

experiments with Messrs. Commelin and Desmoyères in connection with submarine boats. While in Paris he translated into English Gaston Planté's "Recherches sur l'Electricité."

In 1889 Mr. Elwell went to New South Wales and practised for a time as a Consulting Engineer in Sydney. His ability and experience soon attracted attention, and in 1891 he was appointed Electrical Engineer to the Railway Commissioners of the Colony. In that capacity Mr. Elwell rendered valuable service to the Railway Department. Under the direction of the Commissioners the electric train staff and tablet system of safe railway working was extended to cover practically all the busy portions of the line, being in operation in the north as far as Tamworth, in the west to Dubbo, and in the south to Albury: and during the installation of the electric instruments for the safe working of the lines numerous improvements were devised, largely by Mr. Elwell, in order to meet special traffic requirements on particular sections. In 1895, at the instance of the Commissioners, he studied in America and on the Continent the latest developments in connection with electric tramway working; and the experience thus obtained, coupled with his wide technical knowledge, enabled him to render great assistance to Mr. Henry Deane, the Engineer-in-Chief of the Railway Department, in the construction of electric tramways in New South Wales and in the conversion of the present steam system into electric traction. The last and most important work on which he was engaged was the George and Harris Streets Tramway, with its large power station containing four generators of 850 kilowatts each.

Unfortunately Mr. Elwell did not live to see the completion of this work. He was found to be suffering from some disease which attacked the ankle, and, in the hope of entire eradication, the leg was removed above the knee. The operation did not have the desired effect, and the disease, spreading further, caused his death on the 10th September, 1899.

Mr. Elwell was elected a Member of the Institution on the 6th February, 1894.

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JOSEPH FOGERTY was born at Limerick on the 7th April, 1831. After serving a pupilage under his father in Ireland, he came to England in 1856 and studied at University College, London. He was then engaged for three years as an Assistant in the office of the late Sir John Fowler, on the construction of the Severn Valley

Railway, the Much Wenlock, and the Coalbrookdale and Craven Arms lines, and in preparing the surveys for the Metropolitan Railway.

About the year 1865 Mr. Fogerty began to practise on his own account. He became a Member of the Royal Institute of British Architects, and, in addition to constructing water- and steam-power mills, factories and other works in Ireland, devoted himself to the designing of private dwelling-houses in and around London. He was interested in the scheme for the water-supply of Seville—now in successful operation—and spent some years and much money in preparing designs in full detail for elevated railways in the city of Vienna, which, in a modified form, are being carried out in sections at the present time by the Austrian Government engineers.

In his later years Mr. Fogerty devoted much time to novel writing, in which he achieved considerable success. A close study of the problems of capital and labour led to the publication of his first work, "Lanterdale." This was followed some years later by "Caterina" and "Countess Irene," in which the Author gave some interesting and striking pictures of Austrian and Irish life and character. Mr. Fogerty died at his residence in Sydenham on the 2nd September, 1899.

He was elected a Member of the Institution on the 14th April, 1863.

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JOSEPH GARLAND was born in the parish of St. Agnes, Cornwall, on the 6th February, 1840. Belonging to a mining family and district, he adopted mining as a profession, obtaining his first practical experience at the Wheal Friendship Copper Mines near Tavistock, Devon. That property was then managed by the engineering firm of Messrs. John Taylor and Sons, and Mr. Garland energetically pursued his work under the guidance of the late Mr. Richard Taylor. He spent seven years there, during which he was promoted to the post of Sub-Agent, and eventually left to take up an appointment at the Cape Copper Mines, in little Namaqualand, South Africa. There he improved his knowledge of mining, and, during four years' residence, applied himself to a thorough and comprehensive study of various technical subjects. After a brief spell of work in copper mines near Camborne in Cornwall, he became Agent to Lead and Blende properties in Switzerland and in Germany, and in 1872 was