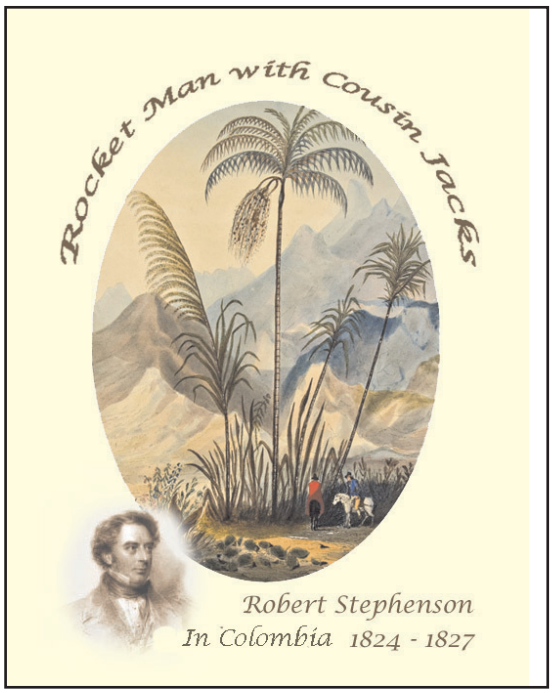
THE ROCKET

The Newsletter of the Robert Stephenson Trust - Spring 2016

Rocket Man with Cousin Jacks



The main source of the book is the 115 letters written by Robert Stephenson to the Colombian Mining Association Agent, Richard Illingworth. The book contains maps, illustrations and copies of the water colours painted by Charles Empson during the time spent in Colombia. Much has been written about Robert Stephenson but this adventure is little known and the book will assist in the understanding the development of a young man who was to become the most influential engineer and an important person of the railway age The text extends to some 80,000 words. There are 24 colour illustrations/maps and a further 24 black and white images.

The Author, Bob Longridge is three times great grandson of Michael Longridge, owner of the Bedlington Iron Company and a founding partner, in 1823, of Robert Stephenson and Company. Bob is chairman of the Robert Stephenson Trust based in Newcastle Upon Tyne which is dedicated to promoting Robert Stephenson, his works and his associates. The Robert Stephenson Trust has acquired copies and rights to publish items from the Illingworth MSS and Charles Empson's paintings.

DETAILS OF HOW TO PRE-PUBLICATION ORDER THIS BOOK CAN BE FOUND ON PAGE 6

This book reveals for the first time in nearly 200 years the details of Robert Stephenson's great Colombian adventure based in Bogota. It sets out the reasons behind his decision to abandon his father George, his friends and the management of the embryonic locomotive factory in Forth Street, Newcastle upon Tyne which bore his name and of which he was the Managing Director, for a speculative venture in South America in which he would be responsible for finding and extracting silver from mines first started during the Spanish occupation. The year was 1824 and he had yet to reach 21 years of age.

Robert did not return to England until 1827, but that event triggered a burst of creative energy and flair for a series of ground-breaking locomotive designs, starting with the 'Rocket' in 1829 for the competitive trials for the choice of engine for the Liverpool & Manchester Railway which his father had engineered and constructed in his absence.

The narrative uses many extracts from Robert's original letters to his boss Richard Illingworth, held by the University of Indiana, whose Lilly Library holds the originals. They describe vividly the difficulties he encountered, the anxiety he felt about what was happening in England in his absence, the problems of managing some of the workmen all of whom were from Cornwall, the lack of materials, the regular bouts of illness, and the frustration with the Mining Company in London who questioned his judgements.

On the journey home he was shipwrecked and very nearly drowned.

The character of one of England's greatest mechanical and civil engineers cannot be fully understood without appreciating the impact his three years in Colombia had on him. In his lifetime he played down the trials and tribulations, but this new insight is essential reading for anyone who wishes to understand how great men use adversity to advance their creative brilliance.

The book is illustrated with the water colour paintings of Charles Empson, who accompanied Robert as an interpreter and companion. His own anecdotes have been included as a counter-point to Robert's more formal correspondence.

