

MR JOHN SCOTT RUSSELL.

MR. JOHN SCOTT RUSSELL, the builder of the *Great Eastern*, was born in the Vale of Clyde, in December, 1808. He was educated at the University of St. Andrew's, where he early distinguished himself by his scholastic attainments, and graduated with honours at the age of sixteen. He took a liking to the study of mechanics, physics, and the higher branches of mathematics, and by diligent application attained a remarkable proficiency. When Sir John Leslie, the distinguished Professor of Natural Philosophy in St. Andrew's University, died, in 1832, Mr. Scott Russell, although very young, was considered the most fitting man for the post, and was accordingly elected. He delivered a series of lectures to the

students, many of whom were much older than himself, and performed the duties of his office in a manner to gain the good opinion of those whose approbation was worth striving for, and whose praise was not to be obtained without sterling merit.

Mr. Russell then studied the duties of a practical engineer, and worked for many years in one of the largest engineering firms in Scotland. He came to London in 1844; and, after practising some time as a practical engineer, entered more actively into business as a shipbuilder at Millwall. Bringing his mathematical attainments and general scientific knowledge to bear upon the subject, he began to investigate the laws by which water opposes resistance to floating bodies. He so far improved the form of ships that they now possess the quality of offering the least possible



MR. JOHN SCOTT RUSSELL—FROM "THE ILLUSTRATED LONDON NEWS."

resistance. Mr. Russell's "wave-line" system of construction was brought before the Royal Society of Edinburgh in 1837, and at once earned him the distinction of the large gold medal. He was, moreover, elected Fellow of the society, and was invited to a seat in the Council. The practical introduction of the system brought him still greater distinction. He adopted the wave-line principle in all the ships built under his direction. As a result the rate of speed of vessels across the ocean has wonderfully advanced. The application of the same principle to sailing-ships, under the name of "clipper-built," has been attended with equal success. Mr. Russell was elected Fellow of the Royal Society of London in 1847. He was also appointed member of the Institute of Civil Engineers and a member of the Society of Arts.

Mr. Russell is not only the builder of the *Great Eastern* but was the active projector of the undertaking, and, to use his own words, to him "belongs the responsibility of her merits or defects as a piece of naval architecture."

DANGERS OF SMOKING.—M. F. Bouisson, Professor of Medicine at Montpellier, has published in the *Gazette Medicale* of Paris a memoir on the cancer of the mouth prevailing among smokers of tobacco. In his ordinary and hospital practice in the interval of a few years he has collected sixty-eight very clear and exact cases (of persons varying from twenty to eighty years of age) which leave no doubt as to the sad power which tobacco possesses of producing cancer of the mouth. These observations do not express a simple coincidence of the malady with a provoking cause, but establish a true correlation in this sense, that among the persons attacked with cancer the habit of smoking was either carried to excess, or accompanied with significant circumstances, such as the use of a short pipe, the decay of the teeth, and other evidences of a neglect of the hygiene of the mouth. The ordinary form of this cancer is epithelioma, or epidermic cancer. Of the sixty-eight cases above mentioned forty-three were effected in the lower lip; five in the upper lip; seven in the tongue; others in the palate cheek, &c. In eighteen cases the brain became seriously affected—*Cosmos*.