead." Mr. Collier immediately directed a man to go down and lash a rope around the body of the man at the bottom of the "carbonator," who was then hoisted out, but life appeared to be extinct. He was at once carried to the fresh air, and some fresh lime-water was procured, but it was difficult to get his teeth apart as they were firmly set. At last Mr. C. got his mouth open so as to introduce two tea-spoonfull of the lime-water, which began to exhibit some effect. A little more was applied, which went down his throat, and he immediately, but imperfectly, began to breathe. A third time the lime water was given, as he was now able to drink, and he then began to breathe freely. He was then lifted up and made, with some assistance, to walk round about. In half an hour afterwards, he walked home, went to bed, slept, and next morning felt nothing the worse except his having a slight headache.

This is an important fact in chemistry, as it relates to life, its dangers, and preservation. It is well known to chemists that lime water has a very great affinity for carbonic acid, and whenever it comes in contact with that gas, it immediately absorbs it, forming a precipitate of the carbonate of lime, or if the lime water is kept still in a large vessel the carbonate forms in a thin scale on the top, such as on bleachers' lime and dyer's vats. In the case herein described, the lime water no doubt combined with the carbonic acid gas inhaled by the workman, and the carbonate of lime—an inert substance—was formed; it therefore appears to us, that lime water is an antidote to be employed for those who are injuriously affected with inhaling carbonic acid gas.

Those who work at lime-kilns, where much carbonic acid gas is developed, have a remedy in the material which is continually passing through their hands. Those who labor at charcoal pits, have also a remedy for the injurious effect of the gas of the coal, in a bottle of lime water. To make good lime water for the purpose, it must be prepared from fresh burned lime. Take about half a pound of fresh burned lime, and pour about five quarts of clear soft water upon it; stir up the lime quickly, cover up the vessel, and set it aside for about two hours. The clear should then be poured out into clean bottles and well stoppered, so as to exclude all the air. Hot water is not necessary for this purpose, as lime is as soluble in cold, and a quart will hold about 32 grains of lime in solution. Those whose business leads them to work much over a charcoal fire, will find it for their advantage to have a bottle of lime water always at hand. It would be well for a person who is about to descend into a well to clear it out, first to throw down a few pailful of fresh lime water, in order to absorb any free carbonic acid gas which may be at the bottom. On three separate occasions we have been severely affected with carbonic acid gas, by working over a large charcoal fire, and although we were well acquainted with the affinity of lime water for it, we never on any of those occasions thought to try it as a remedy. The substances we used were emetics, with the free use of cold water poured upon

the head, and by chafing the chest. We hope this notice will direct general attention to this subject; every thing useful connected with the preservation of life—a remedy for an ill—should be known and read of all men.

Events of the Week.

FUEL CONSUMED—GRAIN GROUND.—As we often have enquiries respecting the amount of fuel necessary to drive a steam engine, according to the amount of grain which the engine will grind, we would state that James R. M. Stewart, of Knox Township, Ohio, has published a statement in the "Steubenville Herald," Ohio, which says that twelve bushels of grain were ground with one of coal consumed in an engine erected by Nathan Cope & Co., of Salineville, Ohio. The engine is a high pressure constructed with some improvements, invented by N. Cope, an excellent engineer. His engines, we have been informed, are the most economical of any erected in central Ohio.

TEA CULTURE IN AMERICA.—The "Rochester American" says that a gentleman who has carried on both the culture of tea and the manufacture of tea from their leaves, for years, and some of the time employed two hundred men at the work, has left that place, after an extensive examination of the soil and climate of the South, for China and the East Indies, expressly to import a stock of young plants, superior to those cultivated by the late Dr. Junius Smith, at Greenville, South Carolina. We have no doubt but the plant can be cultivated in some of our Southern States, but the question is, can it be cultivated as economically as in China. We cannot tell; nothing, however, surpasses a fair trial in testing the question. There can be no doubt but a very superior tea can be cultivated in our country from any which we now get from China, as we have been creditably informed, by some who know the fact that none of the first quality comes here.

A REFORM CARRIED.—On Tuesday, the 7th inst., the citizens of New York voted to adopt the amended charter, and did so with such hearty good will, that out of 40,000 votes cast, only 3,000 were adverse to the reformed charter. It is believed that the new charter will cure many of the ills with which our city has been afflicted for a number of years, by unscrupulous magistrates.

What is doing to the Ericsson.

The work of removing the machinery of the Ericsson was completed last evening. This afternoon she is to be towed from her dock in Williamsburgh to the foot of Thirtieth street, North River, for the purpose of receiving her new and powerful engine and other machinery, nearly all of which is in readiness to be placed on board. The shaft, bed plates, and water-wheels are the only parts which have been retained in her. The owners are confident that the Ericsson will be in readiness for sea the 1st of September next.

The above is from the "New York Tribune;" we have quoted it to show that we have no art nor part in making up unfavorable reports respecting the splendid success of the Ericsson. The best thing that could be done with this ship would be to put a pair of good steam engines into her; perhaps this is the very thing that is to be done, but as Capt. Ericsson says, "this is not a proper subject for discussion at present."

Communications.

We are always glad to receive communications from practical men upon subjects suited to the character of our journal; we reserve to ourselves the right to use them or not, but we cannot undertake their preservation. A copy should always be kept by the writer who desires to preserve his communication. None but those familiar with the details of editorial office can understand the difficulty in always taking good care of manuscript.

The English papers speak in glowing terms of the "North Star," Capt. Vanderbilt's steam yacht. Her performances across were excellent. Her over-head engines were the subject of severe criticism—on the whole not unfavorable. Her hull was pronounced to surpass that of any English steamer for beauty and originality.