

Web of Iron

Stephen K. Jones

Abstract

Of all the structural shapes that have appeared in the landscape, the suspension bridge is immediately recognised as one of the most graceful yet economical of forms. Offering advantages in providing a crossing in a single span it provided a cheaper alternative which could be erected in less time than a conventional bridge and a reduced obstacle to floodwater and river navigation. The chain suspension bridge, with its potential for inbuilt symmetry, became an appreciated addition to the landscape and complemented the natural scenery. The chainbridge was an attraction in its own right and often held in local esteem with examples known locally as 'swingbridge', 'hanging bridge' and further north as 'shakey briggy'. The name sometimes retained when the bridge was replaced by a different structure.

'Web of Iron' is a reference by Samuel Smiles to the work of Captain Sir Samuel Brown (1774-1852), a naval man who pioneered the development and introduction of iron chain cable as a replacement for hempen cables on ships. Brown and the engineer Thomas Telford approached the development of the suspension bridge from their own interests, for Brown it was an extension to his commercial development whilst Telford saw the iron suspension bridge as the best solution to an engineering problem. Both Telford and Brown collaborated on a proposal to span the Mersey at Runcorn from 1817 but when this proposal failed to materialise the race was on for who could build the first major road suspension bridge in this country. Brown was to take this honour with the opening of his Union chainbridge across the Tweed in 1820 and Telford's triumph across the Menai straits six years later was to put the suspension bridge firmly in the public domain as an accepted, safe and economical mode of bridging wide spans.