All the mineworkers were from Cornwall, widley known as 'Cousin Jacks' and there are many references to them, not always flattering. The book describes their circumstances in the 1820's and explains what attracted them to sign up for 3 years and embark on a voyage to a far-away country. Anyone who might have had Cornish ancestors in Colombia should read this book.

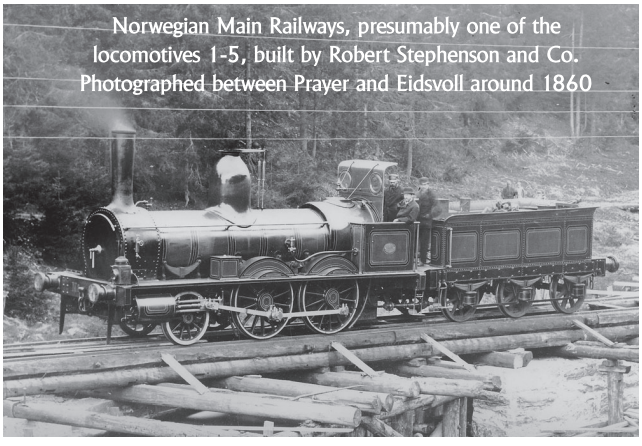
Christiania (now Oslo) to Eidsvoll Railway

In 1850 the route for the Norwegian Trunk Railway from Oslo (then Christiania) to Eidsvoll was surveyed, and Robert Stephenson became chief engineer and George Parker Bidder stayed on as resident engineer, Robert returning in 1851, 1852 and 1854.

The first steam ships started sailing on Lake Mjøsa in 1840. Construction on the Norwegian Trunk Railway from Christiania to Eidsvoll, the first line built in Norway commenced in 1851 and the 68 kilometer stretch was opened on 1 September 1854. It was built by an English/Norwegian company with the issue of 2.2 million shares, half of which was subscribed by British shareholders and a quarter by the Norwegian state and a quater by other Norwegian interests. The project was led by English "navvies." The choice of track, gauge, ticket system, etc. was based on English standards. The railway began operating with seven engines supplied by Robert Stephenson & Co.

Opening of Eidsvoll station 1854 from London illustrated News

Its main purpose was to transport timber from Mjøsa to the capital, but also passenger services were operated. Passengers with 4th class tickets travelled in carriages that had neither roofs nor seats. Nevertheless, in the first year 94,700 of a total 128,000 travelled standing in open air to/from Eidsvoll. A 4th class ticket cost NOK 1.33 or the equivalent of a day's pay for a construction worker. 1st class travel cost NOK 6.00, which included a foot warmer and upholstered seats.



Norwegian Main Railways, presumably one of the locomotives 1-5, built by Robert Stephenson and Co. Photographed between Prayer and Eidsvoll around 1860

