

drilling, and riveting, omnibus and other carriages, folding fabrics, mechanism for engraving and otherwise copying paintings and other designs on flat and curved surfaces, &c. &c.

Mr. Roberts was a man of extraordinary energy of character and of singleness of view. Confidence in his own powers prevented his admitting any insuperable difficulties: disappointment never checked him, and his industry was unceasing. The elements of commercial success were, however, wanting in his character, and although at one period he had amassed some property, it was almost all expended in experiments, and in the later years of his life he was in straitened circumstances. Still he worked on without repining: he felt that he was blessed in a daughter, whose filial piety and affection made up for all the worldly crosses he experienced. That excellent lady, Miss Roberts, devoted her life to her duty to her father, and in her arms he expired on the 11th of March, 1864, in the 75th year of his age.

Mr. Roberts joined the Institution of Civil Engineers as a Member, on the 20th of March, 1838. His residence in the country prevented his frequent attendance at the meetings, but whenever he was in London he made a point of taking part in the discussions, when his opinions and his reminiscences of the origin of inventions were always listened to with attention.

The career of Mr. Roberts was remarkable, and it should be carefully written by some one who could investigate impartially the numerous inventions and improvements to which claim could justly be laid for him, and who, at the same time would, with equal justice, show where his inventions have been pirated.

MR. WILLIAM SIMPSON, the sixth son of the late Mr. Simpson, the well-known Engineer of the Chelsea and other Waterworks, was born at Chelsea on the 29th of July, 1809. He was brought up in the office and upon Engineering works under his brother, Mr. James Simpson (Past-President Inst. C.E.), and was by him placed at the head of the engine and machine manufactory in Pimlico, of which he was admitted as a partner. From these works proceeded several powerful and very good pumping engines, and a large quantity of other kinds of machinery. Ultimately Mr. William Simpson seceded from the Grosvenor Works and created for himself an establishment near Woolwich, for the construction of iron vessels, boilers, bridges, &c. It was on his return from these works on the evening of Saturday, May 7th, 1864, that the accident occurred by which he lost his life. He was observed to be sitting dozing on the rail of the steamer, and it is supposed that he lurched forward and, in endeavouring to

recover himself, he fell overboard. It was nearly a week before the body was recovered.

Mr. W. Simpson joined the Institution of Civil Engineers as an Associate on the 10th of February, 1829, and was transferred to the class of Members, on the 7th July, 1838. He served the office of Auditor of Accounts in 1838 and again in 1840. He was much attached to the Society, was a frequent attendant at the meetings, and always took a lively interest in the proceedings.

He was an amiable man, and his unfortunate decease, in his fifty-second year, caused great pain to his family and friends.

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MR. WILLIAM BAGNALL was born at Darlaston, in the county of Stafford, on the 4th of April, 1797. He was the second son of Mr. John Bagnall, a coal and iron-master, in the parishes of West Bromwich and Tipton, who, by his own unaided perseverance and energy, had raised himself to an important position in the iron trade of South Staffordshire; and who, with the sense of right which pervaded his character, admitted five of his sons into copartnership with him on the 24th day of June, 1828; and died on the 23rd of November, in the following year. At the death of his elder brother John, on the 4th of February, 1840, Mr. William Bagnall became the senior member of the firm of John Bagnall and Sons, the owners of the extensive collieries and ironworks producing the quality of iron so well known as the I. B. Crown brand. This honourable position he continued to hold until his death, which occurred suddenly, after only a few hours' illness, at Hamstead Hall, Handsworth, on the 12th day of August, 1863, at the age of sixty-six. At an early age Mr. Bagnall entered the ironworks of his father, and having naturally a mechanical turn of mind, soon made himself practically acquainted with all the intricacies of the construction and management of blast furnaces, forges, and mills, and of the working of collieries; and when any difficulty arose with regard to the machinery employed, his opinion was very valuable. On the introduction of railways the firm early directed their attention to the manufacture of rails, and thus were brought into contact with the late Mr. George Stephenson. Even in his school-days William Bagnall was remarkable for his genial, kindly disposition, and in after-life, when he had the means as well as the inclination to do good, he naturally took great interest in those institutions which he knew to be for the moral and spiritual welfare of the workpeople and their families. Schools were built at Golds Hill and Caponfield, at a cost of more than six thousand pounds, for the education of the children, and being also licensed for divine worship for both parents and children, two chaplains were so