

former results were found to fluctuate less than the latter. The proportion of suicides to deaths (1 in 70 amongst males, 1 in 125 amongst females) and the age at which they are committed, the mode of death, and even the causes which lead to them, vary only in accordance with some general laws. Few know that in every seven minutes of the day a child is born in London, and in every nine minutes one of its inhabitants dies! The population of London is, roundly, 2,362,000. If the averages of the past 50 years continue, in 31 years from this time as many persons as now compose its population will have died in it, and yet in about 39 years from this time, if the present rate of progress continue, the metropolis will contain twice as many persons as it does now. The whole population of Liverpool in 1851 numbered 255,000; while the increase of inhabitants in the metropolis between 1811 and 1851 was 413,000. It is truly marvellous! Where it will stop, and how food and shelter are provided for these masses, are subjects for speculation.

*The Amazon.*—Professor Graham has presented a chemical report to the Board of Trade on the cause of the burning of the ship *Amazon*, in which, after investigating the evidence on the subject, he comes to the conclusion that the origin of the fire must remain a matter of speculation and conjecture. He does not think that it originated in the spontaneous combustion of the coals, because they were Welsh, which are not remarkable for this property, and were shipped in a dry and dusty state. He conceives that the sudden and powerful burst of flame from the store-room, which occurred at the very outset of the conflagration, is strongly suggestive of a volatile combustible, which, according to two witnesses, was in the store-room, though this is denied by a third. Professor Graham found on trial that the vapour given off by oil of turpentine is sufficiently dense at a temperature somewhat below 110° to make air explosive on the approach of a light.

*Prevention of Incrustations in Steam-Boilers.*—M. Delandré states that he has succeeded in preserving tubular boilers, free from incrustation, by placing 2 lbs. of protochloride of tin in a boiler, which works 12 hours daily, with a pressure of 3 atmospheres, consuming in this time 1,500 to 1,600 quarts of water, and is only emptied and refilled once in eight days. For steam boilers which are emptied daily, and are of great power, the consumption of protochloride should be calculated at half a pound, for every cubic metre of water evaporated. The protochloride of tin is changed by the water into an insoluble basis and a soluble acid salt; the latter dissolves the earthy and calcareous salts.—*Artizan.*

Dr. Babington, of London, some time since took out a patent for preventing incrustation by voltaic agency. For iron boilers he recommends a plate of zinc 16 oz. the square foot, to be attached by one of its edges by solder, to the interior of the boiler; and both sides of the plates being left exposed to the action of the iron and water, voltaic agency thus excited, is said to have the desired effect. For large boilers, two three or more plates may be used as necessary.

*Steam-Boiler Explosions.*—An invention has been registered by Mr. Dangerfield, of West Bromwich, for the prevention of steam-boiler explosions. The apparatus is very simple, consisting of a valve, which is screwed to the top of the boiler, over which stands a hollow fluted column about 3 feet high, forming a box to contain the weights on the valve, and a pillar for a wheel, over which works a flat chain connected with the buoy in the boiler, having at equal distances two long links, one on each side of the pillar. Two levers, connected with the valve, and fixed on centres, pass between the long link, so that the water in the boiler, rising or falling beyond a given level, depresses the lever, opens the valve, and permits the steam to escape. An index is fixed on the wheel which gives the height of the water in the boiler; the steam is also weighed without the addition of levers, and the weights are securely locked in the pillar to prevent alteration.

*New Planet.*—Mr. J. R. Hind has announced that a few nights ago he "discovered a new planet on the borders of the constellations Aquila and Serpens, about 5 degrees east of the star Tau in Ophiuchus. It shines as a fine star of between the eighth and ninth magnitudes, and has a very steady yellow light. At moments it appeared to have a disc, but the night was not sufficiently favorable for high magnifiers. At 13h. 13m. 16s. mean time, its right ascension was 18h. 12m. 58s., and its north polar distance 98 deg. 17m. 09s. The diurnal motion in R. A. is about 1m. 2s. towards the west, and in N. P. D. two or three minutes towards the south."

