

succeeded to the Chairmanship of the Company just before his death, which took place at Walsall on the 24th October, 1903.

Mr. Fox was a member of the Corporation of Leeds for several years and three years in succession Mayor of Harrogate, where he resided. He was a life governor of the Yorkshire College and Justice of the Peace for Leeds and Harrogate. A great lover of music, he made through the King (then Prince of Wales) a munificent gift to the Royal College of Music at South Kensington. He was a member of the Legion of Honour of France.

Mr. Fox was elected a Member of the Institution on the 5th April, 1881.

JAMES MORRIS GALE,¹ who, for a period of fully forty years, was the Engineer-in-Chief to the Glasgow Water Commissioners, died on the 7th September, 1903, at his residence at Aberfoyle, which lies in the district of the famous Loch Katrine water scheme, by which his name will be known to future generations of water engineers. He retired from his post at the end of 1902, with the respect and esteem of his employers—the Water Commissioners. Before his retirement took place he had been relieved from active duty on account of general weakness; but his work was so thoroughly organized that his department went on without making great demands on him. Had he been less anxious about it, probably his life might have been extended considerably.

Mr. Gale was a native of Ayr, where he was born in the year 1830. After receiving his education at the academy there, he joined the engineering staff of his elder brother, William Gale, who constructed the works of the Gorbals Gravitation Water Company, the gathering ground of which lies from seven to ten miles on the south side of Glasgow. While thus employed with his brother, Mr. Gale attended the engineering classes of Professor W. J. Macquorn Rankine in the University of Glasgow, and the mathematical classes of Professor Laing in Anderson's College. Later, for eight years he occupied the position of Assistant Engineer to his brother, and in the year 1855, when the great Loch Katrine scheme was put into operation under Mr. J. F. La Trobe Bateman, Past-President, who was then one of the leading water engineers in the kingdom, Mr. Gale was appointed Resident Engineer on the city section of the works which depended on

¹ This notice, with some modification, has been reprinted from *Engineering*, 11 September, 1903, by permission of the Editors.

Loch Katrine as the source of supply. Mr. Gale continued with the Glasgow Water Commissioners until the works were finished and handed over to the corporation, and he was appointed at the close to the post of Chief Engineer to the Commissioners. He subsequently read a Paper on the Glasgow water works before the Institution of Engineers and Shipbuilders in Scotland.¹

But although the scheme of works was intended to supply to Glasgow and its suburbs a quantity of water amounting to 50,000,000 gallons per day, it was found by the year 1882 that a fresh supply of water would soon be required, and under Mr. Gale's advice and guidance it was resolved by the Corporation Water Commissioners to apply to Parliament for powers to construct another aqueduct, calculated to carry from Loch Katrine² an equal amount of water. Mr. Gale's scheme for doubling the supply was carried through both Houses of Parliament, and was at once put into execution. It especially included the raising of the boundaries of the loch, and it brought into assistance and use other lochs in the Loch Katrine area. The scheme was carried out exclusively by Mr. Gale and his staff, and it is a splendid piece of work.

Mr. Gale served the office of President of the Institution of Engineers in Scotland in 1867-68 and 1868-69. The addresses he delivered from the chair dealt with the engineering works carried out in the preceding ten years, and with the works which might be expected to be undertaken in the succeeding ten years, especially by the City of Glasgow. He read a number of Papers before that Institution, one of which was a description of the water works that were constructed for Port Glasgow. That Paper was deemed so important that Mr. Humber selected it as one dealing with a typical works, and published it in 1876 in his volume on "The Water Supply of Cities and Towns." In his later years he seldom attended the meetings, owing to failing health; but he acted faithfully for a number of years as the treasurer to the Institution.

One feature of Mr. Gale's character was his industry and his methodical treatment of affairs. He early adopted the Deacon waste-water meter, of which he ultimately had no fewer than eighty installed and in use, controlling the water supply in districts of Glasgow where there were about 160,000 inhabitants. He was

¹ Transactions of the Institution of Engineers and Shipbuilders in Scotland, vol. vii. p. 21.

² See *Engineering*, vol. lvii. pp. 469, 535, 601, 635, 703 and 738.

selected as a member of a Commission—his colleagues being Messrs. Hill and Mansergh—on the Edinburgh Water Works.

Mr. Gale was elected a Member of the Institution on the 2nd February, 1864. In the year 1888-89 he filled the office of first President of the reconstituted Glasgow Association of Students of the Institution.

WILLIAM JOSEPH KINGSBURY,¹ youngest son of the late Mr. Thomas Kingsbury, formerly of The Priory, Bathwick Hall, Bath, was born at Clapton, Middlesex, on the 30th December, 1825. He was educated at private schools, and entered at about the age of 15 the College for Civil Engineers at Putney, where he took the first place in mathematics every year, and obtained its diploma in 1849.

On leaving Putney College he was offered the position of assistant to Professor John Wilson, who was carrying on boiler experiments in connection with coals suited for the steam Navy, and the results were embodied in the first Report issued by the Commissioners, Sir H. De la Beche and Dr. Lyon Playfair. Mr. Kingsbury returned home, after a short period of employment under Mr. Charles Liddell, owing to his father's serious illness, but in August, 1852, he received an introduction to Mr. George Parker Bidder, Past-President, and this proved to be the starting-point of his professional career and of an association of friendship unbroken until Mr. Bidder's death in 1878.

Mr. Bidder placed him with Mr. John Mortimer Heppel, then occupied with preliminary calculations and sketches for the large wrought-iron gates for the Victoria Docks, and in the preparation of contract drawings for the Hackney branch of the Eastern Counties Railway (now part of the Great Eastern system). On Mr. Heppel's leaving England for an appointment in Switzerland at the end of 1852, Mr. Kingsbury came into Mr. Bidder's office, and was placed in charge of details of lock-gates and caissons, subsequently becoming Resident Engineer under Messrs. Bidder and Berkley of the Woodford and Loughton branch of the Eastern Counties Railway in 1855. At the end of 1856, on the retirement of Mr. W. P. Gale, Mr. Bidder offered him the post of Private Secretary, and placed him in charge of the office. In 1859 he presented to the Institution, at Mr. Bidder's request, a

¹ This notice is mainly autobiographical.—SEC. INST. C.E.