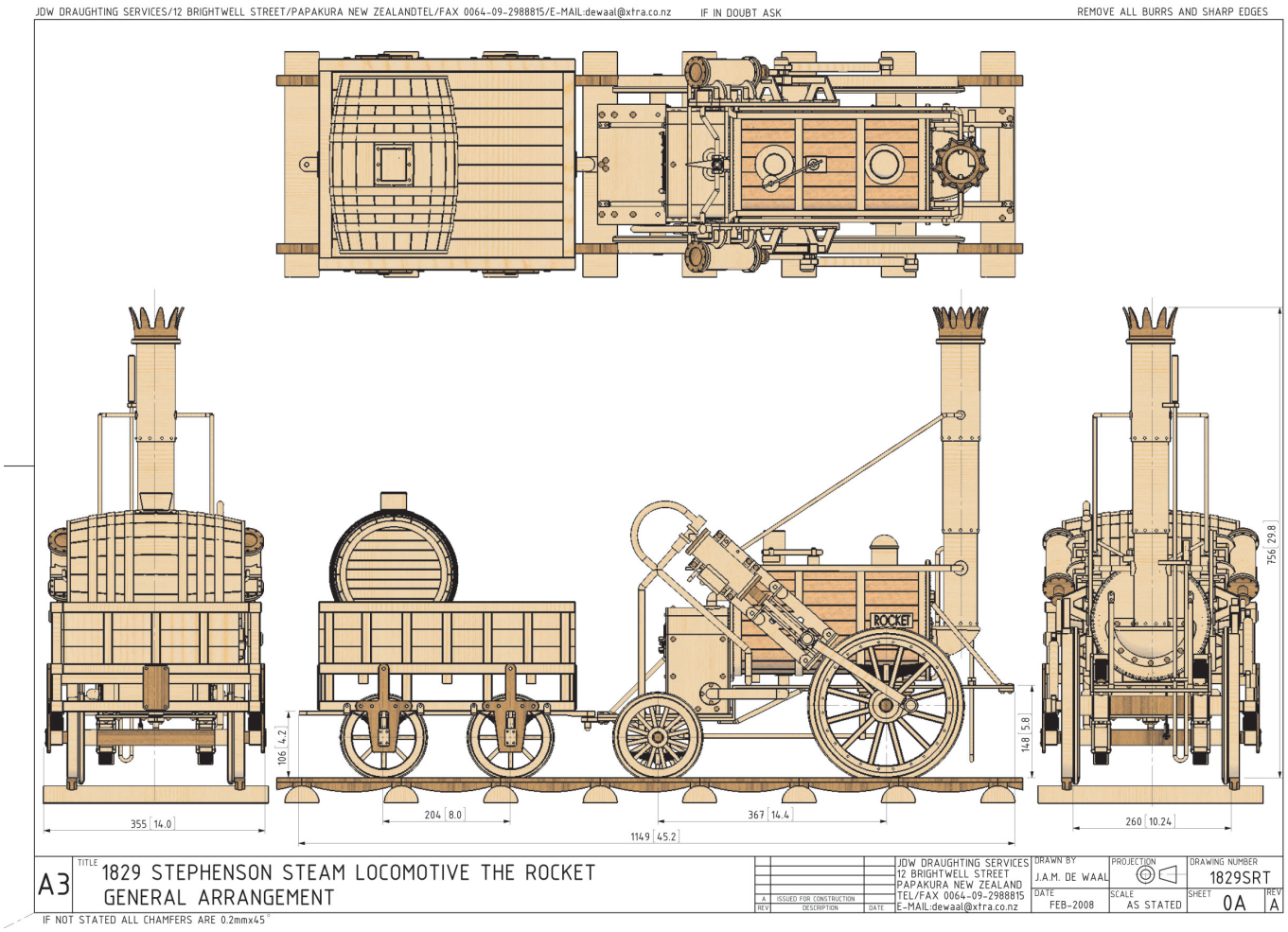
FOLLOW THE SUN

Follow the Sun is a new project for this year's Heritage Open Days (September 8th to 11th 2016) to mark the bicentenary of George and Robert Stephenson's sundial at Dial Cottage, Killingworth.

Northern Voices Community Projects, with the support of North Tyneside Council, is encouraging local writers, artists, musicians and schoolchildren to come up with poems, songs, stories and artwork to celebrate the sundial. A booklet of the written material and artwork, together with an historical background, will be launched on September 9th in Killingworth with readings of poems and stories and performances of the songs.

Please send your contributions for the event to NVCP: k.armstrong643@btinternet.com

Models of Rocket



Philip Sampson's 2ft Meccano model

Hornby Railways OO Gauge Stephenson's Rocket Set consisting of 0-2-2 Rocket Locomotive and Tender together with 3 x Coaches

