# Ilkley U3A Railway Group Visit to Darlington

## Tuesday 17th April 2018

39 members departed by coach early morning from Addingham, Ilkley, Burley and Otley.

Coffee and toilets on arrival at Head of Steam Museum, Darlington ahead of a busy and varied visit.

Head of Steam museum is located on the 1825 route of the Stockton and Darlington Railway, which was the world's first steam-powered passenger railway.


Happily no pictures were submitted of the visit to the toilets


But these are fine examples of those used by the original visitors to the station.

# Victorian Toilets

From the mid nineteenth century, as purpose built stations were developed, toilet facilities were incorporated. As late as the 1860's – 1870's long distance trains made many intermediate stops (for up to 30 – 40 minutes at larger stations), as railway companies saw little need to use revenue earning space for lavatories in their coaches.

There was great pressure on station lavatories which (as here) needed to be fairly large to handle all the passengers rushing in when the train stopped at the station. Although the gentlemen's toilets – opened in 1873 as part of the extensions to the station - were built as a separate room, provision for ladies was much more discreet. Their facilities were incorporated into the ladies waiting room, which in this station was originally located in the current public toilets area.

This gentlemen's lavatory made extensive use of slate, tiles and cast iron and provided some of the most up to date facilities at the time. It did not, however, appear to have included sinks or other washing facilities. Within the lavatory is an attendant's room – the attendant being responsible for the general cleaning and washing of the toilets, for looking after cloaks and items of luggage and for controlling entry. Initially, the attendants might have received tips until the production of the 'penny in the slot' machines in the early 1900s.

The toilets remained in use, although latterly without an attendant, until the 1960s when the station became an unmanaged halt. Many of the room fittings are original, including the urinals along the two walls – the one in the centre of the room is a wooden replica! The water closet dates from 1930s although it has an earlier (Victorian) 'boxed in' cistern.

A walk across the field to the Hopetown Carriage works built for the Stockton & Darlington Railway

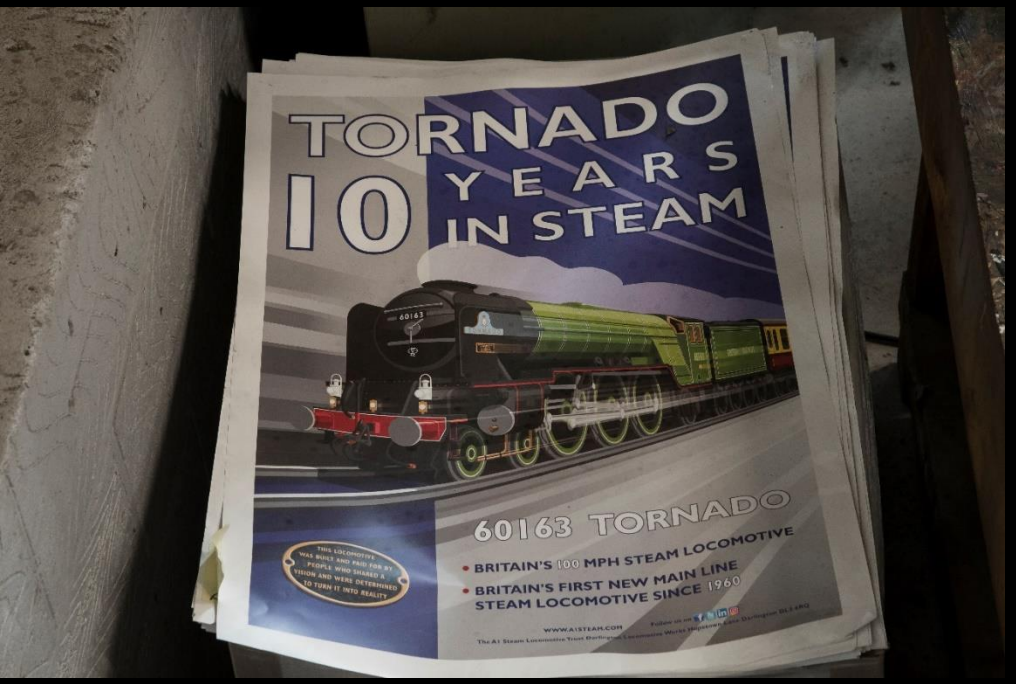
**The A1 Trust occupies the left side of the building.**
**The North Eastern Locomotive Preservation Group occupies the right side.**
**Our group split in two to visit each of these areas in turn.**

# Building a new Gresley class P2 No. 2007 Prince of Wales
## An extract from the A1 Trust Web site

The Gresley class P2 2-8-2 ‘Mikados’ were the most powerful express passenger locomotives to operate in the UK. They were designed by Sir Nigel Gresley to haul 600 ton trains on the arduous Edinburgh to Aberdeen route. Sadly, the design was never fully developed and they were scrapped by 1961.


No. 2001 *Cock o’ the North* entered traffic in May 1934 and was fitted with a Crosby chime whistle that had been presented to Gresley some years before.

The official press launch took place at King’s Cross on the 1st June 1934 and in the following few days the locomotive was displayed at Ilford, Aberdeen and Edinburgh with people flocking to see the new locomotive.




