



THE ROCKET

The Newsletter of the Robert Stephenson Trust - Autumn 2013



Chairman's Message

It was as long ago as the Spring 2011 edition that I last wrote to you. In part this reflects the modest level of our business, which without a source of income other than Friends' subscriptions – a vital lifeline for us – and income from our very limited capital, is dependant on being able to secure grants for specific projects. The Art of Robert Stephenson was summarised for you in the last edition; we are now drawing up ideas for another Lottery application focussed on the Stephensons' importance to Britain's industrial revolution, as this is a major feature of the school history syllabus. We hope to collaborate with the NEIMME ('the Mining Institute') in this. We are also in discussion with them about transferring the bulk of our stored furniture to their premises, as they have recently bought those parts of the building previously owned by the Northumberland Masonic Lodge and others. We will also circulate a list of items which we could loan to other museums around the country for no charge but at their expense. The continuing promotion of HS2 creates an opportunity for us to highlight RS's massive achievement in constructing the London-Birmingham Railway in 1834-8.

I used my spare time last winter to produce a typescript of Robert Stephenson's letters as you saw in the last 'Rocket'. After completing that, I decided to write a short digest aimed at a general readership, as our interest is mainly in the impact of this early life experience on the formation of his later character. That is nearly complete and we in discussion with the letters' owner Indiana University about possible publication.

Can I encourage you to have periodic looks at our website 'blog' (ugly word!) which are added items of interest. Some appear in The Rocket but not all.

At our last Board meeting we reluctantly decided to discontinue 'The Gazette' as its cost was no longer affordable and suitable articles were not forthcoming. I have thanked the editor, John Addyman most warmly for his work.

May I wish you all a healthy Christmas and a productive New Year.

Bob Longridge

Curzon Street Station

The High Speed 2 terminus in Birmingham, due to open in 2026, will be called Curzon Street Station. It will be a few metres away from the surviving station building of the same name, the oldest in the world, where the first train from London arrived on 17th September 1838. It was the terminus for both the London and Birmingham Railway and the Grand Junction Railway and the companies had adjacent, parallel platforms but there were no through trains.

The Grand Junction Railway arrived at Curzon Street in 1839: Although the line had opened in 1837, one year before the London and Birmingham Railway originally running to a temporary terminus at Vauxhall. A viaduct had to be constructed to allow the line to reach Curzon Street. Behind the main entrance building, the L&B station had a wrought iron framed trainshed which had two spans, and was 217 feet long and 113 feet wide with two platforms.

It was inconveniently located on the eastern edge of Birmingham city centre, and the station's facilities soon became overwhelmed by the growing traffic. Following the merging of the L&B and Grand Junction railways into the London and North Western Railway in 1846, 'Grand Central' station, which would become known as Birmingham New Street half a mile to the west, shared with the Midland Railway was completed in 1854.

The name of the station had been changed from 'Birmingham' to 'Birmingham Curzon Street' in November 1852. The station continued to be used by some local services to Sutton Coldfield and by excursion trains until 1893 and used as a goods station until 1966. The platforms, along with the original trainsheds were demolished the same year. The site was then used as a parcellor depot until May 2006.



The aerial view published here of what will be the biggest building in the city centre.



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

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Coal mining has always been significant in the North East. Romans probably mined coal here during their occupation. The town of Newcastle grew up along the river banks exporting coal.

In the early nineteenth century many lives were lost due to explosions in coal mines. Following an explosion at the Felling Colliery in 1812 in which 91 men and boys lost their lives a committee was set up to investigate any means of lighting mines safely which spurred George Stephenson on to invent the Geordie's miners safety lamp. At the same time vast technological progress was made in colliery drainage and haulage through the development of the steam engine. In 1810 George Stephenson, working as an engineman at Killingworth Colliery (where Nicholas Wood was viewer), dramatically advanced the use of steam power to overcome mining difficulties: water and underground haulage; ultimately providing a means of transporting coal from the pithead to its point of shipment.