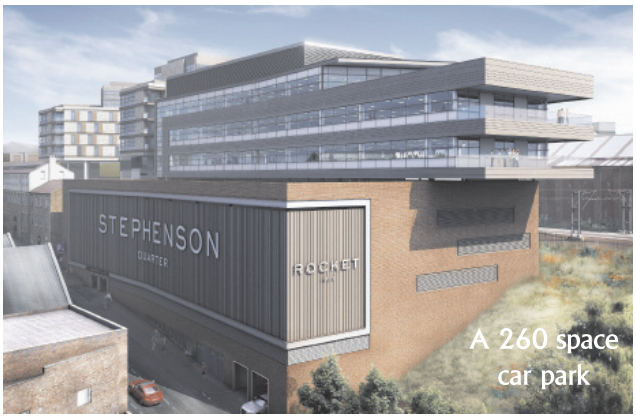
First test drive of model in Brunssum, Netherlands

Stephenson Quarter Development

The development of this area in Newcastle upon Tyne has mad substantial progress with the opening of the Crowne Plaza hotel, completion of *"The Rocket"* office block and the Stephenson Quarter Car park.


Crowne Plaza, a 251 bedroom hotel

The Rocket a 35,000 sq ft office block



A 260 space car park


Work has commenced in the Boiler Shop

All images copyright of Sally Ann Norman and Clouston Group.

Prince of Wales formally opens Victoria Railway Bridge in 1860

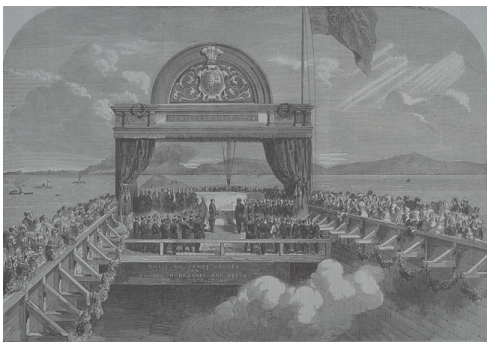
Canadian Coin News recently contained a item on the medal struck for the opening of the Victoria Bridge over the St Lawrence.

On 25th August 1860, Albert Edward, the Prince of Wales (later King Edward VII) opened the Crystal Palace on St. Catherine Street in Montreal before formally opening the Victoria Railway Bridge, which had been operating since Dec. 12, 1859.

A commemorative medal was struck by A. Hoffnung, of Montreal for presentation to Prince Edward.

On July 30, 1860, The New York Times reported the medal was on exhibition "at Tiffany & Co., Broadway, where it can be seen for one week. The medal is about 40mm in diameter. On one side is a view of the Victoria Bridge and St. Lawrence River, with the armorial bearings of the Canadian Provinces and the following inscription: 'The Victoria Bridge, Montreal. / The greatest work / of Engineering skill / in the world. / Publicly inaugurated / and opened in 1860."

The Times report continued: "Encircling the whole are the words, 'The Victoria Bridge / Grand Trunk Railway of Canada.' On the opposite side are bas relief profiles of Queen Victoria, Prince Albert, and the Prince of Wales, with the coat of arms of England and the following inscription: 'The Victoria Bridge, / consisting of 23 spans, / 242 feet each, / and one in the centre 330 feet, / with a long abutment / on each bank of the river. / The tubes are iron, / 22 feet high, 16 feet wide, / and weighs 6,000 tons, / supported on 24 piers, / containing 250,000 tons of stone, / measuring 3,000,000 cubic feet. / Extreme length 2 miles, / Cost, $7,000,000.'"

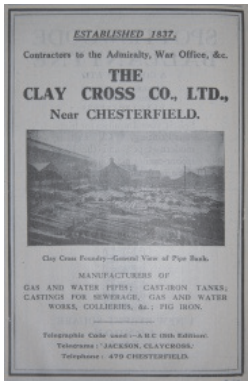


The Prince of Wales Laying the Last Stone of the Victoria Bridge Over the St. Lawrence by George Henry Andrews.

The Clay Cross Company was founded in 1837 by George Stephenson the railway pioneer to produce coal, iron ore and iron and limestone. The original company being named after him. Members of the board of directorship were, George and Robert Stephenson, George Carr (Lord Wolverton), Sir William Jackson J.P., Sir Joshua Walmsley (Member of Parliament for Leicester). His son-in-law Charles Binns (Stephenson's private secretary), works manager was also a member of the board as was George Hudson, Sir Samuel Morton Peto, M.P., Joseph Sanders and E.L. Betts. Sanders and Betts were the financial backers and partners in the firm of Peto, Brassey, Betts and Jackson contractors for and builders of The Canadian Grand Trunk Railway. there involvement also gives a link between the Clay Cross company and the North Midland Railway company.