**As the builders of new main line steam locomotive No. 60163 *Tornado*, we have decided to set ourselves a new challenge: to develop, build and operate an improved Gresley class P2 Mikado steam locomotive for main line and preserved railway use.**

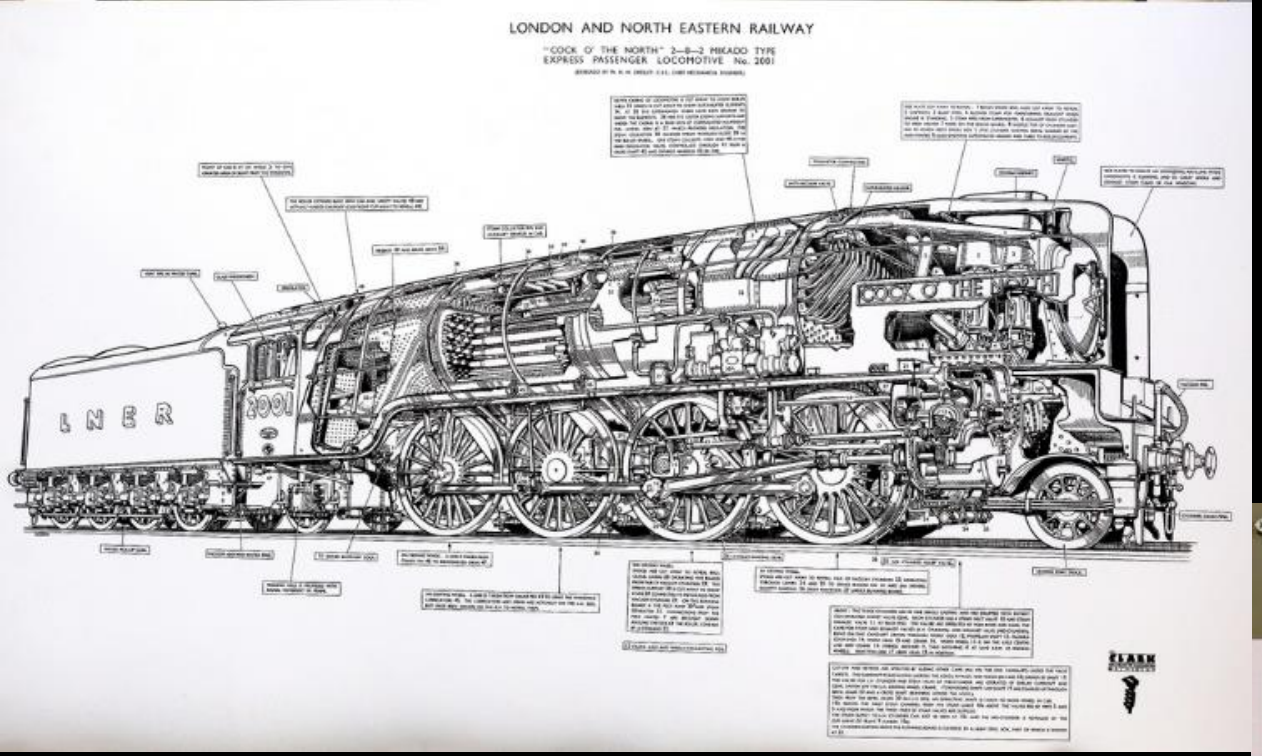
**We use the latest computer aided design and modelling techniques to realise the potential of the original design and estimate that No. 2007 *Prince of Wales* will cost around £5m to build over a 7-10 year period.**

Our guide was David Elliott, Trustee and Director of Engineering of The A1 Steam Locomotive Trust.

Absolutely fascinating explanations of the challenges being faced and how they are being addressed.

A real privilege to see behind the scenes of this exciting project.

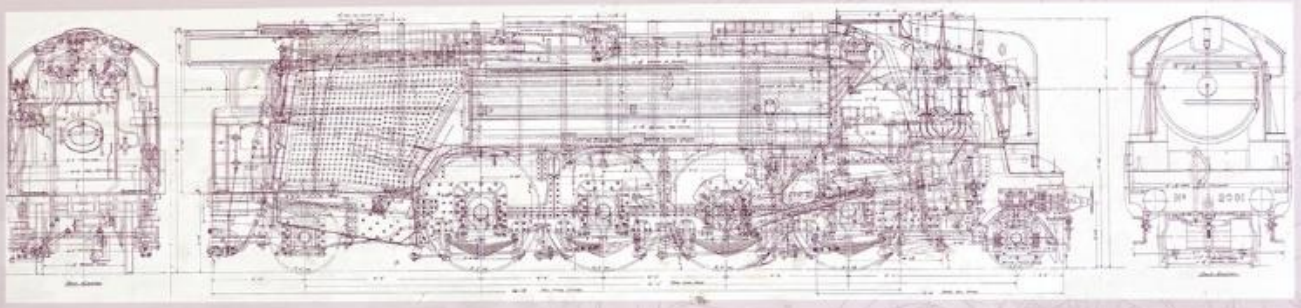

Gemma Braithwaite (who helped to organise our visit) demonstrates the computer aided design used to plan the build of the new locomotive.




