

Davis, for ten years. He left the Great Eastern Company in 1872 to become manager of the Brazilian Street Railway Company's line of tramway from Recife to Caxanga. This undertaking, which was of a peculiar nature, had fallen into disrepute, and it required considerable tact and firmness to reinstate it. Mr. Batterbee gave great satisfaction in a very difficult position, his management being distinguished by sound good sense, attention to the interests both of the Company and the public, and strict integrity. About 1876 Mr. Batterbee returned to England, and did not resume professional employment until 1883, when he went to Parahyba de Norte, also in Brazil, as Resident Engineer of the Conde d'Eu Railway. Here, again, a difficult task was imposed upon him, owing to disputes between the Company and the Contractors for the line. The worry and responsibility predisposed him to sickness, and an attack of heat apoplexy intervening, he was obliged to come home eighteen months later completely prostrated. Recovering his health, he returned to Brazil in October 1884, and remained in charge of the line till April 1885, when, his health again giving way, he was compelled to resign his appointment. From that time till his death, on the 15th of July, 1888, Mr. Batterbee, though unable to engage in active work, took part in the settlement of the contract accounts, and performed other duties for the Company in London up to the end of 1887.

Mr. Batterbee was intelligent, courteous, and amiable, zealous in the discharge of his duties, and honourable in all his proceedings, and was much and deservedly esteemed by those with whom he came in contact. He was elected an Associate Member on the 5th of December, 1882.

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JAMES JOHN ALEXANDER FLOWER was born at the Baptist Parsonage, Chobham, Surrey, on the 21st of April, 1847. After being educated by private tutors, he served a pupilage to Messrs. A. and J. Inglis, Marine Engineers, Glasgow. He then proceeded to the Cape, and after being for a short time in private practice he was appointed Acting Engineer of Cape Town. During his tenure of that post he carried out an extension of the water-supply from Table Mountain through Platte Klip, and constructed a small reservoir and filtering-beds. About a year after the return of the City Engineer, the latter was pensioned, and Mr. Flower was appointed his successor. During Mr. Flower's absence in England the duties of the office were fulfilled by his father, and in the

result he never personally took up the appointment, preferring to remain at home as the London representative of the firm in which he was a partner, namely, Messrs. James Flower and Sons, Mechanical Engineers, largely occupied in the construction and importation of machinery for gold-mining. He was thus occupied until the spring of 1888, when, owing to some misunderstanding with the Cape banks, the firm were obliged temporarily to suspend payment, being at the time in the full swing of business. This untoward event caused a shock from which Mr. Flower never recovered, and he died broken-hearted on the 12th of April, 1888.

Mr. Flower was elected an Associate of the Institution on the 2nd of December, 1873, and was transferred to the class of Associate Members on the separation of the former grade into two divisions.

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SAMUEL HARPUR was born at Derby on the 1st of March, 1820. At the age of seventeen he was articled to Mr. Samuel Henry Oakes, a civil engineer, whose daughter he subsequently married.

In 1841, shortly after completing his pupilage, he was appointed Borough Surveyor of Derby, where he carried out some important engineering works, amongst them the construction of the Flood-sewers and Main-drainage of the town, also the erection of a bridge across the Derwent. In 1846, while at Derby, he invented and first used the transverse invert-bricks, now so generally employed in the construction of sewers.

In 1851 he resigned his appointment at Derby, in order to become Managing Partner in the firm of Thomlinson, Harpur and Harpur, Contractors. Among the works carried out by him in that capacity were: The main drainage and waterworks at Ashby-de-la-Zouch; the Thornton Reservoir of the Leicester waterworks; the main drainage and sewage-disposal works of the City of Coventry; sewerage works at Burslem, and sewerage and sewage-disposal works at Cheltenham. These contracts occupied him until the year 1859, when he removed to Merthyr Tydfil, his firm having taken the contract for the construction of the filter-beds, depositing-tanks, pure-water reservoirs, engine-house, and erection of pumping-machinery, as a portion of the scheme for supplying the district of Merthyr with water. With that contract began Mr. Harpur's connection with Merthyr Tydfil, and it became the means of the firm acquiring other work in the neighbourhood. On the failure of the original contractors for the construction of the storage-reservoir at Pentwyn, also in connection with the Merthyr waterworks, the,