Five miles from Chesterfield the route of the Leeds to Derby railway necessitated the building of a 1,784 yard (1,631m) tunnel through Clay Cross Hill. The driving of the tunnel through Clay Cross Hill began on 2nd February 1837 when six shafts were sunk along the route, where the few houses were situated,thus providing twelve faces for the labourers to tunnel, in addition to the two ends. Boring through a hill full of wet coal measures provided a vast drain for the water which had to be pumped away, and at each shaft huge fires were kept blazing to provide ventilation and enable hundreds of workers to work at night. The work eventually cost £140,000 (£11,000,000 in 2016), instead of the expected £98,000 (£7,700,000 in 2016), together with the loss of fifteen lives. The northern portal is a magnificent Moorish design and is now a grade 2 listed building.

Cast Iron company plate, with 3D image of George Stephenson's face


ESTABLISHED 1837.

Contractors to the Admiralty, War Office, &c.

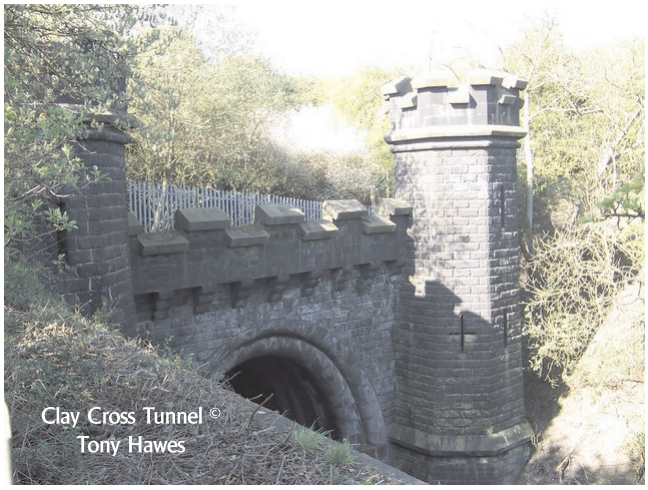
THE
CLAY CROSS CO., LTD.,
Near CHESTERFIELD.

Clay Cross Foundry—General View of Pipe Bank.

MANUFACTURERS OF
GAS AND WATER PIPES; CAST-IRON TANKS; CASTINGS FOR SEWERAGE, GAS AND WATER WORKS, COLLIERIES, &c.; PIG IRON.

Telegraphic Code used:—A B C (5th Edition).
Telegrams: "JACKSON, CLAYCROSS."
Telephone: 479 CHESTERFIELD.

The tunnel eventually saw one of the first uses of the absolute block signalling system, maybe after a narrow escape on the south bound inaugural run. The train was heavier than expected and a pilot engine was provided at the rear. This was detached at the entrance to the tunnel, but halfway through the train came to a halt, and someone had to walk back for the pilot, to the consternation of the passengers. Stephenson had been shown the system by its inventor William Fothergill Cooke supported by Wheatstone of the Wheatstone bridge fame. This was the forerunner of the Midland Railway's system.


Clay Cross Tunnel ©
Tony Hawes

Until the building of the tunnel, no deep prospecting for minerals had been carried out. The discovery of coal and iron led to George Stephenson moving to Tapton House, near Chesterfield and together with the others directors bought a tract of land north of the tunnel and set up the Clay Cross Company.

The company had built houses for the tunnel navvies and later, as they sank colliery workings, for the miners and their families. Nearly 400 houses were built, and by 1846 the population of the area had reached 1478, an ironworks with steam engines for blowing, pumping and hauling kept some 600 men employed. The company produced their own bricks, with the brickworks originally at the works, but they moved near to the railway station using modern kilns with a capacity of 5,000,000 bricks per year.

