Plan of the Forth Bridge, 1883

The Forth Bridge is one of the greatest monuments to Victorian railway engineering (fig.51). The Tay and Forth Bridges were vital to the expansion of the Scottish railway system. For the companies running trains north of the east line, the bridging of the Forth and Tay estuaries was essential for shortening journey times from Edinburgh to Aberdeen. Until the opening of the Forth Bridge, railway passengers had to cross the river at Queensferry on "train ferries".

Sir Thomas Bouch was also engineer for the Forth Bridge, but his design for a suspension bridge was abandoned after the Tay Bridge collapsed. Sir John Fowler and Benjamin Baker produced a new cantilever design (fig.52) which was built by Sir William Arrol & Co., a Scottish civil engineering and construction business founded by William Arrol and based in Glasgow. The bridge took six years to complete and claimed the lives of 57 workmen. It required 55,000 tons of steel and 8 million rivets.

Fig.51 The incomplete Forth Railway Bridge from the north west, 1889
NRS, BR/FOR/4/34/223

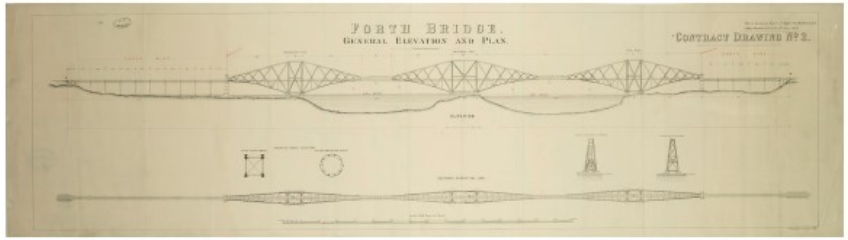
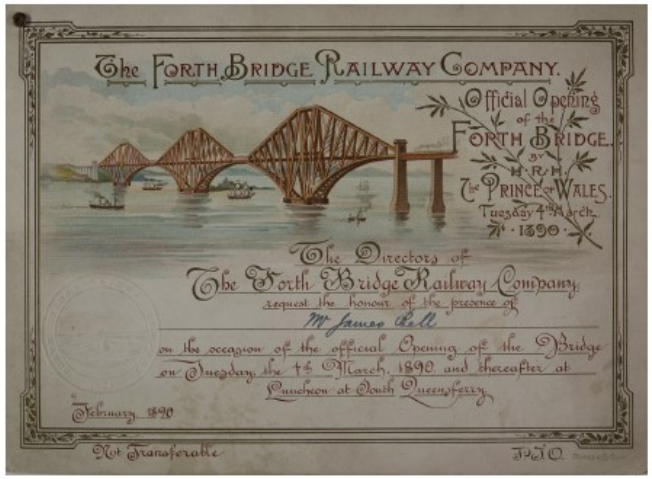


Fig.52 Contract plan and elevation of Forth Bridge, c.1880s
Courtesy of Network Rail Corporate Archive, RHP143341

The Prince of Wales opened the bridge in 1890. It was a great occasion: the bridge was described as the eighth wonder of the world and thousands of people travelled to the ceremony.



A pictorial invitation to the engineer James Bell to attend the opening of the bridge on 4th March 1890. The Prince of Wales opened the bridge and drove into place the final rivet
NRS, GD1/556/10