Steam power rapidly opened up countries formerly cut off from world markets through their remoteness or often impossible transport conditions. Through steam, channels of communication were opened up creating access to the most sequestered parts of the globe. Distant continents were reached by steam powered ships, their land masses traversed by railways and their wealth harvested. In turn railway systems evoked immense appetites for the raw materials of this new technology: iron, machinery, labour, capital, and above all COAL!

In 1830 there were only a few dozen miles of railways in the world - by 1850 there were over 23,500. In the two decades following the emergence of railways the output of iron in Britain trebled. In the same period the output of coal was raised from 15 million to 49 million tons.

In the 1830s Newcastle city centre moved away from the river, the traditional seat of her commerce, in anticipation of its rival, the railway. The railway arrived

by means of the High Level Bridge, begun in 1846, designed in part by Robert Stephenson. It crossed the Tyne gorge right into the centre of the city whose industry had been responsible for its creation. By means of a colossal feat of engineering the younger Stephenson had brought his father's invention home: a fitting tribute to the genius of them both.

The Institute was established under the presidency of the man who was looked upon as the principal viewer in the trade, Stephenson's old associate, Nicholas Wood (president). It was incorporated by Royal Charter in 1876. Neville Hall, the building to house the Institute, was completed in 1872.



Neville Hall

In the centre of this "City of Palaces", indeed at the core of the region's industrial heritage, stands the elegant gothic building of Neville Hall, a Grade II* listed building and home of the North of England Institute of Mining and Mechanical Engineering.

It was designed and built at the height of the Gothic Revival. The architect A. M. Dunn's distinguished creation combined Gothic design with Tyneside Classical Romanesque. It is an adventurous manifestation of the mingling of secular design with traditional ecclesiastical architecture. It houses the Nicholas Wood Memorial Library.





HS2 and Stephenson

The HS2 scheme may result in the demolition of what is believed to be the “last surviving trace of a civil engineering masterpiece” by the railway pioneer Robert Stephenson. An original 1833 wall and below-ground brickwork arch in the “Camden Cutting” – where the train tracks come out at Parkway en route to Euston – is believed to be part of a feat of engineering considered at the time to be “on a par with the Pyramids”.

English Heritage are investigating a possible listing after the wall – partly masked behind a 1910 brickwork and hidden from street view – was revealed by engineer Mike Dowd.

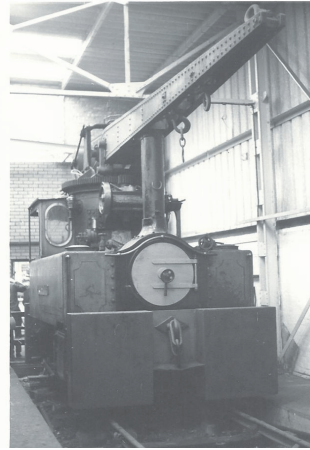


JC Bourne lithograph towards Park Street, Camden, September 17th 1836

HS2 Ltd, the company in charge of the £43billion high-speed rail project, has told residents in Parkway and Park Village East that the “semi-redundant” wall must be demolished as part of the scheme.

Mr Dowd, who lives in Parkway, has delved deep into the history books and confirmed that the threatened wall – which is not visible from street level – is part of Stephenson’s original 1833 structure. He is hoping English Heritage will list the structure as an “outstanding example of early Victorian civil engineering” in what he believes could be a “show-stopper” for the controversial HS2 route.