When George Stephenson died in 1848 his son Robert succeeded his father as the largest shareholder in the company. The company by now was concentrating on the production of iron as by 1846 the price per ton of coal had fallen drastically, however, the companies four pits remained open. Later Robert claimed that the contract to transport 60,000 tens of coal from Clay Cross to London was unprofitable for the railway company and sold his shares in the company to Peto, Walmsley and Jackson.

FRIENDS OF THE ROBERT STEPHENSON TRUST

Friends of the Trust are reminded that the subscription of £15 became due on 1st January

Payment should be sent to :-

The Treasurer, 31 The Green, Hurworth, Darlington, Co. Durham, DL2 2AA, United Kingdom

Those Friends who are taxpayers and have not yet signed a Gift Aid Declaration, are asked to consider doing so, to enable the Trust to reclaim tax.

A form is reproduced below or can be printed by visiting :

http://www.robertstephensontrust.com/giftaid.htm

****

GIFT AID DECLARATION

Charity name:- The Robert Stephenson Trust Ltd.,

Charity Number 700647

Details of Donor:-

Title: Forenames:

Surname:

Address:-

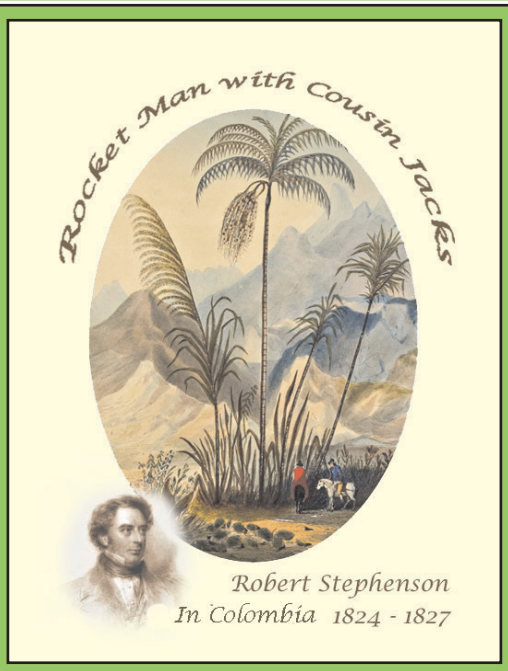
Postcode:

I want the charity to treat all subscriptions and donations made by me to the Robert Stephenson Trust Ltd after 6th April 2002 and until further notice as Gift Aid. I have read the notes below and agree to notify you of any material change in my circumstances.

Signed:

Date:

Notes: You can cancel this declaration at any time by notifying the charity. You must pay an amount of income tax and/or capital gains tax equal to the tax that the charity reclaims on your donation/subscription in the tax year. If in the future your circumstances change and you no longer pay tax on your income or capital equal to the tax the charity reclaims, you should cancel your declaration. If you pay tax at the higher rate you can claim further tax relief on your Self Assessment tax return.



Rocket Man with Cousin Jacks
Robert Sephenson in Colombia 1824-1827
ORDER

The list price of the book is £11.99. However it can be pre-publication be ordered at the special rate of £11.99 which includes postage and packaging to a UK address.

If you would like to take advantage of this offer then please complete the orderform below (photo copies are perfectly acceptable) to:

rstrust@robertstephensontrust.com OR RSTrust, C/O Woodlands, Prestwick, Ponteland, Newcastle Upon Tyne, NE20 9TX.

I would like further details of "Rocket Man with Cousin Jacks" when published.

Title: Forenames:

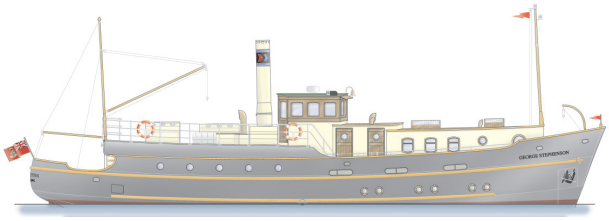
Surname:

Address:-

Postcode:

The George Stephenson

Seen heading up the river Thames on Saturday 6th June 2015 was a rather interesting vessel. Named the George Stephenson it is a new-build steam vessel that has been planned and constructed by a Dutch businessman by the name of Servaas Strik. The keel was laid in November 2007 and she came to St Katharine Docks marina in London for her official christening on the 12th June. What makes this vessel especially interesting is the combination of using very traditional engineering techniques but more importantly making use of salvaged components from a huge variety of vessels – either directly or as raw materials.