**How it used to be done!**

# No. 2001 Cocko' the North

## 2-8-2 Three Cylinder Express Passenger Engine



| Cylinders, Motion & Valves: | |
|---|---|
| Cylinders (3) | 21" X 26" |
| Motion | Lentz Rotary Cam |
| Steam Valve | 8" Poppet |
| Exhaust Valve | 9" Poppet |

| Boiler: | |
|---|---|
| Max Diameter | 6' 5" |
| Distance between tubeplates | 18' 11 3/4" |
| Firebox Length | 10' 9" |
| Pitch | 9' 4 1/2" |
| Diagram No. | 106 |

| Boiler & Heating Surface: | |
|---|---|
| Firebox | 6' 5" |
| Tubes (121 X 2 1/4") | 18' 11 3/4" |
| Flues (43 X 5 1/4") | 10' 9" |
| Total Evaporative | 9' 4 1/2" |
| Superheater (43 X 1.244") | 106 |
| Total | 3490.5 sq.ft. |
| Grate Area | 50 sq.ft. |
| Boiler Pressure | 220 psi |

| Wheels & Wheelbase | |
|---|---|
| Leading Wheels | 3' 2" |
| Coupled Wheels | 6' 2" |
| Trailing Wheels | 3' 8" |
| Tender Wheels | 43,462 lb. |
| Tractive Effort (at 85% boiler pressure) | 43,462 lb. |
| Length over buffers | 73' 8 3/8" |
| Engine Wheelbase | 37' 11" |
| Tender Wheelbase | 16' 0" |
| Total Wheelbase | 64' 0 7/8" |

| Weight (full) | |
|---|---|
| Engine | 110T 5cwt |
| Tender | 55T 6cwt |
| Adhesive | 80T 12 cwt |
| Max Axle Load | 20T 10cwt |
| Water Capacity | 5000 Gallons |
| Coal Capacity | 8T 0cwt |

Research and Archive


Thane of Fife


2
S.W.L.
20 TONNES


2007
MATTERSON
S.W.L.
20 TONNES
MATTERSON
S.W.L.
20 TONNES
SWL 40 TONNES
DELLIOT
SKF

Note the whistle. Testing its tone under steam will involve taking the locomotive to a remote location on a heritage railway to save upsetting the locals!

# Bolts not rivets


2007
Clarke


2007


2007


PRINCE OF WALES
2007

# Making the trims to edge to the cab.

The North Eastern Locomotive Preservation Group (NELPG) was formed in 1966 with the aim of preserving some of the steam locomotives still working in the North East of England.

Norman Crocket, a long term volunteer at NELPG was our guide.

The contrast between left and right side of Hopetown was particularly striking.

At the time of our visit only one engine was in the works for restoration.

The N.E.R. E1 Class of locomotive is unique in that it was constructed over a period of 54 years, by 3 different railway companies.

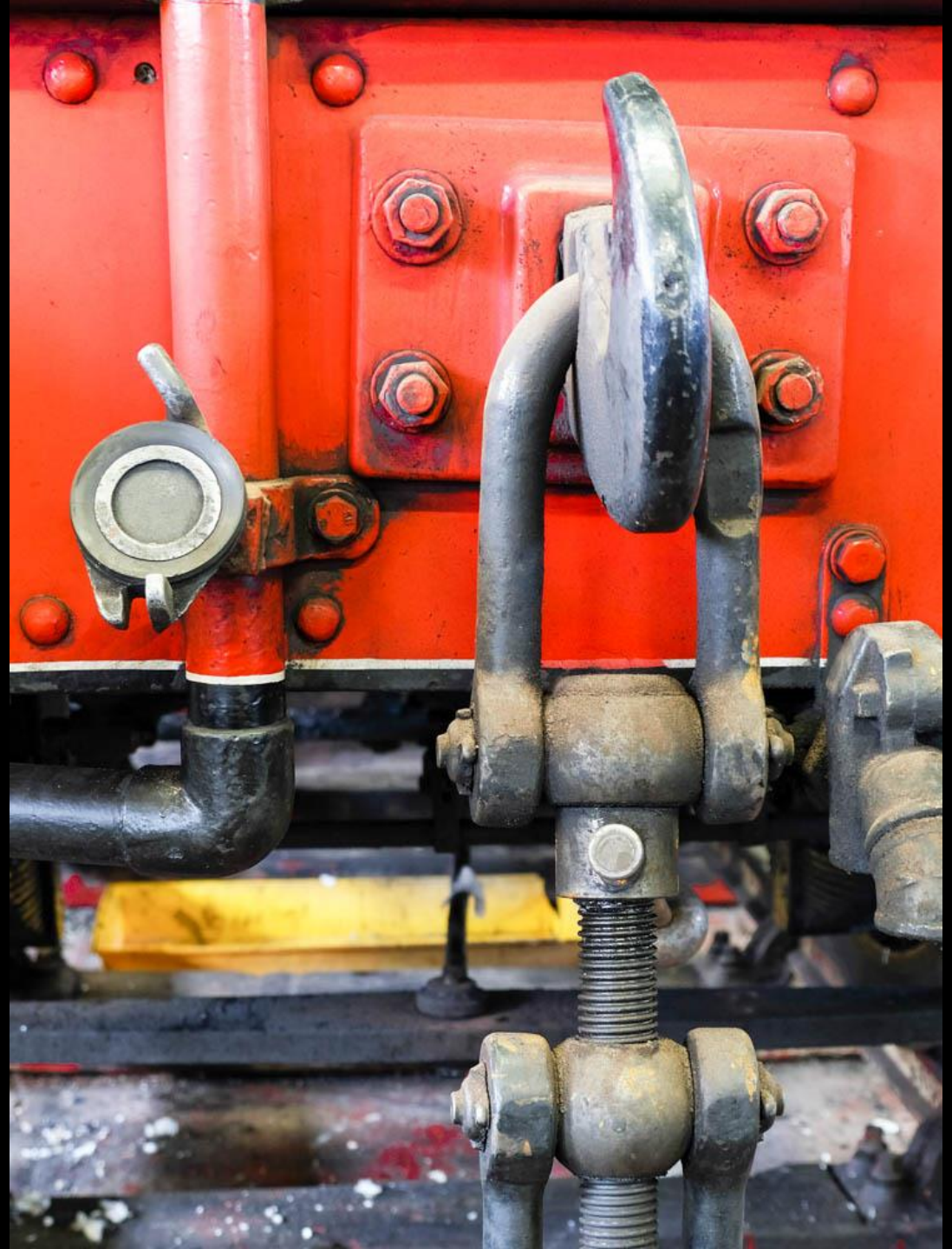
69023 became the only survivor when it was purchased by Mr. R. Ainsworth for preservation and delivered to the Keighley and Worth Valley Railway in 1969.