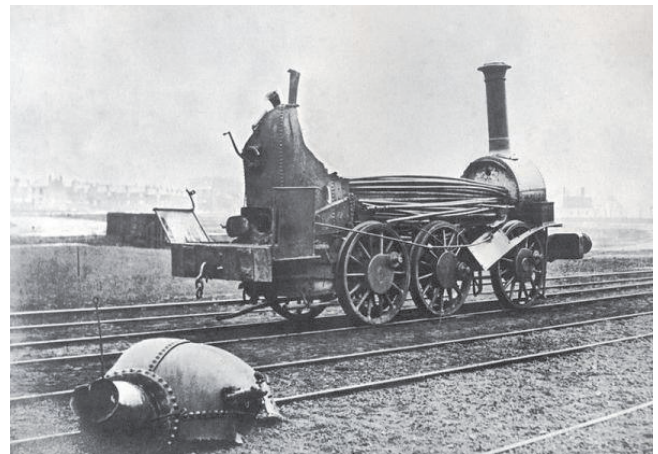
According to the Stephenson biographer Derrick Beckett, the curved walls were built on each side of the railway tracks at Parkway with an “additional brick invert arch” linking the two walls beneath the ground. The idea was to provide a stable base for the train tracks. In 1910, part of it was covered by another straight wall but the original remains beneath and can be seen from a stepladder in Mornington Terrace.



Product of the Works

Robert Stephenson & Hawthorns 0-4-OCT Crane Tank No.7069 of 1942, “Southwick” which worked at Doxford’s Shipyard, Sunderland at the Dinting Railway Centre, 04/76. Photo courtesy of Hugh Llewelyn

Oh dear!



Number 35 was working on the York, Newcastle, Berwick Railway when the accident occurred at Darlington on 2nd February 1850 with both footplate men and a further person killed. The locomotive was rebuilt and eventually replaced 1870. Originally built by R. W. Hawthorn 0-6-0 works No.419 introduced into traffic March 1835.

Stephenson Works Tour

Recently Trustee, Michael Taylor lead a heritage tour of the Works at the invitation of CIRCA projects which have been staging art exhibitions in the building. Feedback from the public who attended the tour, the organisers and the building owners, Silverlink Holdings was very positive. It is hoped that further similar events can be arranged in the future.





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BERWICK ADVERTISER, 7 FEBRUARY 1846 - THE NAVIES

The excavators are fast disappearing from among the community on this side of the river, that section of the North British railway which adjoins this town being completed; and the only work now in progress here being the erection of the Station Houses, which is in the hands of a different class of workmen, namely masons. In taking leave of our late acquaintances, the navies, we are desirous of saying a parting word or two. What experience, previous to the navies taking up their abode here, may have been entertained as to the pecuniary advantages the town would derive from their residence, and how far these have been realized, we are neither desirous nor able to calculate. One thing, however, has attracted our notice, namely, their general conduct, and on this subject we are induced to make a few remarks.

These strangers came here in August 1844, and as they are leaving now in February 1846, they have been with us just eighteen months. They never at any one time much exceeded 200 in number but from their migratory habits we should think that from first to last not less than from 1,000 to 1,200 have been domiciled in the town. In that multitude of persons there has no doubt been as great a variety of character and disposition as there has been of visage and stature. These dispositions have been under no peculiar check nor restraint, for any addition made to our police force scarcely deserves the name of a precaution, and the possessors of these dispositions, we dare say, have indulged them to their fullest extent; it is therefore with considerable gratification we add that their conduct has exceeded in decorum what we had previously expected. Certainly we have had drunken brawls among the railway labourers, but beyond these we do not think they have in any degree rendered themselves obnoxious to any party in our community. One thing is certain, that never was person and property in the borough more free from attack than they have been during the last eighteen months. Though the police have frequently been called upon to interfere in their collisions with each other while intoxicated, we have never had a charge of theft against a navy brought before any of our courts of justice, nor have the police ever had the charge of a warrant against one of them. We may add that no navy while sober, has committed an act of incivility much less of assault on any of the persons of our community. Those families who reside nearest the houses of call or haunts of the navies will bear us out in the assertion that though their noise may have been disturbing, the rights of property were never invaded. In short, could the navy be rescued from his intemperance we doubt if he would be exceeded in propriety of behaviour by any of the other classes around him.

Some of the persons who keep small huckster shops may be disposed to challenge our opinion as to the honesty of the navy and probably can recite lists of items obtained from them on credit and



Navies making bricks - the Royal Border bridge is estimated to contain 1,7000 bricks..

