

Forth Bridge riveter on loan to ICE Scotland Museum

An original Victorian hydraulic riveting machine, which was used in the construction of the Forth Bridge, was unveiled at the Institution of Civil Engineers' (ICE) Scotland Museum at Heriot-Watt University on Friday 27 March 2015.

The 'portable' riveter (pictured right), which weighs a quarter of a tonne and is thought to date from around 1887, has been generously loaned by York's National Railway Museum and specially transported to Edinburgh for display, starting in the month of the 125th Anniversary of the opening of the Forth Bridge.

Professor Paul W. Jowitt CBE FRSE (left), former ICE President and past Chair of ICE Scotland, unveiled the riveter. He said: *The riveter makes for an iconic display, providing an instructive and exclusive insight into the extraordinary achievement of the construction of the world's greatest bridge in 1890.*

Professor Roland Paxton MBE FRSE (right), Chairman of ICE Scotland Museum, added: *This magnificent structure was all the more remarkable when one considers that the execution of the Forth Bridge was by means of labour-intensive Victorian technology, before the development of electricity, welding and other improvements in engineering and production techniques.*

Invented by William Arrol & Company, the riveter is believed to have been employed at the bridge using water power to squeeze into place, at 'yellow heat', some of its 6,500,000 rivets.

The riveter display, with an explanatory broadsheet, was fabricated at the workshop of the University's School of Energy, Geoscience, Infrastructure and Society.



The Forth Bridge was designed by Sir John Fowler and Sir Benjamin Baker who pioneered the balanced cantilever design adopted which allowed the bridge's loading to be distributed throughout the mammoth structure to achieve two span lengths, exceeding that of the 1883 world record Brooklyn Suspension Bridge. The Forth Bridge's record span lengths held for a remarkably long period and its volume of masonry and steel exceeded anything that had gone before or since in a single bridge.

The official opening of the Bridge took place on 4 March 1890. The 125th Anniversary was marked by a flypast by a Spitfire and an RAF Typhoon, to commemorate the 'Forth Bridge Raid' – the location of the first German air attack during the Second World War.

To find out about where to view the riveter, visit:
web.sbe.hw.ac.uk/ICE_Museum/faq.htm

