

Mr. Churchill was elected an Associate on the 2nd of February, 1858; was subsequently placed among the Associate Members; and was transferred to the class of Member on the 13th of January, 1880.

PATRICK JOHN FLYNN was born at Tralee, co. Kerry, on the 12th of May, 1838. After being educated at Queen's College, Cork, he passed a competitive examination at Addiscombe in May, 1859, and was sent to the Civil Engineering College, Roorkee, as a probationer of the first class. From there he was appointed in June, 1860, an Assistant Engineer in the Public Works Department of the Government of India. During the ten years of his service in that Department he was engaged in the Punjab on the construction of bridges, embankments and culverts on the Grand Trunk Road from Umballa to Rawal Pindi, and on works in connection with the salt mines at Pind Dadun Khan. For the last five years of that period he acted as an Executive Engineer, General Robert Maclagan, R.E., under whom he served, stating that "he performed his duties with great energy, zeal and diligence."

In 1873 Mr. Flynn proceeded to the United States and for the remainder of his life practised in California as a hydraulic engineer, in which branch of the profession he attained considerable eminence. In 1874 and 1875 he carried out work in connection with the water-supply of San Francisco, and in 1876 and 1877 he was in charge of the design and construction of the works at Fresno for the irrigation of Central California. From 1878 to 1884 he was engaged on the construction of the San Francisco and North Pacific and of the San Luis Obispo and Santa Maria Valley Railroads; the section of the former line on which he was Resident Engineer including three tunnels and other heavy works. In 1887 he carried out work for the municipality of Los Angeles, and in the following year he designed and partly constructed waterworks for the National Soldiers' Home at Santa Monica, California. In 1889 he prepared plans for the sewerage of Los Angeles, and in the following year he designed and executed important works for the Tulare Irrigation District, of which he was appointed Engineer.

Mr. Flynn then settled at Los Angeles, to which town he acted as Consulting Engineer from 1891. At the time of his death, which occurred suddenly on the 1st of June, 1893, he had achieved

a high reputation as a hydraulic engineer and was in the enjoyment of an extensive and lucrative practice. He was the Author of several works, most of which may be found in the Library of the Institution.¹ Mr. Flynn was a Member of the American Society of Civil Engineers and of the Technical Society of the Pacific Coast. Combined with a great love of the profession and a keen sense of responsibility to his fellow engineers, he possessed generous and manly qualities which rendered him universally popular. He was elected a Member on the 7th of March, 1893.

JOHN MAITLAND GRANT, only son of the late Mr. John Grant,² for many years Assistant Engineer to the Metropolitan Board of Works, was born on the 24th of July, 1851. After being educated at Blackheath Proprietary School, he matriculated at the London University in 1869. In the same year he was articled to the late Sir James (then Mr.) Brunlees,³ and after remaining in the office of that gentleman for some time he was engaged on the construction of the Clifton Extension Railway under Mr. G. J. Morrison, and of the Whitehaven Wet Dock⁴ under Mr. J. Evelyn Williams. In 1875 and 1876 he made detailed surveys—for Messrs. Barlow, Son and Baker—of the Rushton and Bedford widening and of the Kettering and Manton branch, both on the Midland Railway. During the latter half of 1876 he was in Ireland, surveying and staking out the Enniskillen and Sligo line.

In June, 1877, Mr. Grant was appointed an Assistant Engineer on the Cape Government Railways. For the next three years he

¹ "Hydraulic Tables based on Kutter's formula." "Van Nostrand's Engineering Magazine," vol. xxviii. p. 138. New York, 1883.

"Hydraulic Tables based on the formulæ of D'Arcy and Kutter." Transactions of the Technical Society of the Pacific Coast, vol. ii. p. 37. San Francisco, 1885.

"Shrinkage of Earthwork." Transactions of the Technical Society of the Pacific Coast, vol. ii. p. 179. San Francisco, 1885.

"Flow of Water in Open Channels, Pipes, Sewers, Conduits . . . with Tables based on the formulæ of D'Arcy, Kutter and Bazin, etc." New York, 1886. 8vo.

"Flow of Water in Open Channels with Tables based on Kutter's formula." New York. Transactions of the Technical Society of the Pacific Coast, vol. vii. p. 71. 1890.

"Irrigation Canals and other Irrigation Works." San Francisco, 1892. 8vo.

² Minutes of Proceedings Inst. C.E., vol. xcii. p. 389.

³ *Ibid.*, vol. cxi. p. 367.

⁴ *Ibid.*, vol. lv. p. 36.