Photo by Berwick Civic Society. Reproduced with thanks from "Forgotten Berwick".

the debt undischarged. This is quite possible; but we suspect that this was occasioned more by improvident habits than by positive dishonesty; for we believe that persons in their situation who could refrain from stealing would also discharge their debts if some prevailing folly did



Navies building Berwicks Royal Border Bridge who were employed by contractor Mackay and Blackstock.

Photo by Berwick Civic Society. Reproduced with thanks from "Forgotten Berwick".

not deprive them of the means. This leads us to remark that the great and prevailing vice of the navy is intemperance, and that this is the source of all his misconduct. No person could visit the scene of operations on the railway line and witness the vigour and energy with which the labourer plied at his work, not grudgingly but pleasantly. And not feel grieved on reflecting that it was highly probable the stalwart youth, whose manly frame was so pliable to labour, might ere night close be prostrate on the street through inebriety. But if any one had for a series of days followed the labourer from his lodgings to his labour in the morning, and from his labour to his lodgings again in the evening, we believe he would have become acquainted with circumstances calculated greatly to mitigate his censure, if not altogether to excuse the indulgence we so much deprecate. The small accommodation and comfort which these lodgings afforded rendered them inadequate for anything beyond mere roosts or sleeping apartments; and as the human system cannot be maintained under continuous labour and mere rest from it, some relaxation and enjoyment is as necessary to man as the alternation of sunshine and showers is to the vegetable world.

The inquiry therefore rises, where was the labourer to obtain this relaxation? So long as the weather was favourable he might saunter through the streets and gratify his senses of sight and hearing with what was passing there; but on a reverse he was compelled to resort to the only place whose doors were open to receive him. We are therefore of the opinion that were some means used to provide him with social recreation the intemperance of the navy would gradually become less and less. It is difficult to say what arrangements might be necessary to effect this change, but we have no doubt if set about it might be accomplished. "Where there's a will there's a way". During the last session of parliament some movement was made to provide the labourer with the means of recreation, but unfortunately the measures which received the sanction of that assembly involves so large an expense as to render in most cases the law inoperative or a dead letter. It is only in places like Manchester and Liverpool that thousands of pounds can be raised to purchase and lay out grounds, and few municipal bodies possess ability or disposition to launch into the formation of museums. The disposition to legislate in such matters will, we hope, ultimately render something attainable.

The contractor for the work, Mr Evans, has, we believe, given every satisfaction to his employers, and by his treatment of those in his employment secured their esteem. No symptom of dissatisfaction has been instanced, nor have we heard of a single complaint being preferred. He remunerates his labourers with the current coin of the realm, and never resorted to the obnoxious truck system. Settlements were made once a fortnight, though payments could be obtained at the end of every week.

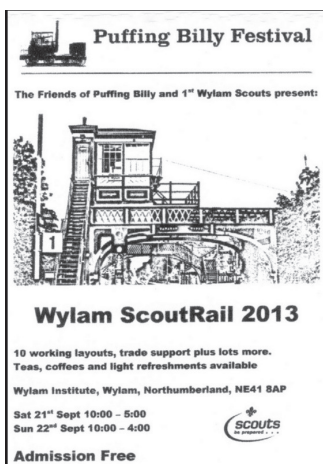


Puffing Billy Festival



The summer of 2013 was chosen to mark the 200th anniversary of the use of the first commercial adhesion steam engine Puffing Billy, employed to haul chaldron wagons on metal rails from the coal mine at Wylam to Lemington staiths on the River Tyne. It was built by local men, engineer William Hedley, engine-wright Johnathon Forster, and blacksmith Timothy Hackworth, for Christopher Blackett, the owner of Wylam Colliery.