uvex


No.2


69023
NORTH EASTERN RAILWAY
RA 2


NORTH EASTERN RAILWAY.




HEINZ
BEANZ

Number and date on the wheels with close inspection!


NELPG
TANGYE
BRASS
MADE IN ENGLAND


BLUE PETER
working Life
BLUE PETER
in preservation
North Eastern Locomotive Preservation Group
RTB6508


J72
LUB
OIL
J72
CYL
FRONT


RF


ROSES


BLUE PETER
working Life


L.N.E.
PLATFORM 10 TICKETS


WAY OUT
CROSS THE LINE
BY THE SUBWAY

Back to Head of Steam for a buffet lunch before splitting again. One group off the Hitachi Train Assembly Plant at Newton Aycliffe and the other to visit Skerne bridge and the exhibits in the museum.

# Sarah from the Head of Steam Museum leads the walk to Skerne Bridge and highlights points of interest along the way


SKERNE BRIDGE
S & DR 1825


TRANSPORT TRUST
SKERNE BRIDGE
Built 1825
Designed by Ignatius Bonomi for
the Stockton & Darlington Railway.
The oldest railway bridge in the
world still in use as such
For further information visit
www.transportheritage.com
TRANSPORT HERITAGE SITE


**As depicted on the back of an old fiver**

Introduced in the 1990's this £5 note depicts Locomotion crossing the Skerne Bridge with the Stockton and Darlington Railway's opening train in 1825. The word LOCO-MOTION appears in small lettering between the horse and engine and under the arch of Skerne Bridge is a stationary-engine house, taken from the corporate seal of the S&DR

# SKERNE BRIDGE

## Route of the 1825 Stockton and Darlington Railway

The Skerne Bridge is on the original route of the Stockton & Darlington Railway, and is the oldest railway bridge in the world that is still in railway use. The railway opened on 27th September 1825, and was the first line to be authorised by Parliament to carry goods, freight and passengers by steam traction.

The line was built to carry a wide range of traffic including coal from the South Durham coalfield to domestic markets along the route including Darlington and Stockton. Coal was also exported by ship to London and elsewhere from the harbour at Stockton, and after 1830 from the newly created Port Darlington, soon to become better known as Middlesbrough.

Steam locomotives hauled coal trains from 1825, but due to the locomotives' initial unreliability passengers were carried by horse-drawn coaches until 1833 by which time the S&DR had obtained more capable passenger engines such as The Globe. During the 19th century the railway system expanded considerably and Darlington became a major transport hub.

