

Superintendent of the Hurunui-Bluff Railway (1885-88); and Locomotive Superintendent of the New Zealand Railways from 1888 to April, 1900, when he accepted the appointment of Chief Mechanical Engineer to the Western Australian Railways. While in the service of the New Zealand Government he introduced the complete manufacture in the railway workshops of many locomotives and other rolling-stock required. In 1887, while still connected with the New Zealand railway service, he was specially appointed by the New South Wales Government to report on the railways and tramways of that colony. In 1891 he was appointed by the New South Wales Railway Commissioners to inquire into the merits of the Westinghouse and vacuum brakes as applied to goods trains. In 1893, under instructions from the New Zealand Railway Commissioners, he visited America and Europe to make a personal examination of the working of compound locomotives, and to inquire into the feasibility of placing electric motors on a portion of the New Zealand Railways, and generally into questions affecting electric welding, locomotives, machinery and lighting.

Mr. Rotheram was elected a Member of the Institution on the 12th January, 1886.

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ARTHUR SHANKS, born on the 22nd February, 1836, began his engineering career as an apprentice in the works of Messrs. Robert Stephenson and Company, of Newcastle-on-Tyne, with which firm he subsequently remained as an Assistant until 1861. Early in the following year he went to Calcutta, where he was engaged for some months in the Engineer's office of the River Steamer Company, and in November of that year he entered the service of the Eastern Bengal Railway Company as Assistant to the Locomotive Superintendent. In May, 1864, he was appointed Resident Engineer and Locomotive Superintendent of the Calcutta and South Eastern Railway, which post he held until June, 1868, when he resigned in order to become a member of the firm of Messrs. Burn and Company, of Calcutta and Howrah.

During the twenty-two years of his connection with Messrs. Burn and Company, Mr. Shanks was principally engaged in managing the Howrah Ironworks of that firm, in which capacity he was responsible for the construction of bridgework, roofing, lock-gates, engines, boilers, rolling-stock, and foundry work of all kinds. Retiring in 1890, he returned to England, where he died, at Heath

Place, Cowden, Kent, on the 17th August, 1903, in his sixty-eighth year.

Mr. Shanks was elected an Associate of the Institution on the 14th May, 1872, was subsequently placed among the Associate Members, and was transferred to the class of Members on the 11th March, 1884.

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JOHN ALLSOPP, born on the 2nd August, 1848, served an apprenticeship to Messrs. Strutts, engineers and millwrights, of Milford, near Derby. From 1869 to 1872 he was employed by Messrs. Benton and Woodiwiss, contractors, in charge of important works on the Settle and Carlisle Railway and on the Duffield and Selston branch of the Midland Railway. He was then engaged for four years on drainage and sewerage work, and in 1876 he was appointed Engineer and Surveyor to the Local Board of Health of Worksop, in which capacity he carried out the present sewerage system of that town. In 1884 he resigned that post and devoted himself to private practice as an architect and surveyor. Mr. Allsopp was the first Engineer to the Worksop Waterworks Company. He was kind and generous in disposition, and in his younger days a great athlete. He died at Worksop on the 2nd November, 1903, at the age of 55.

Mr. Allsopp was elected an Associate Member of the Institution on the 6th April, 1880.

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HERBERT HENDERSON, son of Mr. Joseph Henderson, Mining Engineer, of Liverpool and North Wales, was born on the 27th May, 1856, at Newport, Monmouthshire. He was educated at the Kirkcudbrightshire Academy, and commenced an engineering apprenticeship with Messrs. McKinnel, of Dumfries, completing it at the Vauxhall Foundry, Liverpool. In 1877 he was appointed Assistant to Mr. D. M. F. Gaskin, then Water Engineer of St. Helen's, Lancashire, with whom he was engaged in the preparation of the plans and part supervision of the Sutton Road Pumping-Station and the Brown Edge reservoir, and part supervision of the machinery at the various pumping-stations. He was also engaged in the experimental work for the softening of the Collins Green water, and in all this work he showed himself a careful, accurate and efficient assistant. With the object of extending his experience