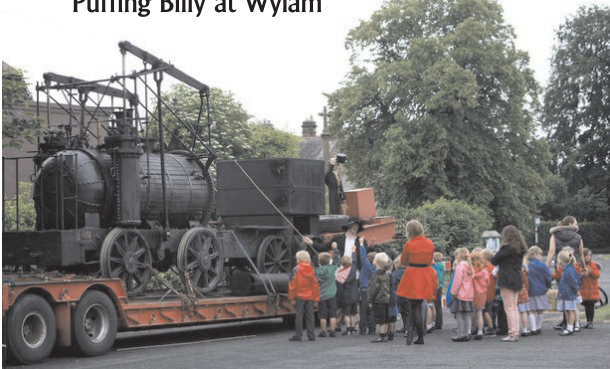
Over the summer of 2013 communities and schools from Wylam, Heddon, Newburn and Lemington celebrated the anniversary in many ways including visits of replica Puffing Billy from Beamish Museum and many community events, games, model railways, steam engines competitions and talks.



Scoutrail

In recent years Wylam Scouts have held this event but in 2013 they were able to attract larger and more model railways than ever. Once again the Robert Stephenson Trust supported the event with a display.

Puffing Billy at Wylam



Talks

The Festival included a series of five talks which was attended by over 200 people. It was interesting to note that John Liffen thought that the early 1814 was the likely date for Puffing Billy's first journey. The speakers list included Michael Taylor on behalf of the Robert Stephenson Trust.

Puffing Billy Festival
presents
A Series of Talks on Early Railways

Wednesday 4th September 2013
Newburn Leisure Centre @ 7.00pm
RAILWAYS BEFORE GEORGE STEPHENSON
by Les Turnbull

Wednesday 11th September 2013
Lemington Centre @ 7.00pm
THE NORTHUMBERLAND RAILWAY
Brunel in Stephenson's Backyard
by J. Michael Taylor

Wednesday 18th September 2013
Wylam Institute @ 7.00pm
THE WYLAM LOCOMOTIVES
Their History, Preservation and Interpretation
by John Liffen

Wednesday 25th September 2013
Walbottle Campus @ 7.00pm
HEDLEY, CHAPMAN and ISAAC JACKSON - Who Really Did What?
by Jim Rees

Wednesday 9th October 2013
Heddon-on-the-Wall, Women's Institute @ 7.00pm
STEPHENSON'S TRIUMPH - LIVERPOOL 1830
Who was there and what they did next
by Bob Gwynne

There will be a collection of donations at meetings to help meet expenses
ORGANISED BY THE FRIENDS OF PUFFING BILLY



The Robert Stephenson Trust delivered a number of activities at The Hearth community centre in Horsley during July including two talks given by Michael Taylor



to an audience of over 50 people. Two children's days activities were also delivered in conjunction with the Institution of Civil Engineers.

Two 1/12 scale, moving models of Puffing Billy & Wylam Dilly by John Hazle, were installed in Wylam's Falcon Centre Railway Museum



John Hazle making final adjustments to the models before their installation

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FRIENDS OF THE ROBERT STEPHENSON TRUST

Friends of the Trust are reminded that the subscription of £15 becomes 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.

Charles Empson

Born December 21, 1794, Charles was the third child of Mary Askham and John Empson, a weaver in York.

Not much is known of Charles Empson's early years except that he yearned to travel. His family was not wealthy, with the father having been a weaver. When Charles was 29, he left England in June 1824 for South America, and traveled with Robert Stephenson to what is now Colombia. Whilst in Colombia he assisted Robert in his work and also completed some fine paintings which subsequently form part of a fine book he wrote.

The two friends left Colombia at the end of July 1827, bringing with them precious objects of pre-Colombian art, including some gold artifacts which Charles later exhibited in Newcastle-upon-Tyne. Unfortunately, some of their possessions were lost in a shipwreck at the entrance to New York harbour. After spending time in New York city, Charles and Robert went on a walking tour of New York State and Canada, traveling as far as Montreal. They arrived in Liverpool, England in November 1827.

