was an associate member of the Institution of Mechanical Engineers and a Fellow of the Royal Sanitary Institute.

Elected an Associate Member in 1909, he became a Member in 1922.

He is survived by his son, Mr R. D. Hawkins, B.Sc., M.I.C.E.

JAMES ROBERTSON FINNIECOME, M.Eng., who was born on 18 February, 1892, died on 18 May, 1964.

Educated at a grammar school in Vienna, he studied engineering at the Federal Technical University, Zurich (under Professor A. Einstein among others), and in 1915 received the degree of M.Eng. (Zurich) in mechanical, electrical, and civil engineering.

He gained practical experience on four summer vacations spent in engineering works in Austria, Germany, Czechoslovakia, and Switzerland, and later in the works and drawing offices of the British Westinghouse Manufacturing Company (steam turbines, turbo blowers, large gas and diesel engines).

With this backing, and a brilliant brain, he joined Metropolitan-Vickers Electrical Company Ltd in 1915, and remained there for the next 28 years, under Karl Bauman, Chief Mechanical Engineer and, until 1941, under the Chief Engineer, Dr H. L. Guy (M). From 1919 onwards he was in charge of theory, development, and experimental research, and the manufacture, starting up, and official acceptance tests of large power stations and industrial plants. From 1929 onwards he was also in charge of turbo blowers (design, projects, and testing), and later of turbo compressors, large radial and axial flow fans (up to 100 000 cu. ft/min), and air turbines. In 1939 he concentrated on nozzle research and later on high-pressure stresses in flanges and temperatures based on creep and corrugated expansion pieces.

Mr Finniecome relinquished his post with Metropolitan-Vickers in 1943, and after a three-months' tour of South Africa and a brief period as consulting engineer, joined the General Electric Company, Witton, Birmingham, in 1947, as Chief Mechanical and Consulting Engineer. In 1950 he was appointed Consulting Mechanical Engineer to the Ministry of Supply, Division of Atomic Energy (Production) at Risley, Warrington, where he remained until 1955.

A member of the Institution of Mechanical Engineers, a Fellow of the Institute of Fuel and a member of the Société Ingénieurs Civils (France), Mr Finniecome contributed extensively to the technical press. A brief selection from his writings is listed below. In 1946 he received the Thomas Lowe Gray Award from the Institution of Mechanical Engineers.

Elected an Associate Member in 1943, he became a Member in 1944.

He is survived by his widow, and a son and daughter.

Publications

'The friction coefficient for circular pipes at turbulent flow'. Emmott, Manchester, 1954.

'Characteristic data on the mixture of air and water vapour for atmospheric conditions'. Tract, 8vo. Vol. 722, Manchester, 1947.

'Flow through standard nozzles, orifice plates and Venturi tubes'. Tract 8vo. Vol. 723, Manchester, 1948.

'Helical Springs'. Tract 8vo. Vol. 728, Manchester and London, 1949.