

in very great measure to his being associated with those who thoroughly understood the practical part of the business, and who aided him in its development. He died in London on the 12th of January, 1879.

---

Mr. JAMES HENRY GREAVES was born at Harrogate on the 7th of June, 1846. He served a pupilage of five years with Messrs. Thwaites and Carbutt of Bradford, and on the expiration of his apprenticeship remained in their employment for one year longer, travelling as their salesman of steam hammers and rotary blowers on the Continent. In 1869 he was engaged by Dr. Siemens, first at the steel works at Swansea, and afterwards in planning and superintending the erection of regenerative furnaces at Bradford and on the Continent, particularly in Russia, where he also became consulting engineer to the Sornovo and Aziana Pertoffeks Blast Furnace, Iron and Steel Works. The condition of the iron trade becoming stagnant, in the latter part of 1877 he accepted an engagement as manager of Messrs. Robey and Co.'s branch establishment at Breslau, which he held up to the time of his death, at Goerbersdorf, on the 9th of January, 1879. Prior to leaving Bradford, Mr. Greaves held a commission as lieutenant in the 2nd West Riding Yorkshire Artillery Volunteers. He was elected an Associate of this Institution on the 7th of May, 1872.

---

Mr. WILLIAM SMITH was born in London on the 5th of November, 1825. He was the son of Mr. Andrew Smith, of the firm of Andrew Smith, Flood and Co., mechanical engineers, of Grimsby and Millwall; the father being the inventor of the wire-rope, box door-springs, and the solid-iron revolving shutters—all of which are now extensively used. After serving an apprenticeship to his father's firm, he remained for two years at Millwall and Poplar, in the management of mechanical engineering works; and from about 1847 to 1852 he was partner in a mechanical engineering business in Princes Street, Leicester Square, and in South Wales; during which period and subsequently he also practised, on his own account, as a consulting engineer. Mr. Smith was for more than twenty years proprietor and editor of the "Artizan" Journal, with which he ceased to be connected about the year 1870, and which was discontinued at the end of 1871. He was a member

[1878-79. N.S.] U