

acted for the Company, however, in connection with the purchase of land for the Manchester, Swinton and Hindley line to Wigan.

As a consulting engineer Mr. Dorning acted for the Earl of Derby, the Earl of Sefton, the Earl of Wilton and many other landowners in the north. He was standing arbitrator for the Corporation of Manchester, for which body he purchased 25 miles of land required for the Thirlmere conduit pipe. He was frequently engaged for other corporations in Lancashire and also as a witness in engineering and compensation cases involving large public and private interests. Mr. Dorning had been sitting for three days as arbiter in a case arising out of the purchase of land by the Liverpool, St. Helen's and South Lancashire Railway Company, when he was taken ill. He died at his residence, Pendlebury Cottage, Manchester, on the 18th of July, 1896, at the age of 77. Mr. Dorning was elected a Member on the 6th of December, 1864.

FREDERIC GEORGE FISHENDEN, born on the 31st of July, 1832, was the son of Mr. William Fishenden, of Sheerness. At the age of seventeen he became a pupil in the Engineering Department of Sheerness Dockyard, where he remained for two years. He then obtained further practical training in the shops of Mr. Hall, contractor for fortification works on the Medway, after which he was engaged for three years as Assistant to Mr. J. Harrison in carrying out drainage and other works in that district for the War Department.

In 1857 Mr. Fishenden entered the Director of Works Department of the Admiralty, in which he served for nearly forty years. He was at once sent to Bermuda, where he remained for five years as Foreman of Works during the reconstruction of the dockyard and other naval establishments. From 1862 to 1871 he was employed, under Mr. Richard Townshend,¹ on the heavy and costly work of extending Keyham Dockyard. In 1872 he was appointed Clerk of Works on the Chatham Dockyard extension, and between that date and 1879 he carried out, under Admiralty orders, extensive works in connection with the reconstruction of the Cape of Good Hope Naval Establishments. On returning to England he was appointed Assistant Civil Engineer in charge of the harbour and breakwater at Portland, including the extensive Government quarries in the island and the supervision of the Admiralty Works in the district.

¹ Minutes of Proceedings Inst. C.E., vol. xciii. p. 492.

In 1883, again under Admiralty instructions, Mr. Fishenden proceeded to New South Wales, to make arrangements and prepare designs for the establishments required in that colony for the use of the Imperial Navy. He returned to Portland in the following year and in 1887 was appointed Superintending Civil Engineer of the Western District, in which are included the Dockyards at Devonport and Keyham and the charge of Plymouth Breakwater. There he remained until 1890, when he was transferred to Chatham Dockyard in a similar capacity. The duties of the Superintending Engineer of a large dockyard, in which the construction of warships is being carried on, are of an onerous nature, and were performed by Mr. Fishenden with the ability and zeal he brought to bear upon everything he took in hand. One of his last actions at Chatham was to assist in receiving a large party of Students of the Institution who visited the dockyard on the 9th of May, 1895. Early in the following year he was transferred to his old station at Devonport, where he died on the 10th of April, 1896. Mr. Fishenden was elected a Member on the 5th of February, 1889.

JOHN WILLIAM GRAY, born on the 1st of October, 1828, at Montrose, was the son of Mr. Thomas Gray, general merchant and shipowner. As a boy he showed aptitude for mechanics, spending hours in working at the lathe and in making himself acquainted with the machinery in a flax mill, near Montrose, belonging to his father. At fifteen he was apprenticed to Mr. John Murray,¹ then Engineer to the River Wear Commissioners. During the next four years he was employed, at first under Mr. Murray and subsequently under Mr. Thomas Meik,² on Sunderland Harbour works and on marine surveys for the South Docks at that port. He was next engaged, from 1847 to 1852, in assisting Mr. W. C. Mylne³ to carry out extensive works for the New River Company, after which he spent five years in the service of the East London Waterworks Company, under Mr. Charles Greaves.⁴ In 1858 he returned to Mr. Mylne and for the next three years was occupied in re-arranging the system of supply in the New River Company's district. From 1861 to 1864 he was again employed by the East London Company, after which he set up in business on his own account. Among his first works were

¹ Minutes of Proceedings Inst. C.E., vol. lxxi. p. 400.

² *Ibid*, vol. cxxv. p. 410.

³ *Ibid*, vol. xxx. p. 448.

⁴ *Ibid*, vol. lxxvi. p. 355.