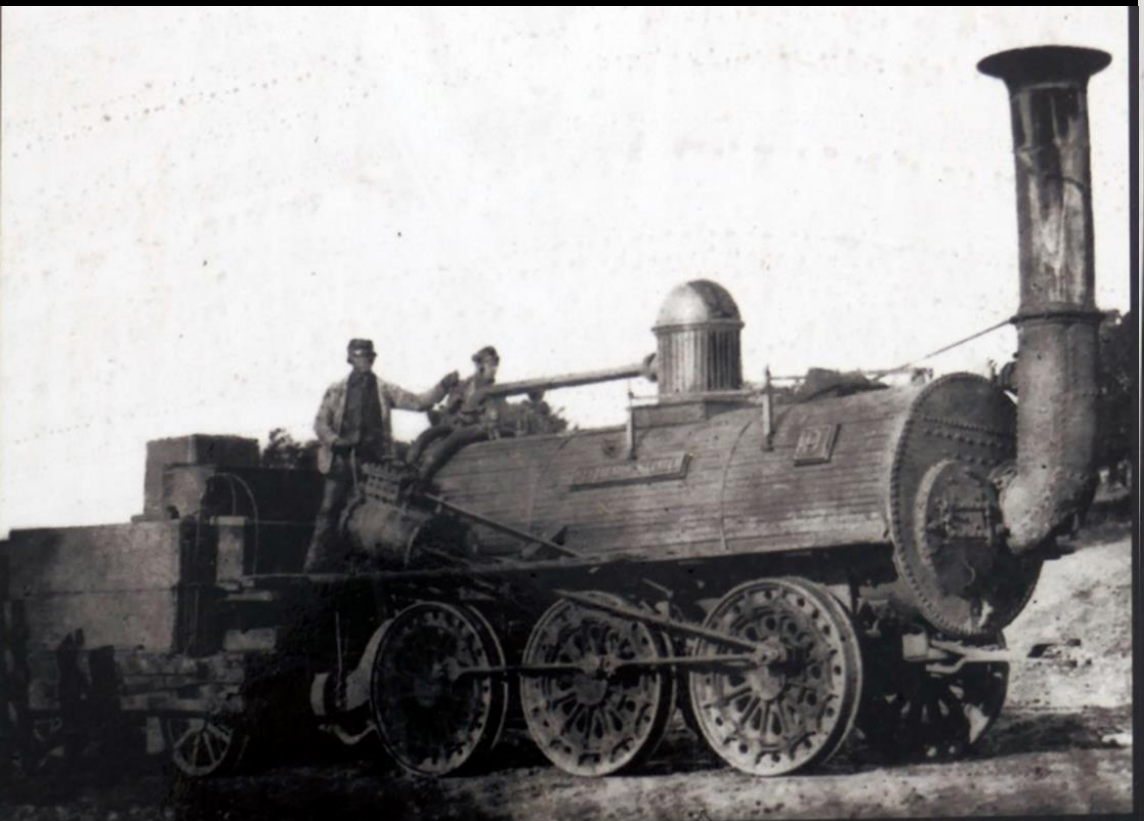
Today, the bridge is still used by passenger trains travelling between Darlington and Bishop Auckland, and by trains sent from the Hitachi train construction site at Newton Aycliffe to join the mainline and go into service on the rail network.

This very striking and detailed painting by the Darlington artist John Dobbin portrays the opening of the line in 1825, with the first train hauled by a steam locomotive, *Locomotion No.1*, crossing the Skerne Bridge. The painting was completed in 1871, and is now on permanent display in Darlington Railway Museum.


The Stockton & Darlington Railway's company seal was adopted in 1821, when the line was still in the planning stage, and before the decision had been taken to use steam locomotives. The horse-drawn coal wagons are similar to those used on earlier railways and wagonways in North-East England. The Latin motto may be translated as "At private risk for public benefit".

A very early photograph of the type of Stockton & Darlington Railway locomotive that would have been seen crossing the bridge in the mid-19th century. This is locomotive No. 9, unusually named Middlesbro. It was built by the Darlington engineer William Lister in 1839 and worked on the line until 1865.

Passenger traffic on the line increased rapidly, and in 1842 a new station was built at North Road. It was expanded several times in the following years, but the original building still survives. It houses the Darlington Railway Museum, where many Stockton & Darlington items are on display, including the locomotives No. 1 *Locomotion* and No. 25 *Derwent*, as well as John Dobbin's painting. This photograph, taken on a winter's day in 1895 shows a line of horse-drawn cabs waiting for passengers to arrive.



A very early photograph of the type of Stockton & Darlington Railway locomotive that would have been seen crossing the bridge in the mid-19th century. This is locomotive No. 9, unusually named *Middlesbro*. It was built by the Darlington engineer William Lister in 1839 and worked on the line until 1865.

Passenger traffic on the line increased rapidly, and in 1842 a new station was built at North Road. It was expanded several times in the following years, but the original building still survives. It houses the Darlington Railway Museum, where many Stockton & Darlington items are on display, including the locomotives No. 1 *Locomotion* and No. 25 *Derwent*, as well as John Dobbin's painting. This photograph, taken on a winter's day in 1895 shows a line of horse-drawn cabs waiting for passengers to arrive.


Harrowgate
12 mins
1 min


STEPHENSON
STREET
PK64 OSG


WAN POOL

Back in the museum, a chance to see more fascinating items and revisit some of our own memories


C.S.M.S.L.WASH
R. SIGNAL


Please only use a 10p
TEN PENCE
L.N.E.
PLATFORM 10p TICKETS.
TO BE GIVEN UP ON LEAVING THE PLATFORM
Platform Tickets are issued on the condition that the Railway Company will not be liable to the holder for any injury or loss, personal or otherwise, however sustained.
PRESS PENNY IN SLOT
PULL HANDLE.
Bent or Battered Coins must not be used
Souvenir

60131 Osprey
60132 Marmion
60133 Pommern
60134 Foxhunter
60135 Madge Wildfire
60136 Alcazar
60137 Redgauntlet
60138 Boswell
60139 Sea Eagle
60140 Balmoral
60141 Abbotsford
60142 Edward Fletcher
60143 Sir Walter Scott
60144 King's Courier
60145 Saint Mungo
60146 Peregrine
60147 North Eastern
60148 Aboyeur
60149 Amadis
60150 Willbrook
60151 Midlothian
60152 Holyrood
60153† Flamboyant
60154† Bon Accord
60155† Borderer
60156† Great Central
60157† Great Eastern
60158 Aberdonian
60159 Bonnie Dundee
60160 Auld Reekie
60161 North British
60162 Saint Johnstoun

Total 50

49

## 4-6-2 0P7F (A2/1: 7P6F) Class A2

**A2/2*** Introduced 1943. Thompson rebuild of Gresley Class P2 2-8-2 (introduced 1934).
Weight: Loco. 101 tons 10 cwt.
Pressure: 225 lb. Su.
Cyls.: (3) 20" × 26".
Driving Wheels: 6' 2".
T.E.: 40,320 lb.

