

identified, however, with the introduction and development of tramways in Great Britain and other countries; he was indeed one of the pioneers of this particular branch of engineering, having even prior to the Tramways Act of 1870 constructed a horse-tramway from Dublin to Black Rock. The earlier tramways were constructed with a shallow rail spiked to longitudinal wood sleepers, but Mr. Kincaid early recognized the defects of this mode of construction and introduced an entirely metallic system, which became known by his name, consisting of "tee" or "channel" shaped rails fixed on cast-iron chairs embedded in the concrete. This system continued in use for a number of years until ultimately displaced by the "girder" type of tramway rail now generally adopted. Mr. Kincaid was amongst the first to introduce mechanical propulsion on tramways; first the steam-locomotive, then cable-traction, and ultimately electric traction. He was responsible for a considerable mileage of tramways at home and abroad, including the first cable-tramway constructed in England, the Highgate Hill line. As an authority upon tramway matters he was frequently called upon to give evidence in parliamentary committee rooms and in arbitration cases. He was retained in most of the important cases which arose under the section of the Tramways Act authorizing local authorities to purchase at the expiration of 21 years the tramways constructed by companies. He was also consulted professionally in connection with railways and gasworks in England, on the Continent and in America.

In 1892 he associated with himself as partners, Mr. J. E. Waller and Mr. Edward Manville, and subsequently Mr. Philip Dawson joined the firm, which practised under the style of Kincaid, Waller, Manville and Dawson. Mr. Kincaid died after a few days' illness at his London residence, on the 20th August, 1907, in his seventy-third year.

He was elected an Associate of The Institution on the 5th April, 1870, and was transferred to the class of Members on the 25th March, 1879.

JOSEPH LINDLEY, born in Hamburg on the 18th May, 1859, was the third and youngest son of the late Mr. William Lindley,¹ at that time Consulting Engineer to the Municipality. The subject of this notice was educated in England and served a pupillage under his

¹ Minutes of Proceedings Inst. C.E., vol. cxlii, p. 363.

father at Frankfort-on-Main. On his father's retirement, Joseph Lindley continued to act for his brothers, who were carrying on the practice, and, amongst other work, he was occupied upon the designs for the sewerage of St. Petersburg, Düsseldorf and Elberfeld. When the Elberfeld works were commenced in 1884, he became Resident Engineer for his brother, Mr. W. H. Lindley, and retained that position until December, 1888, when he was called in the same capacity to direct the construction of the sewerage and waterworks at Warsaw. He remained at Warsaw 17 years. In 1905 he was obliged to resign his post owing to failing health, and his death took place on the 20th April, 1906.

At Elberfeld he was occupied on the design and execution of the large rain-water sewers for the separate system adopted for the upper part of the city, and of the combined system of sewers carried out in the lower districts on the banks of the Wupper. At Warsaw the development of the pumping-station on the Vistula, and of the filtering and pumping-station on the upper plateau, with extensive vaulted settling-tanks and filter-beds, and the chief part of the town sewerage and house-drainage works, 105 miles in length, as well as the completion of the trigonometrical survey of the city and suburbs, were carried out under his immediate direction; and conjointly with his colleague, Mr. Alphonse Grotowski, he had the management of these works as they were completed.

The success of the works carried out under his supervision was largely due to the conscientious and painstaking attention he devoted to the tasks entrusted to him and to the energy with which he overcame difficulties of all kinds, of which the administrative formalities inseparable from public work in Russia were by no means the least. He was a good linguist, speaking and writing German and French fluently, and Russian and Polish sufficiently for the requirements of his position. He gained the esteem of the authorities for whom he was employed, and the sincere regard of all who worked with him or under him. He was a Member of the Russian Society of Waterworks Engineers and of various other Continental scientific societies. In 1894 he married Miss E. Suermondt, and leaves a widow and two children, son and daughter.

Mr. Lindley was elected a Member of The Institution on the 3rd March, 1891.