

nearly one thousand since the last census was taken in 1844.—Letters from Christiana announce that the Swedish government is fitting out an Expedition for the circumnavigation of the world.—A new system of posting the names of streets has been patented in London, and is on trial by the authorities. The name is blown or stamped in the glass on the street lamps, and is thus seen equally as well by night as by day.

The Cities of London and Paris compared.—The report of M. Darey, divisional inspector of the Ponts et Chaussées, who has been to England to obtain information relative to the macadamized roads, has just been published. In this work we find the following particulars relative to the population, extent of the streets, &c., in Paris and London:—The total surface of London is 210,000,000 of square metres; its population is 1,321,000; number of houses, 260,000; extent of the streets, 1,126,000 metres; extent of the streets, not including the foot-pavement, 6,000,000 metres; extent of the sewers, 639,000 metres. The total surface of Paris is 34,379,016 square metres; population, 1,053,379; number of houses, 20,526; extent of streets, 425,000 metres; surface of the streets, 425,000 metres; surface of the streets, exclusive of the foot-pavement, 3,600,000 square metres; length of the sewers, 135,000 metres; surface of the foot-pavement, 833,000 metres. Thus, in London, every inhabitant corresponds to a surface of 100 metres; at Paris, to 34 metres. In London, the average of inhabitants for each house is $7\frac{1}{2}$; at Paris, 34. In London, the average length for each house corresponds to 40 metres 40 centimetres; at Paris, to a length of street of 15 metres. These details establish the difference which exists between the two cities, from which it appears that there is in London a great extent of surface not built over; that the houses are not very high, and that almost every family has its own. The Boulevards of Paris is the part where the greatest traffic takes place, and the following are the results of the observations of M. Darey on this subject:—On the Boulevard des Capuchines there pass every 24 hours 9,070 horses drawing carriages, Boulevard des Italiens, 10,750; Boulevard Poissonniere, 7,720; Boulevard St. Denis, 9,609; Boulevard des Filles du Calvaire, 5,854; general average of the above, 8,600. Rue due Faubourg St. Antoine, 4,300; Avenue des Champs Elysees, 8,950. At London, in Pall Mall, opposite Her Majesty's theatre, there pass at least 300 carriages every hour. On London bridge, not less than 13,000 every hour. On Westminster bridge the annual traffic amounts to not less than 8,000,000 horses. By this it will be seen that the traffic in Paris does not come up to one-half of what it is in the macadamized streets of London.

Experimental Proof of the Earth's Rotation.—Within the last few weeks, a young and promising French physicist, M. Foucault, who was induced by certain reflections to repeat Galileo's pendulum experiment in the cellar of his mother's house at Paris, succeeded in establishing the existence of a fact, connected with it which gives an immediate and visible demonstration of the earth's rotation. Suppose the pendulum to be set moving in a vertical plane from north to south, the plane in which it vibrates, to ordinary observation, would appear to be stationary. M. Foucault, however, has succeeded in showing that this is not the case; but that the plane is itself slowly moving round the fixed point as a centre in a direction contrary to the earth's rotation—i. e., with the apparent heavens, from east to west. His experiments have since been repeated in the hall of the observatory, under the superintendence of M. Arago, and fully confirmed. If a pointer be attached to the weight of a pendulum suspended by a long and fine wire, capable of turning round in all directions, and nearly in contact with the floor of the room, the line which this pointer appears to trace on the ground, and which may easily be followed by a chalk mark, will be found to be slowly but visibly turning round, like the hand of a watch dial; and the least consideration will show that this ought to be the case, and will excite astonishment that so simple a consequence as this is, of the most elementary laws of geometry and mechanics, should so long have remained unobserved. * * * The subject has created a great sensation in the mathematical and physical circles of Paris. It is proposed to obtain permission from the Government to carry on further observations by means of a pendulum suspended from the dome of the pantheon, length of suspension being a desideratum in order to make the result visible on a larger scale, and secure greater constancy and duration in the experiment.—[Literary Gazette.

