EDWARD REYNOLDS, born in London on the 7th of October 1825, was the son of the late Mr. William James Reynolds. Most of his boyhood was spent in Herefordshire at school. At an early age his aptitude for mechanics was remarkable; out of fragments of toys he put together—long before he had seen a steam-engine, and solely with the aid of rude diagrams in a book for boys—a small model of a section of a beam-engine, the movable parts of which were properly adjusted. About the year 1839 he was sent to King's College, London, where he became a student in the engineering department. He was apprenticed in February, 1844, to the late Mr. William Bridges Adams, of the Fairfield Works, Bow, with whom he remained for two years. He was then employed from 1846 to 1850 as Chief Draughtsman in the Locomotive Department of the Eastern Counties Railway. During that time slab frames were substituted in the locomotives for the old bar frames, a change rendered necessary by the alteration of gauge from 5 feet to 4 feet 8½ inches. From 1850 to 1852 Mr. Reynolds was engaged in designing Warren-girder bridges and bridges generally. He was then appointed Chief Engineer to the Butterley Iron Company, at whose works he remained for eight years. During that period he remodelled a large portion of the plant, several of the engines and locomotives designed by him for the Company being still at work. In September, 1860, he entered into partnership with Mr. (now Sir Frederick) Bramwell, a connection which lasted until the early part of 1863. During that time he acted as Consulting Engineer to the Butterley Iron Company.

Mr. Reynolds then became engineer to Messrs. Naylor, Vickers and Co. of Millsands, Sheffield, and was engaged in the construction of the River Don Works. In 1872, nine years later, he was appointed a managing director of the Company, which had become Vickers, Sons and Co., Limited, and retained that position until his death. Among the more noticeable plants designed by Mr. Reynolds at those works are the large forging-presses, the construction of which was commenced in 1882. He then introduced the long stroke type of forging-press, the ram working on the spherical end of a guided inverted T-shaped cross-head carrying the forging face; the slack before the actual pressing being taken up by water from a source at a lower pressure. This system, which he had adopted some time before for general hydraulic work, possessed the advantage that smaller pumping engines might be employed. Mr. Reynolds was a man of retiring

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disposition, who generally disliked taking part in public matters. In 1894 he joined the boards of the Elmore Copper and Wire Companies and took an active interest in their management and in the technicalities of their manufacture. During his long engineering life he had the good fortune to be concerned in or to see the beginning of many manufactures and inventions, a notable instance being the experiment made by Captain Blakely, R.A., at the Butterley Iron Works in connection with the system of reinforcing guns with hoops in initial tension. Mr. Reynolds' memory was remarkably good, and his extensive and minute knowledge, great originality, insight, and largeness of view in business relations, were the secret of his success. In addition, his self-reliance and unfaltering moral courage contributed much to his influence on men individually and collectively.

For some time previous to his death Mr. Reynolds' colleagues and others had noticed signs of failing health, these symptoms rapidly developing during the latter part of 1894. Although he suffered for some months from cardiac asthma he remained actively at work until the 5th of January, when a chill he had contracted hastened his end, which took place on the 12th of January, 1895. Mr. Reynolds was a member of the Institution of Mechanical Engineers, the Institution of Naval Architects, the Society of Arts, the Society of Engineers, and the North East Coast Institution of Engineers and Shipbuilders. He was elected a Member of this Institution on the 5th of February, 1889.

ALFRED THOMAS COOKE was born on the 14th of September, 1819. He served a pupilage to Sir Marc Isambard Brunel,[1] during the construction of the Thames Tunnel, and was afterwards apprenticed to Mr. Joel Spiller,[2] at whose works at Battersea he was engaged on the construction of the engines for the first steamboats which ran on the Thames.

Mr. Cooke was next employed for three years as a draughtsman at the Horsley Ironworks, Tipton. He then entered the service of the Honourable East India Company as a marine engineer. After nearly six years at Bombay and afloat, he was appointed by Messrs. Miller,[3] Ravenhill[4] & Company of Blackwall, to the

[1] Minutes of Proceedings Inst. C.E., vol. x. p. 78.
[2] *Ibid*, vol. xxxviii. p. 296.
[3] *Ibid*, vol. xx. p. 149.
[4] *Ibid*, vol. lxxxix. p. 495.

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