For example, the propellers are made from a melted down screw from the former French Navy aircraft carrier Clemenceau whilst there are doors from the RMS Windsor Castle on board. Some of the wood is also reported to have come from a former Thames paddle-boat! The George Stephenson is powered by a historic steam engine from a "Clyde puffer"! The steam boiler and steam engine were both on display as well. The vessel also showcases craftsmanship in carpentry, welding and riveting.

Whilst her lines might please many and it cannot be denied that a massive amount of time and effort have been put in to creating a unique piece of floating history and fitting that she has sailed along the Thames with its own long history of maritime engineering.

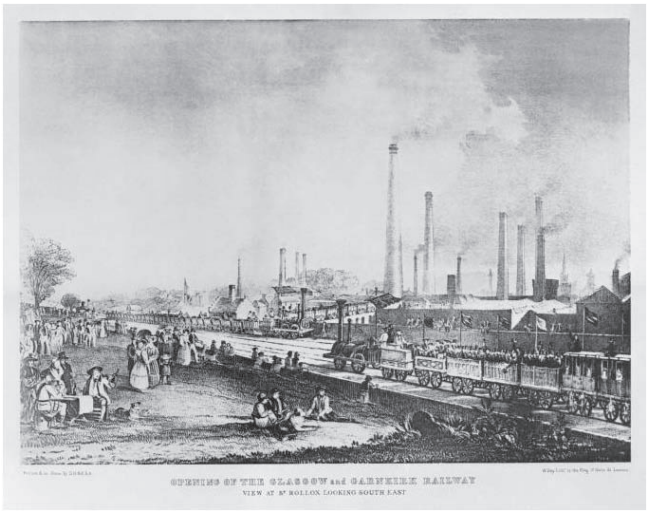
Garnkirk and Glasgow Railway

D O Hill's impression of Charles Tennant & Co's St Rollox Chemical Works and Iron Foundry on the day of the opening of the Garnkirk & Glasgow Railway, September 1831. The men on the left are celebrating the opening with what appears to be a boozy picnic.

The Stephenson locomotives which operated on the new line, the St Rollox was carrying the company directors, while the George Stephenson pulled a train of thirty-two passenger carriages. Although as one set off from Garnkirk and the other from Townhead that day, it is unlikely that they met at St Rollox.

The tower and spire of Glasgow Cathedral and the Knox monument are visible in the far distance, right.

Reference: Mitchell Library GC 385.09 HIL Reproduced with the permission of Glasgow City Council, Libraries Information & Learning



This view of the opening of the Glasgow & Garnkirk Railway shows the site of the future St Rollox works, built by the Caledonian Railway. The Garnkirk and Glasgow Railway ran from Monkfields coalfield to Townhead station in Glasgow and was built to carry coal into Glasgow, and although it was used by passengers most of the company's income was earned from mineral traffic.

This lithograph was one of a series made by artist David Octavius Hill, printed by W Day of London in 1832.

PRODUCTS OF THE WORKS

Dollies

Between 1937 and 1949 the South African Railways placed two hundred and thirty-five Class 19D steam locomotives (nicknamed Dollies) with a 4-8-2 Mountain type wheel arrangement in service. Between 1951 and 1953 thirty-three more were built for other operators like the Rhodesian and Angolan railways and the Nkana and Wankie mines. Tasks varied from mainline local and international passenger trains hauled by Class 19D locomotives on the section between Warrenton and Mafeking, en route between South Africa and Northern Rhodesia (Zambia) via Bechuanaland (Botswana) and Southern Rhodesia (Zimbabwe), to secondary and branchline duties and, in later years, as shunting engines.