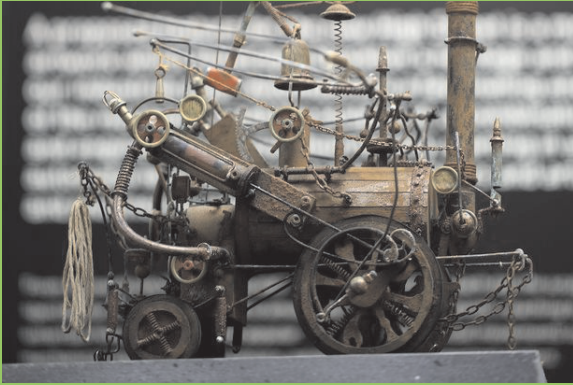
After his three-year journey, Charles Empson settled in Newcastle-upon-Tyne and where he started a business as a fine art bookseller. The business flourished until 1834, when he relocated to Bath where Charles Empson was described as a museum keeper or perhaps more accurately, as a picture dealer. He became increasingly prominent in local society. One of his acquaintances was Charles Louis Napoleon (1808-1873) who was living in Bath and later proclaimed himself to be Emperor Napoleon III of France.



Charles Empson painted by Willes Maddox in 1840-50 when he was 45-55 years old living in Bath



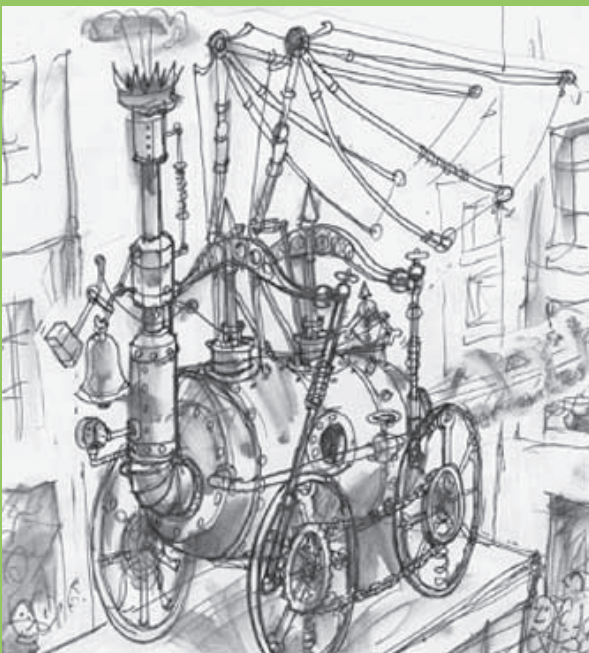
The Stockton Flyer



As part of the regeneration scheme on Stockton High Street Centre it is planned to install a large scale moving art work, The Stockton Flyer, inspired by Locomotion No.1. At a set time each day an automated sculpture will emerge from a plinth, reaching its full size with automated movements before disappearing back into the plinth.

Models of three potential designs were displayed in the Rediscover Stockton Shop for a public vote in which more than 1000 people took part.

When not in use by the automaton the 'empty' plinth will be a focal point for the High Street and could act as a podium for people to speak from or perform upon. The automaton would be hidden inside a plinth and emerge at set times of the day at the north end of the street. The plinth and sculpture will be more than seven metres high if built and has been designed by artists Rob Higgs and Keith Newstead.



Rainhill Bridge

The work undertaken at Rainhill's Skew Bridge, an engineering first which has stood the test of time since it was built in 1829 by Stephenson, raised more than just a few eyebrows. Local historians were horrified when it was subjected to a horrendously botched renovation job by Network Rail, who wanted to raise the bridge to help them electrify the line. Contractors had hoped to raise the entire length of the historic bridge, including the wing walls on either side, to help them electrify the line between Liverpool and Manchester.

But the type of stone used proved a particularly poor match and they found they were unable to remove the original copingstones as the vibrations created could have damaged the parapet - including the plaque on the rail face.



Skew Bridge was constructed by Stephenson in 1829 and is a Grade II listed structure. It spans the Liverpool to Manchester railway line and is widely accepted as the world's first bridge to cross a railway line at an angle. Network Rail insisted that they fully appreciated and understood the importance of Skew Bridge - both from a railway history perspective and as an aesthetically significant asset in Rainhill. They also pledged, from now on, to use sandstone more befitting of the existing structure.





