

JAMES CAMPBELL LEDGER, born in 1833, was the son of Mr. Z. M. Ledger, a well-known bookseller of Limerick. He was educated at private schools, and in 1854 entered Queen's College, Cork; where he held a Scholarship and took the Gold Medal, "First in Engineering," in 1858. He was apprenticed to the late Mr. G. W. Hemans, V.-P. Inst. C.E., and afterwards continued in that gentleman's employment on works both in England and Ireland till 1868.

In that year he obtained an appointment as Assistant Engineer in the Public Works Department in India; and in October sailed for Calcutta. For the first year of his service in India he was employed on irrigation works in various parts of Bengal; and in November, 1869, was transferred to the Oudh Irrigation Branch, in which he served for three years, being principally employed on the preparation of the Sardah Canal Project. During this period he was promoted to Executive Engineer, 4th grade.

In December, 1872, the execution of the Sardah Canal having been abandoned, he was transferred to the waterworks at Mian Mir, near Lahore, on which he was employed until September, 1874, when he was transferred to the Holkar State Railway, as Personal Assistant to the Engineer-in-Chief. The Holkar Railway, which was originally designed to connect Indore, the capital of the Native State of Holkar, with the Great Indian Peninsula Railway at Khundwa, and thereby with Bombay, was one of the first lines constructed by the Government of India on the metre gauge. It was subsequently extended northwards to join the Rajputana system of metre-gauge lines, thus communicating with Delhi and Agra, the Punjab and North-West Provinces. The works of the Holkar Railway proper included a large bridge over the River Nerbudda, and heavy works on the incline surmounting the Vindhya Hills, which lie to the north of that river. Mr. Ledger worked on this line for three years, obtaining another step of promotion in 1875; but in 1877, having suffered much from intermittent fever, he was invalided home. Weakened as he was by this malady, the cold and damp of the home climate brought on an attack of pleurisy, from the effects of which he suffered for the rest of his life. He remained at home for two years; and on his return to India in October, 1879, he was posted to the Bhopal State Railway.

The Bhopal Railway connects the city of Bhopal, capital of the native state of the same name, with the Great Indian Peninsula Railway, and like the Holkar line, crosses the River Nerbudda and ascends the Vindhya Hills to the plateau of Central India. It

is on the 5 feet 6 inches gauge, and now forms part of the Indian Midland Railway, which, by joining Agra and Cawnpore with the Great Indian Peninsula line, makes the shortest route with unbroken gauge from the Punjab and North-West Provinces to Bombay. Mr. Ledger was in engineering charge of the bridge over the Nerbudda, fourteen spans of 160 feet, and of a large portion of the heavy works in the hills, from the survey to the completion of the work. During this period he was twice promoted, attaining the rank of 1st grade Executive Engineer. He also officiated as Engineer-in-Chief of the line for three months.

In August, 1883, he was transferred to the office of the Director General of Railways, where he worked for two years, and in November, 1885, he was appointed Port Storekeeper for State Railways at Bombay.

In February, 1886, he obtained furlough to England, which lasted till his retirement from the service of the Government of India in December, 1887. For two years his health, undermined by fever and its consequences, gradually grew worse; and in September, 1889, he was taken seriously ill, and gradually sank till his death, which occurred on the 23rd of November.

Colonel Forbes, R.E., under whom Mr. Ledger served while in the Oudh Irrigation Branch, says, "He was one of the best men I have met in the Department—clever, painstaking, and thoroughly acquainted with his work. Most simple and unassuming in manner, and liked by everyone." His Chief on the Bhopal line endorses this opinion and adds:—

"His cheerfulness and courage under indifferent health never failed. He was trusted and esteemed by all who worked with him."

Mr. Ledger was elected an Associate of the Institution on the 6th of March, 1866, and was transferred to Member on the 17th of April, 1883.

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JAMES LESLIE, born at Largo, Fifeshire, on the 25th of September, 1801, was the son of Alexander Leslie, architect and builder there. He received the first part of his education at the parish schools of Largo and Newburn, and afterwards at Mackay's Academy, at Edinburgh. In 1815, and for two subsequent years, he attended the Edinburgh University; his uncle, afterwards Sir John Leslie, being then Professor of Mathematics, and subsequently of Natural Philosophy there. In 1818 young James Leslie was apprenticed to Mr. W. H. Playfair, the well-known