Great Discovery in Illuminating and Motive Power.—The *Railway Times* has the following:—"The decomposition of water has at length been obtained, and that at a merely nominal cost, and with unerring precision. This great discovery originating in America, has been perfected by the experiments of an eminent German chemist, and patented in the three kingdoms by Mr. Shepard. The carburetted hydrogen may be formed to any extent, which, while possessing an illuminating power equal to that of coal gas, is capable of being itself applied to the same purpose as steam at a remarkable high pressure. The gas is also capable of producing an amount of caloric equal to that of live coal, and so well and cheaply fitted to act as a combustible agent in the conversion of water into steam. This

tremendous power has been for some time engaging the attention of our most eminent engineers, and will, when sufficiently tested, be experimented upon before the public. If successful, as there is every present appearance of its being, the revolution it must effect in the economic working of railways, and indeed in every branch of trade and manufacture where steam is employed as a motive power, is altogether incalculable. It almost opens to the wondering gaze the Utopian vista in which unskilled manual labour shall be no longer necessary. It is sufficient for us, however, to state that several of the leading railway companies are in treaty with the patentee; and that, consequently, if anything whatever is capable of being made out of the discovery, the railway interest will possess at once the first benefit and chief honour in its realization."

The New Ring of Saturn.—We had occasion to announce recently that the Messrs. Bond, the astronomers at the Cambridge Observatory, had ascertained beyond all doubt, the existence of a *third* ring around the Planet Saturn. The new ring, at the time of its discovery, was well observed and carefully defined; and subsequent observations have confirmed the deductions first made. The same appearances, noticed at the Cambridge Observatory, were afterwards observed by Messrs. Dawes and Lassell, in England. The honour of the discovery belongs to Messrs. Bond, under whose faithful and intelligent labours, the great Equatorial at Cambridge has already made many important contributions to this department of astronomical science. The eighth satellite of Saturn, it will be remembered, was discovered by Mr. Bond, about two years ago.—[Boston Traveller.

Mr. Wyld's Model of the Earth.—The model of the earth, constructed by Mr. Wyld, the Queen's Geographer, which it was originally intended should have a place in the Crystal Palace, is now on exhibition, in a building erected for its accommodation in Leicester square; as it was found that the necessary arrangements for erecting and exhibiting the model, were incompatible with the space and convenience that could be afforded by the building in Hyde Park. This gigantic model is on a scale of ten miles to an inch. It is constructed on the concave surface of a globe, the south pole occupying the lower portion, and the north perpendicularly above it, without regard to the inclination of the ecliptic. Four galleries connected by stairs in the centre enable one to survey the whole internal surface, and from the upper gallery, over which the icy regions of the north pole form a canopy, the eye reaches downward in all directions, and is able to embrace almost the whole surface of the globe. Each part of the model is appropriately tinted—the fertile valley, the granite range, the snowy peaks, the volcanic craters, the lake, the river, and the sandy plain—so that vivid impressions can be obtained of all the features of the earth's surface.—[Ibid.

The Crystal Palace by Moonlight.—The clear nights and the full bright moon have enabled us to see the Crystal Palace in a new light—that of moonlight, and certainly, like Melrose, you must see it by moonlight, if you would see it rightly. Under the blue cloudless azure of the heavens, studded with its glittering star eyes, the traveller westward sees its elegant proportions sail out into exquisite relief above the long line of Knightsbridge Barracks, like a delicate caprice of an evening's frost, gracefully disclosing its chaste beauties to its own chaste moon. Approach nearer and a hundred moons sparkle in the tall arched transept, and the "broken light of stars" smile at you through the web of iron net-work, and a silver glitter, chequered by the arms of intervening trees, floats outward till it loses itself in the dark distance of the Park.—[Leigh Hunt's Journal.

The Berlin Museum.—The Museum is a showy building—one of the finest in Berlin. Along its front is a row of fluted columns, and upon the walls behind them allegorical fresco paintings, consisting of groups of figures larger than life, the work of Baron Cornelius. Upon a platform by the side of the steps leading up to the colonade at the entrance to the Museum, stands the Amazon group in bronze, a production of Kist, the model of which has attracted so much attention in the Exhibition in London, which model, it is understood, has been presented by the Prince of Prussia to the Queen of England. It is a most striking group—one of the works of art in Berlin which one stops to gaze at every day if he happens to be passing by.—[Correspondent Boston Traveller.

The Bible, the First Printed Book.—Interesting Historical Miscellanea.—It is a remarkable and interesting fact, that the very first use to which the discovery of printing was applied was the production of the Holy Bible. This was accomplished at Mentz, between the years 1450 and 1455. Gutenberg was the inventor of the art; Faust, a goldsmith, furnished the necessary funds. Had it been a single page, or even an entire sheet, which was then produced, there might be less occasion to have noticed it; but there was something in the whole character of the affair, which, if not unprecedented, rendered it singular in the usual current of human events. This Bible was in two folio volumes, which have been justly praised for the strength and beauty of the paper, the exactness of the register, and the