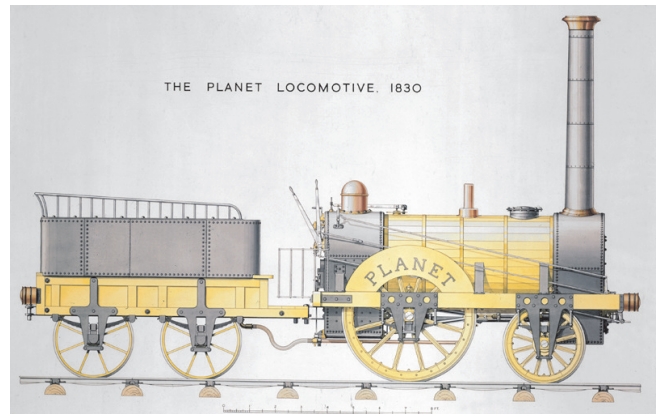
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PRODUCTS OF THE WORKS

HMS Erebus and HMS Terror were Hecla-class bomb vessel designed by Sir Henry Peake and constructed by the Royal Navy in Pembroke dockyard, Wales in 1826 and in the Davy shipyard, Devon in 1813. Each were between 325 and 375 tons and were armed with two mortars - one 13 in (330 mm) and one 10 in (250 mm) - and 10 guns. Both were fitted for Antarctic service in 1840 and completed a number of successful expeditions to the continent.

For their voyage in 1845, to the Arctic under Sir John Franklin, Erebus and Terror were outfitted with steam engines (converted from railway locomotive engines), and had iron plating added to their hulls. Sir John Franklin sailed in Erebus, in overall command of the expedition, and Terror was again under the command of Francis Crozier. The expedition was ordered to gather magnetic data in the Canadian Arctic and to complete a crossing of the Northwest Passage, which had already been charted from both the east and west but had never been entirely navigated.

Both engines were of the "Planet" type originally developed by Robert Stephenson & Co and whereas "HMS 'Terror' had a four-coupled (0-4-0) version (strictly a 'Samson' type) which was used on the London & Birmingham Railway as a contractor's engine from about 1835 until sold to the Royal Navy in 1845." HMS "Erebus," on the other hand, was fitted with a 2-2-0 "Planet" (see illustration above), but not one built by Stephenson; it was rather a copy produced by the firm of Marshalls of Wednesbury for the London & Greenwich Railway in 1836. Both engines had seen about a decade of service, and were



in a sense being "retired" in order to reduce older rolling stock. While they were of closely similar types, the array of the axles, as well as the variation in the height of the axleboxes would enable them to be readily distinguished.

The expedition sailed from Greenhithe on 19 May 1845 and the ships were last seen entering Baffin Bay in August 1845. The disappearance of the Franklin expedition set off a massive search effort in the Arctic. The broad circumstances of the expedition's fate were first revealed when Hudson's Bay Company doctor John Rae collected artefacts and testimony from local Inuit in 1853. Later expeditions up to 1866 confirmed these reports. Both ships had become icebound and were abandoned by their crews, in total about 130 men, all of whom subsequently died of exposure and starvation while trying to trek overland to Fort Resolution, a Hudson's Bay Company outpost 600 mi (970 km) to the southwest. Subsequent expeditions up until the late 1980s, including autopsies of crew members, also revealed that their canned rations may have been tainted by both lead and botulism. Oral reports by local Inuit that some of the crew members resorted to cannibalism were at least somewhat supported by forensic evidence of cut marks on the skeletal remains of crew members found on King William Island during the late 20th century.

The remains of the ship have yet to be found, but are listed by Parks Canada as a national historic site. On 15 August 2008, Parks Canada, an agency of the Government of Canada, announced a CDN\$75,000 six-week search, deploying the icebreaker CCGS Sir Wilfrid Laurier with the goal of finding the two ships. The search is also intended to strengthen Canada's claims of sovereignty over large portions of the Arctic. Further attempts to locate the ships were undertaken in 2010, 2011, and 2012, all of which have failed to locate the ships' remains.



'Erebus' and the 'Terror' in New Zealand, August 1841, by John Wilson Carmichael.