RSH-built no. 2749 with Torpedo tender, Voorbaai, Mosselbaai, Western Cape, 19 October 2009

© Col André Kritzinger

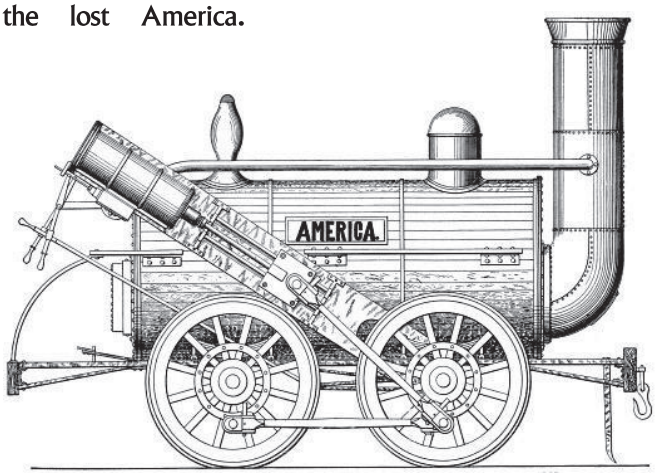
The first forty were built in Germany in 1937 followed in 1938 by a further 95 of which 15 were built in the Skoda works in Czechoslovakia.

Locomotive building was interrupted by World War II and post-war locomotive procurement saw German suppliers being replaced by British ones. In 1947 the first fifty post-war Class 19D locomotives were delivered by Robert Stephenson and Hawthorns,(RSH), numbered in the range from 2721 to 2770. Of this order engine no. 2734, RSH works no. 2747, was lost at sea off the east coast of England. Its replacement, with RSH works number 7360, was paid for by insurance and it received the number 2734 of the lost locomotive.

America

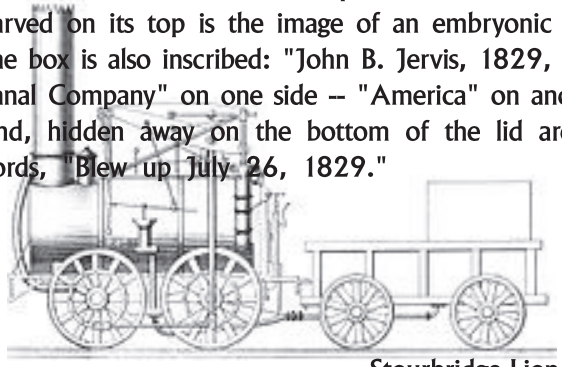
The first locomotive in the United states was the four coupled locomotive 'America' which was delivered to the Delaware and Hudson Railroad Company from Robert Stephenson and Company in January 1829. The 'Stourbridge Lion' (often considered the USA's first loco) had been ordered from Foster Rastrick and Company at the same time but was delivered four months later than 'The Pride of Newcastle' (renamed America).

America was much lighter than Stourbridge Lion and in August 1829 it was the Lion that made a public test run to cheers and firing of celebratory cannon. At first it wasn't obvious that its great weight had crushed the track it left behind and its fame was short lived as the loco was quickly retired. Eventually the dismantled Lion found its way to the Smithsonian where curators found that the parts didn't fit together much to their dismay until years later they learned that some of those pieces were from the lost America.



America

The fate of 'America' was until recently equally obscure until a find of a small coffin-shaped carved wooden box. Carved on its top is the image of an embryonic train. The box is also inscribed: "John B. Jervis, 1829, D&H Canal Company" on one side -- "America" on another. And, hidden away on the bottom of the lid are the words, "Blew up July 26, 1829."



Stourbridge Lion

Rocket is published by The Robert Stephenson Trust
C/O The North of England Institute of Mining and Mechanical Engineers, Neville Hall,
Westgate Road, Newcastle upon Tyne, NE1 1SE
Email: rstrust@robertstephensontrust.com
Website: robertstephensontrust.com