

his partners studied and reported on many important works, some of them of considerable magnitude: the proposed Channel Tunnel was one of the latter. In addition, he and his firm were actively engaged on the design for the proposed long-span suspension bridges across the Rivers Forth and Severn. Mr Anderson (as he still was) was also responsible for the design of the pedestrian tunnel and the vehicular tunnel under the River Tyne.

He served on many important technical committees for the Government, and was Chairman of some of them.

He was created a Knight Bachelor in June 1951.

He was elected an Associate Member of the Institution in 1906, and was transferred to full membership in 1915. In 1930 he was elected to the Council and was President during Session 1943-44. He was Author of several Papers which were read before the Institution. He was also a member of the American Society of Civil Engineers.

He was married first to Isabella Corbet Anderson, daughter of Mr Robert Anderson of Dundee; she died in 1929, and in 1935 he married Agnes Gilchrist Anderson, who survives him.

JAMES CROSS, who died at London on the 27th January, 1953, at the age of 47, was born on the 7th August, 1905.

He was educated at Sherborne School, and at Loughborough College, Leicester, where he was awarded an honours diploma in engineering.

On leaving College in 1926, he joined Sir Douglas Fox and Partners as Assistant Engineer during the construction of the hydro-electric power scheme at Maentwrog, North Wales.

In 1927, he left England to take up an appointment in South America, with Messrs Adrian Heriot and Company of Buenos Aires, and for the next five years was engaged on various works of construction for the Buenos Aires and General Railway, and also for the Central Argentine Railway.

He returned to England in 1932, joining Messrs Wilson Lovatt and Sons as Engineer, and was engaged on the construction of roads and sewers in the London area.

In 1935, however, Mr Cross left England again to be Agent to Messrs Pauling and Company on the construction works in the Argentine and, in addition to the building of many roads, he was responsible for the construction of the San Felipe dam.

From South America he went, in 1941, to the Sudan, where he was appointed Harbour Engineer to Port Sudan; whilst in this post he was instrumental in the building of new quays, railway sidings, and a new reservoir.

Returning to England in 1943, he joined the staff of the Ministry of War Transport, being attached to the Port and Transit Section as Deputy Harbour Engineer.

In 1946 he was appointed Harbour Engineer to the Colombo Port Commission, Ceylon, a post which he held until 1952, when he joined the

staff of Binnie, Deacon and Gourley for whom, but for his death, he would shortly have gone to Iraq as Resident Engineer on a high dam.

Mr Cross was elected an Associate Member of the Institution in 1939 and was transferred to the class of Member in 1945.

In 1941 he was awarded a "Follett Holt" premium for his Paper "San Felipe Dam Construction" read before the Buenos Aires Local Association of the Institution.

He was a Member of Council (Ceylon) from 1950 to 1952.

He is survived by his widow.

ALFRED CHARLES GARDNER, F.R.S.E., who died on the 2nd December, 1952, at the age of 72, was born at Richmond, Surrey on the 4th October, 1880.

He was educated at the Vineyard School, Richmond, Surrey, and at the Polytechnic School of Engineering, London.

He obtained his practical experience by serving an apprenticeship with the Thames Ironworks, Shipbuilding, and Engineering Company, of Blackwall, London, from 1898 to 1901.

On the completion of his training, he was appointed Assistant in constructional steelwork in the Highways Department of the London County Council, and was engaged in the design of the London County Council Generating Station at Greenwich.

He left this post in 1901 to become an Assistant in the Engineering Department of the Great Western Railway, where he was concerned with the design of bridge and roof work.

He left this latter railway company in 1907 to join the staff of another—the Great Central Railway Company—first from 1907 to 1909, as Steelwork Assistant, and later as Principal Bridge Assistant in the New Works Department, and in the years that followed he was responsible for the renewal and construction of over thirty bridges. The most important of these was the new bridge over the River Trent at Keadby, which, at the time, was the largest Lifting Bridge in Europe.

This latter period of his career was terminated by his joining the London and North Eastern Railway Company in 1918, as Docks Engineer, and as such he was subsequently responsible for the design and construction of Grimsby and Immingham Docks, and also the Lifting Bridge across the Alexandra Dock, Grimsby, which was opened in July 1928.

In the following year he was appointed Chief Engineer to the Clyde Navigation Trust, where he was responsible for the Docks and Harbour of Glasgow, and the maintenance of the Clyde. He retired from the post in 1941. The major works undertaken during this period included the reconstruction of General Terminus Quay, Plantation Quay, and Lancefield Quay; the foundations for the 175-ton crane at Stobercross Quay; and the various river works in connexion with the launching of Q.S.T.S. Queen Mary and Queen Elizabeth, involving the deepening of the River Clyde over