**A2/1†** Introduced 1944. Development of Class A2/2, incorporating Class V2 2-6-2 boiler.
Weight: Loco. 98 tons.
Pressure: 225 lb. Su.
Cyls.: (3) 19" × 26".
Driving Wheels: 6' 2".
T.E.: 36,385 lb.

**A2/3‡** Introduced 1946. Development of Class A2/2 for new construction.
Weight: Loco. 101 tons 10 cwt.
Pressure: 250 lb. Su.
Cyls.: (3) 19" × 26".
Driving Wheels: 6' 2".
T.E.: 40,430 lb.

**A2§** Introduced 1947. Peppercorn development of Class A2/2 with shorter wheelbase. (No. 60539 built with double blast pipe.)

**A2**** Rebuilt with double blast pipe and multiple valve regulator.
Weight: Loco. 101 tons.
Pressure: 250 lb. Su.
Cyls.: (3) 19" × 26".
Driving Wheels: 6' 2".
T.E.: 40,430 lb.
Tender weight (all parts): 60 tons 7 cwt.
Walschaerts valve gear. P.V.

60500‡ Edward Thompson
60501* Cock o' the North
60502* Earl Marischal
60504* Mons Meg
60506* Wolf of Badenoch
60507† Highland Chieftain
60508† Duke of Rothesay
60509† Waverley
60510† Robert the Bruce
60511‡ Airborne
60512‡ Steady Aim
60513‡ Dante
60514‡ Chamossaire
60515‡ Sun Stream
60516‡ Hycilla
60517‡ Ocean Swell
60518‡ Tehran
60519‡ Honeyway
60520‡ Owen Tudor
60521‡ Watling Street
60522‡ Straight Deal
60523‡ Sun Castle
60524† Herringbone
60525§ A. H. Peppercorn
60526** Sugar Palm





60527§ Sun Chariot
60528§ Tudor Minstrel
60529** Pearl Diver
60530§ Sayajirao
60531§ Bahram
60532** Blue Peter
60533** Happy Knight
60534§ Irish Elegance
60535§ Hornet's Beauty
60536§ Trimbush
60537§ Bachelor's Button
60538** Velocity
60539§ Bronzino

Total

| | | | |
|---|---|---|---|
| Class A2 | 15 | Class A2/2 | 4 |
| Class A2/1 | 4 | Class A2/3 | 15 |

