

chiefly depends." He died on the 27th of June following, after an illness of three weeks, from typhoid fever.¹

VALENTINE BROWNE, son of Captain Valentine Browne, formerly paymaster of pensioners at Shrewsbury, was born in 1824, being of Irish descent. He was educated at Elphin, Co. Leitrim, and at Cheltenham College, England, and was then articled to Mr. Hall, County Surveyor of Leitrim, with whom he remained seven years. He was afterwards engaged for a short time under Sir John Macneill, M. Inst. C.E., and was next employed for two years, as District Engineer under Valentine Browne, for the Board of Public Works, Ireland. He subsequently became Resident Engineer on the Frankfort, Wiesbaden, and Cologne Railway, under Mr. Vignoles, Past President Inst. C.E.; and six months later, in 1857, was appointed assistant to Mr. G. M. Miller, M. Inst. C.E., in the permanent way department on the Great Southern and Western (Ireland) Railway, and became Engineer to the northern section of that line in 1865. He carried out several works, such as renewing in stone and iron some large river bridges originally constructed of timber, and was joint engineer with Mr. William Baker, M. Inst. C.E., for the construction of the branch line from Kingsbridge to the North Wall, which passes round the north side of Dublin. Mr. Browne was elected a Member of the Institution on the 4th of May, 1869. He left the Great Southern and Western Railway in 1877, and died at Tuam on the 6th of January, 1883.

ROBERT DAGLISH, third son of the late Mr. Robert Daglish, M. Inst. C.E.,² was born in Wigan, Lancashire, in the year 1809. He served an apprenticeship to the firm of Messrs. Hick and Rothwell, of Bolton-le-Moors, and applied himself so assiduously to obtain a thorough practical knowledge, that whilst still an apprentice, he was sent to assist in the erection of a large pumping-engine and pumps in the shaft of the Haydock Colliery, looked upon at that time as a superior class of mining machinery, and which to the present day is doing good work. In 1830

¹ Fuller details of the life of Mr. Spottiswoode are given in "Nature," 26th April, 1883.

² Minutes of Proceedings Inst. C.E., vol. xxvi., p. 561.

Mr. Daglish joined the firm of Messrs. Lee, Watson & Co., iron founders, St. Helens, in which business his father had also an interest. The works then only covered about 5,000 square yards, but new fitting and turning shops, smithery, with pattern shop over it, were soon afterwards built. In the year 1832 an engine and machinery were erected for working the inclined planes of the St. Helens and Runcorn Gap Railway. In 1837-8 Mr. Daglish entered into a contract for the erection of the engines, boiler, and machinery, for the manufacture of plate glass at the works of the Birmingham Plate-Glass Works, Smethwick, near Birmingham, as well as the Plate-Glass Works, Sutton, St. Helens.

About 1839 Mr. Daglish, in conjunction with Mr. John Smith, undertook to work the traffic of the then St. Helens and Runcorn Gap Railway, and continued to do so until 1848, having a separate establishment, called Sutton Sheds, St. Helens Junction, for keeping in repair the engines and rolling stock. In 1845 Mr. Daglish erected his first cotton-mill engines at Wigan. About 1846 he was engaged in large contracts for bridges required on the Liverpool and Bury Line of the Lancashire and Yorkshire Railway, including two large lattice-bridges, for carrying the railway over the river and canal at Bolton. In 1847 the Wavertree road-bridge, Edge Hill, Liverpool, was erected by the then firm of Robert Daglish, Jun., & Co. In 1849 the same firm built the Great Howard Street and Borough Gaol bridges of the Lancashire and Yorkshire Railway, Liverpool. In 1850 Mr. Daglish, in partnership with the late Mr. McCormick, constructed the Preston Extension of the East Lancashire Railway, including a large bridge over the River Ribble. From 1851 the foundry business was conducted by Mr. Daglish alone until 1869, when he took his nephew, Mr. George H. Daglish, M. Inst. C.E., into partnership, and which partnership was carried on until his death on the 6th of May 1883. Mr. Daglish supplied many waterworks pumping-engines, amongst which are those for St. Helens, Newark, Southport, Wirral, near Birkenhead, Bristol, Hodbarrow Mines, Widnes, and Warrington. In 1852 the coal-drops at Garston, near Liverpool, were erected. In 1856 Mr. Daglish constructed the Barrack or Bloody Bridge over the Liffey at Dublin. In this year the St. Helens works had to be further extended, and from 1863 to 1882 the works were very much improved and enlarged, so that they now cover an area of about 22,400 square yards.

Mr. Daglish was elected an Associate of the Institution in 1852, and became a Member by transfer in 1874. He was a Director of

the St. Helens Canal and Railway Company from 1854 to 1864, and of the Lancashire and Yorkshire Railway Company from 1876 to 1883. He was also on the Commission of the Peace for the counties of Lancashire and of Cheshire.

JAMES EDWARD McCONNELL was born on the 1st of January, 1815, at Fermoy, Co. Cork, where his father, Mr. Quentin McConnell, possessed a fairly prosperous business in large iron-works. He was left fatherless at the age of four, and came under the care of his uncle, Mr. Alexander McConnell, then resident in Ayr, where he spent most of his early years; till, owing to a difference with his uncle, he was launched on the world with a capital of ten shillings.

He first obtained employment in the works of Messrs. Girdwood and Co., of Glasgow, where he was regarded as a steady reliable workman, assisting the foremen and managers against the frequent difficulties arising in those days through trades-unions and strikes. Later on he was engaged in the works of Messrs. Vernon and Co., of Liverpool, as foreman, and while there superintended the erection of several horticultural buildings, and a great deal of machinery for the late Earl of Clare at Mountshannon.

In 1842, on the recommendation of Messrs. Bury, Curtis and Kennedy, Liverpool, he was appointed Locomotive Engineer of the Bristol and Birmingham Railway. On the 15th of February, 1847, he was made Locomotive Superintendent of the southern division of the London and North Western Railway, which post he held for fifteen years. His patents, in 1853, of "Improvements in Locomotive Engines" and of "Hollow Railway Axles" were decidedly successful. During the latter part of his connection with the London and North Western Railway, he worked with his engines the main line from London to Stafford and all its branches. On his resignation, in 1862, he received from the officials and employes a handsome service of plate, together with a flattering address.

At that time he bought an estate near the village of Great Missenden, and several commercial enterprises under his hands became great successes. He now took an office at Westminster, and commenced to practise as a mechanical engineer. He was largely engaged in the valuation of railway rolling stock, and in the assessment of railway property. In 1871 he entered into partnership with Mr. W. Marshall of Norfolk Street, Strand, for