



**Frank Fraser Haigh, CIE, BE,
BSc**

who was born on 4 February, 1891,
died on 27 January, 1970.

Educated at Knaresborough Grammar School, he studied engineering at Queen's College, Galway, taking his BE with Honours, and his BSc in 1912.

His early training was as assistant to Sir Robert Elliott-Cooper (1912–13), at that time President of the Institution, and continued on his appointment in 1913 to the Indian

Service of Engineers, Punjab (PWD, Irrigation Branch).

The major part of Haigh's distinguished career took shape in the Punjab, then a far larger area than now,* comprising numerous Divisions. Between the two world wars many vast irrigation projects materialized—and Haigh was primarily interested in dams, canals and barrages. But his initial stay with the Indian Service of Engineers was cut short by World War I, in which he served from 1915–19 with King George's Own Sappers and Miners, 1st Labour Corps, 2/107th Pioneers, in Mesopotamia and Palestine. He was twice mentioned in dispatches and demobilized with the rank of Captain in 1919.

Returning after the war to the Indian Service of Engineers in the Punjab, he was put in charge of Balloki headworks on the Lower Bari Doab Canal, under E. S. Crump, and so continued until in 1922 he became Executive Engineer in charge of Gurdaspur Division on the Northern Frontier, responsible for remodelling the head regulator of the Upper Bari Doab Canal. Five years later he was appointed Under-Secretary to the Punjab Government, PWD, Northern Administration (Irrigation Branch), and so continued until 1931. He then became Executive Engineer, Jhelum Division, and carried out work to protect the foreshore of Jhelum River near the Mangla Canal regulator, at a cost of £25 000. From 1932–34 he was concerned with the Bhakra Dam project, under R. P. Hadow (later Sir Raymond Hadow). This involved construction of a 500 ft dam and canals of 10 000 cusecs capacity.

In 1934 he was in charge of the Karnal Division, on maintenance and management of the Western Jumna Canal. To prevent silt brought down by the river when in flood from entering and choking the Canal, he constructed the Dadupur silt extractor at the Canal head. From 1936–39 he was Superintending Engineer in charge of construction of the Haveli Canal (including the Emerson Barrage) £1 m, and the Rangpur Canal. A novel feature of the Emerson Barrage was the provision of silt excluders. Haigh presented a paper to the Institution on the subject (see under).

From 1939–41 he was in charge of the Thal Canal project, which included

* Originally over 133 700, now 19 500 sq. miles.

construction of a barrage across the Indus at Kalabagh, at a total cost of over £2 m.

It is a measure of his success that in 1941 he was appointed Chief Engineer and Secretary to the Government of the Punjab, in charge of the Northern Administration (six running canal circles, the Thal project, a research institute, drainage circle, land reclamation and construction of 20 airfields for the Army). He was made a CIE in 1944.* In December 1945 he retired from the ISE after 26 taxing years of continuous service. For part of this period he was President of the Punjab Engineering Congress and of the Central Board of Irrigation, India.

The following year he was appointed President of the Irrigation Development Commission, Iraq, and for the next three years was engaged on plans to control the waters of the Tigris and Euphrates for flood prevention and irrigation. The Commission's recommendations, many of which have since been implemented, included projects for high dams (concrete, rockfill and earth), power plants, barrages, canals and drainage, at an estimated cost of £85 m. All possible alternative measures were to be investigated.

Three years later he gave up this position to undertake consulting work with the United Nations and the Colonial Development Corporation, and in this connexion visited Swaziland. From 1958-68 he was Consultant to the firm of Haigh, Zinn and Humphries.

Frank Haigh was at his best when fully stretched and his outstanding career is remarkable for sustained energy and achievement.

Elected to corporate membership in 1919, he was transferred to the senior grade in 1942.

His wife predeceased him, and he is survived by a son and two daughters.

Author of:

'The Emerson Barrage', J. 17 (Dec. 1941), 107. Correspondence: J. 18 (Oct. 1942 Supplement), 455.

'Report on the control of the rivers of Iraq and the utilization of their waters, 1949.' Iraq. Directorate-General of Irrigation.

Papers read before the Punjab Engineering Congress:

- 161. 'Protection of Upstream Foreshore, Mangla regulation', 1933.
- 163. 'Dissipation of Energy below Canal Faces', 1933.
- 182. 'Design of Weirs on Sand Foundations', 1935.
- 211. 'Silt Excluders', 1938.

• Companion of the Order of the Indian Empire