23

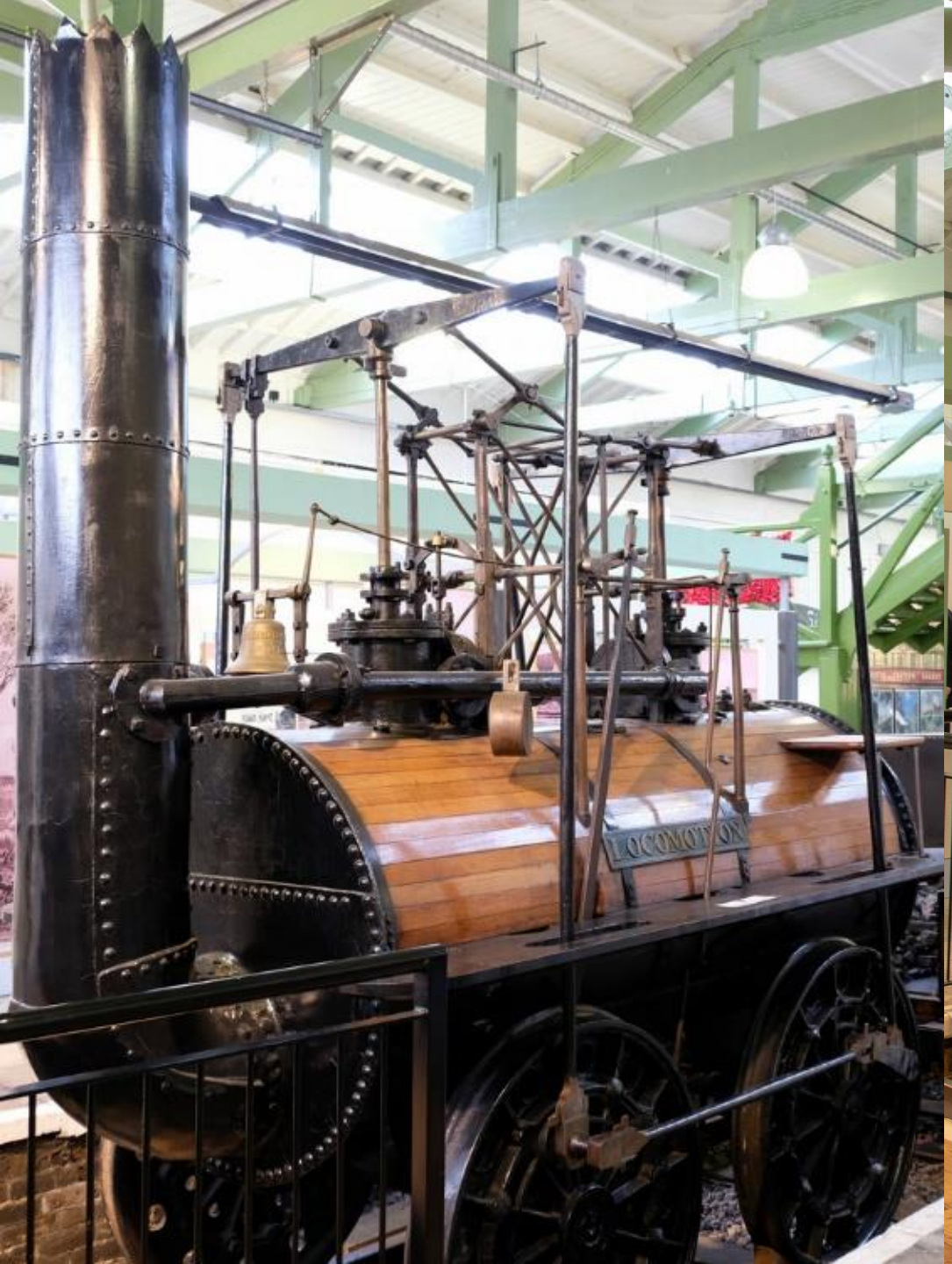
## 2-6-2 7P6F Class V2

Introduced 1936. Gresley design.
Weight: Loco. 93 tons 2 cwt.
Tender 52 tons.
Pressure: 220 lb. Su.
Cyls.: (3) 18½" × 26".
Driving Wheels: 6' 2".
T.E.: 33,730 lb.
Walschaerts valve gear and derived motion. P.V.

60800 Green Arrow
60801
60802
60803
60804
60805
60806
60807
60808
60809 The Snapper, The East Yorkshire Regiment, The Duke of York's Own
60810
60811
60812
60813
60814
60815
60816
60817
60818
60819
60820
60821
60822
60823
60824
60825
60826
60827
60828
60829
60830
60831
60832
60833
60834
60835 The Green Howard, Alexandra, Princess of Wales's Own Yorkshire Regiment
60836
60837
60838
60839
60840
60841
60842
60843
60844
60845
60846
60847 St. Peter's School York, A.D. 627
60848
60849
60850
60851
60852
60853
60854


