

three years he was connected with the Newtown Night Mission, the flourishing condition of which is largely due to his untiring exertions; he was also for some time Chairman of the Altrincham Free Library and Technical Instruction Committee, and he was largely interested in charitable work for the poor of the district.

Mr. Barratt was elected an Associate of the Institution on the 3rd February, 1874, and was subsequently placed in the class of Associate Members.

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GEORGE HENRY COBB, born in 1832 at Bredgar, Kent, served his pupilage in the works of Messrs. John Penn and Son at Greenwich, with which firm he subsequently remained for nine years, being chiefly occupied in the drawing office. In 1863 he was appointed Chief Engineer to the Arsenal at Trieste, and after holding that post for a time he went to Peru as Naval Engineer to the Peruvian Government. About the year 1873 he gave up active pursuit of the profession and from that time lived in retirement in England, although he took keen interest in engineering matters until his death, which took place at Tunbridge Wells on the 26th February, 1904.

Mr. Cobb was elected an Associate of the Institution on the 12th January, 1864, and was subsequently placed in the class of Associate Members.

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WILLIAM FREDERICK CRAWFORD, B.A. (*Dublin*), died at Johannesburg, Transvaal, on the 8th October, 1903, from pneumonia. Educated at Trinity College, Dublin, where he graduated in Arts and Engineering, he gained his early engineering experience in the works of Messrs. Emerson and Murgatroyd, at Stockport. In 1863 he went to India as Assistant to the Madras Irrigation and Canal Company, and subsequently acted as Engineer during the construction of the Kurnool and Cadapa Canal. He then acted for four years as Agent for Messrs. Wythes and Jackson on the construction of the Maritzburg and Durban Railway, in Natal, and afterwards undertook a contract to supply the labour required to construct the Kimberley Waterworks. Subsequently he constructed the Karachi Steam Tramways and worked them for some months. On the completion of that undertaking he returned home and was engaged for some years in reporting on various mines and in studying the chemical analysis of minerals. Latterly he was in business in Johannesburg as a Consulting Engineer. Able as an engineer, he was modest, genial

and generous in disposition, and always ready to help those in need, and his loss was much regretted in Johannesburg.

Mr. Crawford was elected an Associate of the Institution on the 3rd May, 1870, and was subsequently placed in the class of Associate Members.

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FREDERICK DRESSER, born on the 4th June, 1843, was educated at Merchant Taylors' School and at Cheltenham College. He was apprenticed first to Messrs. Humphrys, Tennant and Co., of Deptford, and subsequently to the Greenock Foundry Company. After a voyage to the West Indies as engineer, he entered the Indian Public Works Department in March, 1868, and was employed on the Apollo Bunder, at Bombay, and on works at Carwar, as Assistant Engineer First-grade. When in England on leave in 1871 he married Jane, eldest daughter of Sir Thomas Brocklebank, Bart., who returned to India with him, but as he found that the climate there did not agree with his wife, he gave up his appointment, returned to England, and commenced business as a rice miller at Bixteth Street, Liverpool. On his business being acquired by Messrs. White, Tomkins and Courage he became Managing Director of the local branch of that firm, continuing as such until his death, which took place suddenly on the 31st of March, 1903.

Mr. Dresser was elected an Associate of the Institution on the 6th December, 1870, and was subsequently placed in the class of Associate Members.

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BARROW EMANUEL, M.A. (*Dublin*), died at his residence, 147 Harley Street, W., on the 14th February, 1904, aged 62. Born at Portsmouth on the 4th February, 1842, he served a pupilage to Mr. H. Wood, Superintending Civil Engineer of Portsmouth Dockyard, and was subsequently articled to Messrs. George Rennie and Sons, of Holland Street, Blackfriars. After graduating in arts at Trinity College, Dublin, he acted for two years as Chief Draughtsman to Messrs. Lewis and Stockwell, ship-builders and dry-dock owners, of Blackwall.

In 1867 he became a member of the firm of Davis and Emanuel, in which he was senior partner at the date of his death. During that period of thirty-seven years the firm carried out works at Southsea Pier and in connection with the Portsmouth Street Tramways, and were the architects of the City of London School, the London Hospital Convalescent Home at Felixstowe, the Yarrow Con-