At a meeting of the Society of Antiquaries, lately held in London, Mr. Wright, by permission of the owner, exhibited a sword, a spear-head, and what he denominated an arrow-head of the Anglo-Saxon period, from whence he argued that the Anglo-Saxons used bows and arrows. Mr. Akerman expressed more than strong doubts on the question, and was of opinion that the so-called arrow-head had belonged to a small javelin. Our notion is that of Mr. Wright,—and it is very well ascertained that the Ancient Britons, whatever might have been the practice of the Saxons, employed bows and arrows, and pointed the latter with flint.

An account of the receipts and disbursements of the home treasury of the East India Company, from the 1st of May, 1851, to the 30th of April, 1852, shows that the receipts have been £6,099,852 8s. 5d., and the disbursements, £3,731,003 14s. 6d., leaving a balance in favor of the company, on the 30th of April, 1852, of £2,365,848 11s. It is estimated that the receipts of the home Treasury from the 1st of May last to the 30th of April, 1853, will be £3,858,521, which, with the balance in hand, will make the total amount £6,224,369. The disbursements for the same period are estimated at £4,139,272, which will leave a balance in favor of the company on the 30th of April, 1852, of £1,785,097.

The great Fire at the Printing Office of Messrs Clowes, in London, in the month of June last, by which property to the value of £50,000 was destroyed, has, it appears, a more direct interest for Canadians, than the readers of the announcement in the papers, were probably conscious of. A part of the twenty thousand reams of paper consumed, consisted of the sheets of 57 pages of the forthcoming Volume of observations at H. M. Magnetical Observatory at Toronto, the whole of which have therefore to be reprinted.

It appears from the returns prepared by the Board of Trade, that during the five months ended the 5th of June last, we imported no less than 52,338,676 eggs, the whole of which were entered for home consumption. Of these, two-thirds were delivered to supply the London markets. The average monthly consumption of foreign eggs is 15,000,000. The importations of butter during the first five months of the present year were 117,797 cwt., against 129,936 cwt., in the corresponding period of last year.

It is stated that arrangements are in progress for extending the privileges of sending books, magazines, and pamphlets by post, at the low rates adopted for inland carriage of these articles, to the settlements of Australia.

From official returns just published, it appears that the Irish emigration in ten years (1841 to 1851) numbered 1,289,133 persons. The decrease in the population of Ireland between 1841 and 1851 was 1,659,330.

It is said that Col. Rawlinson has opened out the entire place of sepulture of the Kings and Queens of Assyria. There they lie "in huge stone sarcophagi, with ponderous lids decorated with the Royal ornaments and costume, just as they were deposited more than 3000 years ago."

It is proposed to construct a new Bridge on or near the site of Blackfriars bridge, to be of cast iron, and have only five arches instead of seven. The centre arch would thus be 150 feet open and the two side arches 140 and 130 feet respectively.

Mr. A. W. Pugin, the celebrated Architect, has become the inmate of a Public Hospital. His mind having given way under an excessive strain of professional and nervous excitement.

#### ERRATA.

Page 10.—Line 40.—For "shut," read "sheet."

Page 16.—Line 10.—For "bichlorides," read "chlorides."

#### THE CANADIAN JOURNAL

Will be published Monthly, and furnished to Subscribers for 15s. per annum, in advance. To Members of the Canadian Institute the *Journal* will be transmitted without charge.

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There are three classes of persons who may with propriety join the Institute.—1st. Those who by their attainments, researches, or discoveries, can promote its objects by their union of labour, the weight of their support, and the aid of their experience. 2nd. Those who may reasonably expect to derive some share of instruction from the publication of its proceedings by the *Journal*; and an acquaintance with the improvement in Art and the rapid progress of Science in all countries, a marked feature of the present generation. 3rd. Those who, although they may neither have time nor opportunity of contributing much information, may yet have an ardent desire to countenance a laudable, and to say the least, a patriotic undertaking—a wish to encourage a Society, where men of all shades of religion or politics may meet on the same friendly grounds, nothing more being required of the Members of the CANADIAN INSTITUTE than the means the opportunity, or the disposition, to promote those pursuits which are calculated to refine and exalt a people.

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