

of C.M.G., and in June, 1904, on reaching the age-limit of 60 years, he was placed on pension and thereafter lived in retirement at Rondebosch until his death.

Mr. Brown was elected an Associate of the Institution on the 2nd December, 1873, was subsequently placed in the class of Associate Members, and was transferred to the class of Members on the 7th February, 1882. From April, 1902 to April, 1904, he represented South Africa on the Council of the Institution.

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SIR EDWARD HAMER CARBUTT, Bart., died at his residence at Cranleigh, near Guildford, on the 8th October, 1905, in his sixty-eighth year. The younger son of the late Mr. Francis Carbutt, of Chapel Allerton, near Leeds, the subject of this notice was born on the 22nd July, 1838, and obtained his engineering training in the locomotive department of the Midland Railway, and at Messrs. Palmer's shipbuilding works, Jarrow-on-Tyne. At the age of 23 he entered into partnership with Mr. Robinson Thwaites in the Vulcan Ironworks at Bradford, the firm undertaking the construction of steam-hammers and general machinery for iron and steel works. Whilst exhibiting at the Paris Exhibition of 1867, he was greatly impressed with the Roots blower, with the result that, after investigation, he arranged to take up its manufacture upon an extensive scale, and, entering upon this business with characteristic zest and thoroughness, he was largely instrumental in securing its widespread adoption in this country.

In 1878 Sir Edward Carbutt retired from active participation in business affairs in order to devote himself to public work. His labours were directed more especially to the advancement of engineering science and industry, and by wise and earnest advocacy in Parliament, as well as by his work in connection with various institutions and on committees concerned with administrative and technical questions, he rendered services of the highest value not only to the profession but to the nation at large. He was returned to Parliament for the Monmouth district in the Liberal interest in 1880, retaining his seat until 1886. Probably his most important work in Parliament was his appeal in favour of enlarging the ordnance-producing facilities of this country, the reorganization of the Government workshops and the encouragement and utilization of private enterprise. His action led to the appointment of Lord Morley's committee, which reported in favour of the measures advocated by Sir Edward. These were carried out, with the result that

greater efficiency and economy were realized in the Government establishments, private undertakings expanded the scope of their activities, and a healthy spirit of emulation was created from which the industry and the community have reaped great and lasting benefit. Sir Edward also did useful work in recommending the adoption of the Maxim gun by the Government, and in urging the extension of Indian railways. The need for considerable extensions of the State railways was clearly established by Lord George Hamilton's committee, and from that time a more liberal policy was adopted by the Government in relation to the development of the railway system of India. From 1881 to 1886 he greatly assisted in obtaining for the members of the Indian Public Works Department improved leave and pension rules, as well as the abolition of the invidious term "uncovenanted," which previously was attached to Civil Engineers employed in that branch of the service.

Sir Edward was a Member of the Institution of Mechanical Engineers, and after serving some years on the council, he was elected to the office of President in 1887. He also represented that body on the committee of the National Physical Laboratory. As a vice-president of the Iron and Steel Institute, he was nominated to represent that body on the Committee on the Education and Training of Engineers. He also served on the departmental committee which enquired into the organization and working of the Royal College of Science and the Royal School of Mines, and as a member of the Carnegie Research Scholarship committee.

Sir Edward took part in many international exhibitions and was a member of the Royal Commission for the Paris Exhibition of 1900. The honour of a baronetcy was conferred upon him in 1892. He served the office of Mayor of Leeds in 1878, was Justice of the Peace and Deputy-Lieutenant for Surrey, and High Sheriff of that county in 1896-1897. In 1874 he married Mary, only daughter of Mr. John Rhodes of Potternewton House, Leeds.

He was elected an Associate of this Institution on the 1st December, 1863, was subsequently placed in the class of Associate Members, and was transferred to the class of Members on the 17th April, 1888.

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GAVIN GEMMELL DICK, born at Ayr in January, 1846, received his education at Ayr Academy, and served a term of three years in the workshops of Messrs. J. and T. Young of that town. On leaving their service he entered the Engineer's department of the Glasgow