a Royal Commissioner for municipal schemes involving governmental approval of loans, in respect of roads, bridges, electricity-supply, and drainage works, and exercised the powers of a Supreme Court judge. In 1925 he was made engineering member of the Main Roads Board, and served as its deputy-president from 1928 until January 1932, when he became president. On the constitution of the Board of Transport Commissioners, Mr. Newell was appointed Commissioner for Highways and Transportation, in March 1932; in December of the same year, on the formation of three separate departments under the State Ministry of Transport, he was nominated as Commissioner for Main Roads, controlling also the Sydney Harbour bridge, and retained that office until his death. In 1936 his services were recognized by his appointment as a Commander of the Order of the British Empire. Apart from his official duties, he was interested in educational matters, and was Chairman of The Scots College Council, Sydney, and a councillor of the St. Columba Grammar School.

Mr. Newell was elected a Member of The Institution on the 8th January, 1929. For many years he served on the New South Wales Advisory Committee of the Council, and from November 1929 acted as Chairman of the Committee. He was also a member of the Institution of Engineers, Australia.

In 1903 he married Ethel, daughter of John Holmes Reid, of Tenterfield, N.S.W., and had one son and three daughters.

CHRISTER PETER SANDBERG was born in Sweden on the 11th August, 1876, and died at Crockham Hill, Kent, on the 26th June, 1941. He was educated in Brussels and at Dulwich College, and received his engineering training at the Crystal Palace School of Engineering and University College, London. In 1893 he became an assistant to his father, the late Mr. C. P. Sandberg, M. Inst. C.E., was made a partner in the firm in 1903, and succeeded as senior partner in 1913. He continued his father's pioneering and research work on steel rails and was the inventor of several processes for increasing their wear and resisting capacity, including the "sorbitic" process, which was also applied, during the war of 1914–18, to high-explosive shell forgings, whereby millions rejected, owing to defects, were rendered serviceable. This process was presented to the Government free of royalties. Another process, known as "in situ," prolonged the life of worn tramway rails at a time when relaying was impossible owing to the scarcity of steel and labour. For his services Mr. Sandberg was appointed a Commander of the Order of the British Empire. In 1928 he introduced the "oven" process for controlling the cooling of rails after manufacture, to avoid the fissuring which had been responsible for many diastrous failures and derailments, especially in America. He also acted as consulting and inspecting engineer to the Siamese and the Chinese State Railways and to many other British colonial and foreign railways.

He was a Commander of the Chinese Order of Chia Ho (3rd class), and of the Siamese Order of the White Elephant. A notable example of his ingenuity was the salvaging of about one million pounds' worth of coin and bullion from the S.S. *Egypt*, which had foundered off Ushant in 1922, and lay at a depth of 400 feet in the open sea. The undertaking occupied about 5 years and gave the world a new system of deep-sea salvage.

Mr. Sandberg was elected an Associate Member of The Institution on the 14th January, 1902, and was transferred to the class of Member on the 23rd April, 1918.

In 1903 he married Alexandra, third daughter of the late Mr. Alexander Staats Forbes, and had three sons and four daughters.

JOSEPH EDWARD WILLCOX was born at Radstock, Somerset, on the 16th January, 1857, and died at Edgbaston, Birmingham, on the 2nd February, 1941. He was educated at Wells Grammar School, privately, and at Bristol University College. He served his pupilage with Messrs. G. C. Ashmead and Sons, of Bristol, and in 1879 was appointed assistant to the late Mr. E. Pritchard, M. Inst. C.E., being engaged on water-supply and sewerage works. From 1881 to 1887 he acted as resident engineer on various water and sewerage schemes in the Midlands, and in 1887 was appointed Surveyor and Engineer to the Erdington Urban District Council. At the same time he started a private practice as a consultant, and in 1902, owing to the growth of this work, he relinquished his post and was appointed Consulting Engineer to the Council. His firm specialized in the design and construction of waterworks, sewerage, and sewage-disposal, and he was retained by the Birmingham Corporation to advise and report upon the provision of a third pipe-line from the Elan valley. He also had a wide experience as an expert witness before Parliamentary committees in connexion with numerous boundary and extension schemes, and advised many local authorities on problems of sewerage and sewage-disposal, including the treatment of tannery and milk wastes.

Mr. Willcox was elected an Associate Member of The Institution on the 6th February, 1883, and was transferred to the class of Member on the 19th December, 1905. He acted as Chairman of the Birmingham and District Association of The Institution in 1924. He was a Past-President of the Institution of Municipal and County Engineers and of the Institute of Sewage Purification.

In addition to his professional pursuits, he took an active interest in many public works in Birmingham. He was a Life Governor of Birmingham University and also served as Chairman of the Committee of the Birmingham General Hospital. For many years he was a director of the South Staffordshire Waterworks, and was also on the board of the Birmingham Crematorium.

He was unmarried.

MADE AND PRINTED IN GREAT BRITAIN BY WILLIAM CLOWES AND SONS, LIMITED, LONDON AND BECCLES.