



*The Railway & Canal Historical Society*

## Clinker Memorial Lecture

2:00pm, 14<sup>th</sup> October, 2017

Mechanics Conference Centre, 103 Princess Street, Manchester M1 6DD

### William Fairbairn

the experimental engineer

- a study in mid-nineteenth century engineering



William Fairbairn (1789-1874)



The Mechanics Institute, Manchester (Grade II\* listed)

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Mechanics Conference Centre  
103 Princess Street,  
Manchester M1 6DD  
(use Major Street entrance)





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### **William Fairbairn**

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**- a study in mid-nineteenth century engineering**

**by Richard Byrom**

**William Fairbairn** (1789-1874) was one of the greatest of nineteenth century engineers yet is strangely overlooked. This is the first definitive biography for 140 years. Apart from being the leading international mill-builder and the leading experimental engineer in the middle quarters of the nineteenth century, he was much involved in railways and other transport:

- Building some 500 railway locomotives.
- Constructing over a thousand iron railway bridges, including the first on a main-line railway (the Liverpool & Manchester), and the research for the Britannia and Conway tubular bridges.
- Invention of the tubular crane, one of which was the most powerful of its day and another the prototype of the railway breakdown crane.
- Experimental work on canal boats, leading him to advise that canals could not compete with railways for passengers.
- Building early iron steamships, including the *Iron Duke* – the first to cross the Atlantic.

**Richard Byrom** spent his working life in construction, achieving chartered status as an architect, surveyor and arbitrator; and leading the Manchester-based multi-disciplinary consultancy, Byrom Clark Roberts, where several of his colleagues were chartered civil or structural engineers. He was introduced to William Fairbairn as an undergraduate in Manchester and went on to gain an MPhil and PhD in Fairbairn studies. He remains fascinated by this remarkable engineer and hopes that his new book, the first definitive biography since Pole's eulogistic volume of 1877, will stimulate others to undertake further research.

**The lecture**, which is free to all, will interest both academics and the many others with an interest in engineering history. For the former it will provide illustrations for many of today's current areas of debate, as the speaker discusses the sources of Fairbairn's success, the extent of his influence and the reasons for the firm he founded failing within a year of his death. For the latter it chronicles Fairbairn's many and diverse achievements. For both, it shows his Manchester works to have been an outstanding success, with his trainees producing five professors of engineering and two engineers knighted for their work.