

obtained Honourable Mention at the Great Exhibition of 1862. The invention consists in using the head of water as the motive power for raising and lowering the sluices. He also invented and patented, in conjunction with his brother and Mr. W. Davison, a modification of the rotary engine, which consists in making the cylinder a true epicycloidal curve.

In 1852 he entered into partnership with his brother, Mr. Alfred Lawrence, and they jointly established the City Ironworks, London, where he was enabled to turn to practical account his mathematical and engineering knowledge. In 1857 he was elected an Associate of the Institution of Civil Engineers, by many of the Members of which he was well known and esteemed. Some years previously he had joined the Society of Arts, in the proceedings of which he took so great an interest, that in 1863 he was elected a Member of the Council of that Society.

Mr. Lawrence died, after a few days' illness, at the Mansion House, London,—where he was residing during the mayoralty of his brother, Mr. Alderman William Lawrence,—on the 31st of May, 1864, aged thirty-six, deeply lamented by his numerous friends, who valued him for his great talents, for his persevering energy, but above all for his high integrity and upright character. His modesty and kindness of manner endeared him to all who knew him, and his memory will long be cherished, not only by his sorrowing relatives, but by all those who were associated with him in many benevolent works, and who admired the example he showed of pure moral life sustained by high religious principle.

MR. THOMAS TELFORD MITCHELL, the youngest son of the late Mr. John Mitchell, Engineer and General Inspector to the Parliamentary Commissioners for Highland Roads and Bridges, was born at Inverness in the year 1815. He served a regular pupilage under his brother, Mr. Joseph Mitchell (M. Inst. C.E.), who had succeeded to the appointment on their father's decease, and he was employed for some years in the office and on works both for his brother and for Mr. Leslie (M. Inst. C.E.). He was then for two years Resident Engineer on the Newtyle and Coupar Railway, and subsequently for eight years was engaged in the same capacity on the Slamannan Railway, under Sir John Macneill (M. Inst. C.E.). He was next for several years on the staff of Messrs. Stephenson, Brassey, and Mackenzie, contractors, and had charge, for them, of the construction of the Scottish Central Railway tunnel at Perth, and of the works on the Scottish Midland from Perth to Forfar.

On the death of his brother, Mr. Alexander Mitchell,¹ in 1848,

¹ *Vide* Minutes of Proceedings Inst. C.E., vol. ix., p. 103.

who was established at Perth as a Civil Engineer, Mr. Thomas Telford Mitchell succeeded to the business, and had the charge of most of the principal roads in the district, besides acting generally as a Civil Engineer, in which capacity he laid out and constructed the railroad from Dunblane to Callander, 13 miles. During the latter part of his life he became a contractor on his own account, and constructed several branch lines of railway in the county of Perth, and a length of 30 miles of a railway in Galloway.

Mr. Thomas Telford Mitchell had thus had considerable experience in the profession, and he was considered a good practical Engineer. He was elected an Associate of the Institution of Civil Engineers on the 24th of June, 1845, and his decease took place on the 31st of December, 1863.

MR. JAMES SHERRIFFS was born on the 17th of August, 1801, at Persley, near the manufacturing village of Woodside, about two miles north of Aberdeen. As the circumstances of his parents did not enable them to bestow an expensive education on their son, he was taught from an early period of his life that he would have to earn his livelihood by the labour of his hands. When he was about fifteen years of age, he was apprenticed for six years to Mr. Carter, millwright and engineer in Aberdeen, with whom he continued to work for two years after the term of his apprenticeship had expired. During this period he was remarkable for diligence and attention, and he soon attained such skill of hand that, long before he had served his time, he excelled, in rapidity and dexterity, the best workmen in Mr. Carter's employment. Nor, while he thus attained excellence as a workman, did he neglect the cultivation of his mind, but by regular attendance at the classes of the Aberdeen Mechanics' Institution, he made up for the deficiencies of his earlier education. In the spring of 1825 he came to London, where, soon after his arrival, he obtained employment under the late Mr. Maudslay. That eminent Engineer, himself a dexterous workman, as well as a brilliant mechanic, appreciated the skill which James Sherriffs displayed, and he was employed as a special assistant in working out schemes on which Mr. Maudslay's ingenuity was exercised. In the employment of Messrs. Maudslay, Sons, and Field, Mr. Sherriffs passed thirty-eight years—in fact the remainder of his life. From a workman he was in 1830 promoted to be foreman of a department, and in 1845 he was entrusted with the general superintendence of the factory. After about thirty-five years passed in that service, Mr. Sherriffs' health began to fail, but he never relaxed in his attention to the works.