LEEMING BAR
STEPHE
Nº 901
CLASS


901


LOCOMOTION


LOCOMOTION

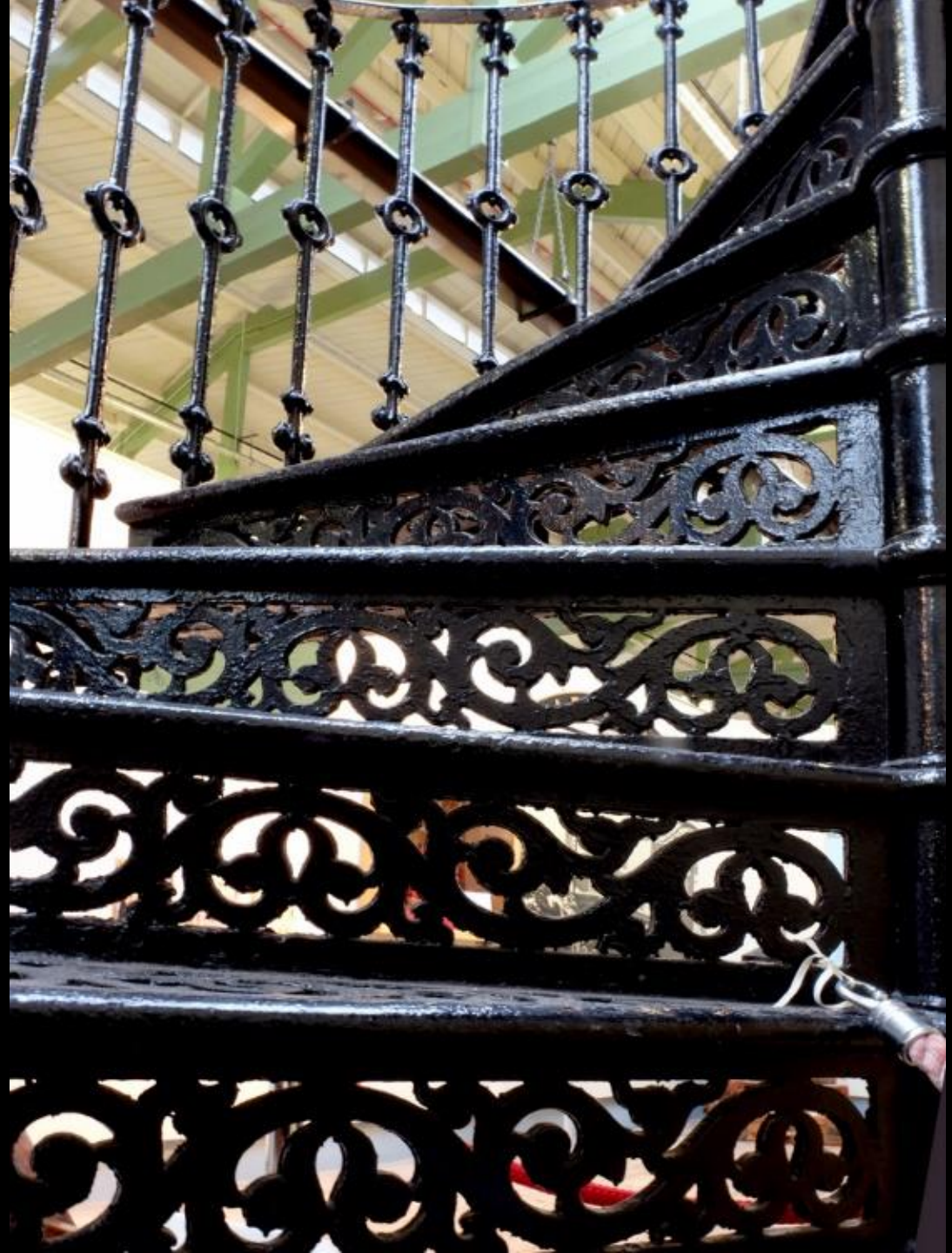

2
4
TRAIN FOR
TRAIN FOR
DARLINGTON
REDCAR SALTBURN
EXCURSION
SEATON CAREW


PATONS


STAINMORE SUMMIT
HEIGHT 1370 FEET


No. 1463

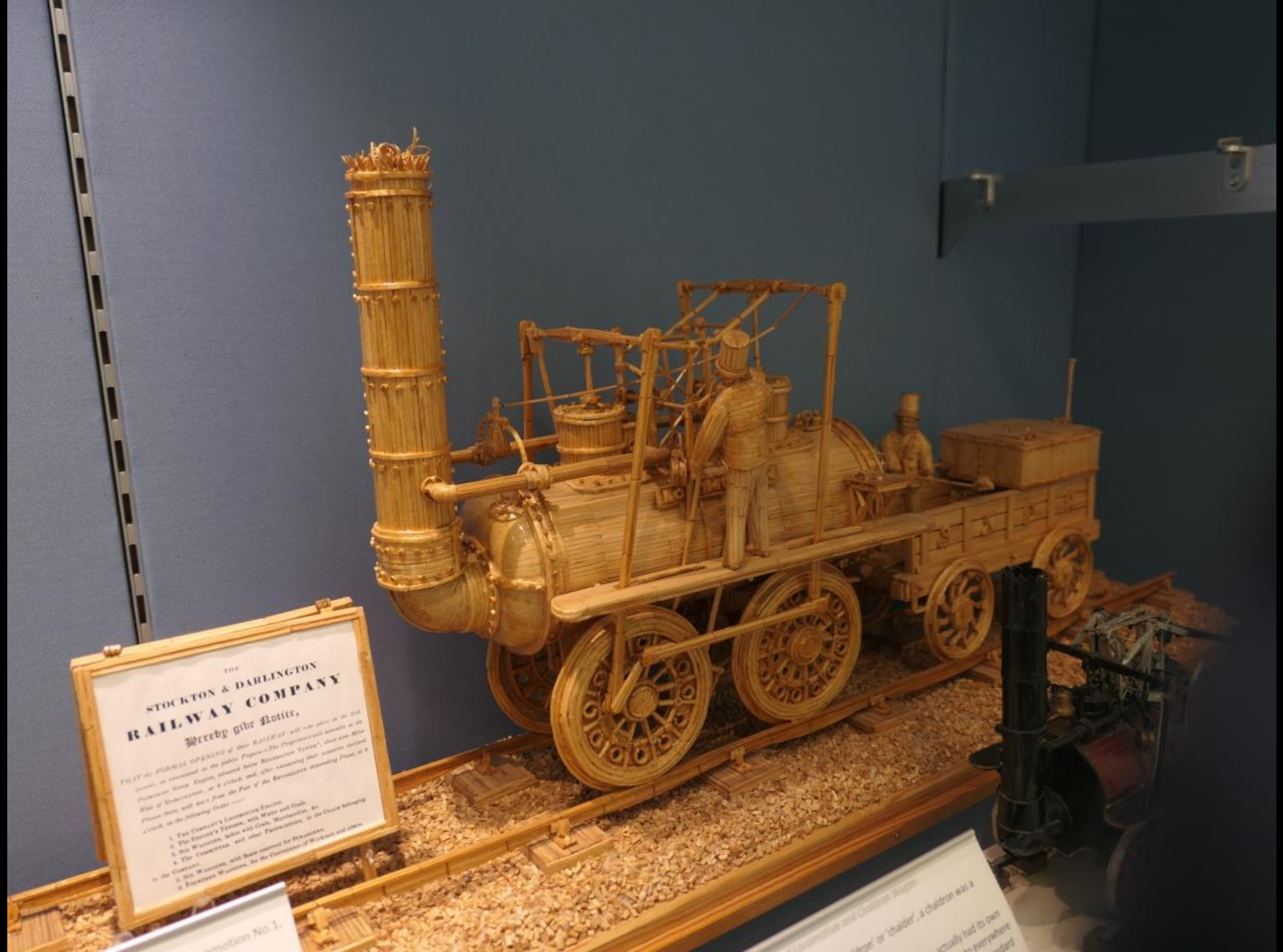

extinguisher
FOAM




N
E

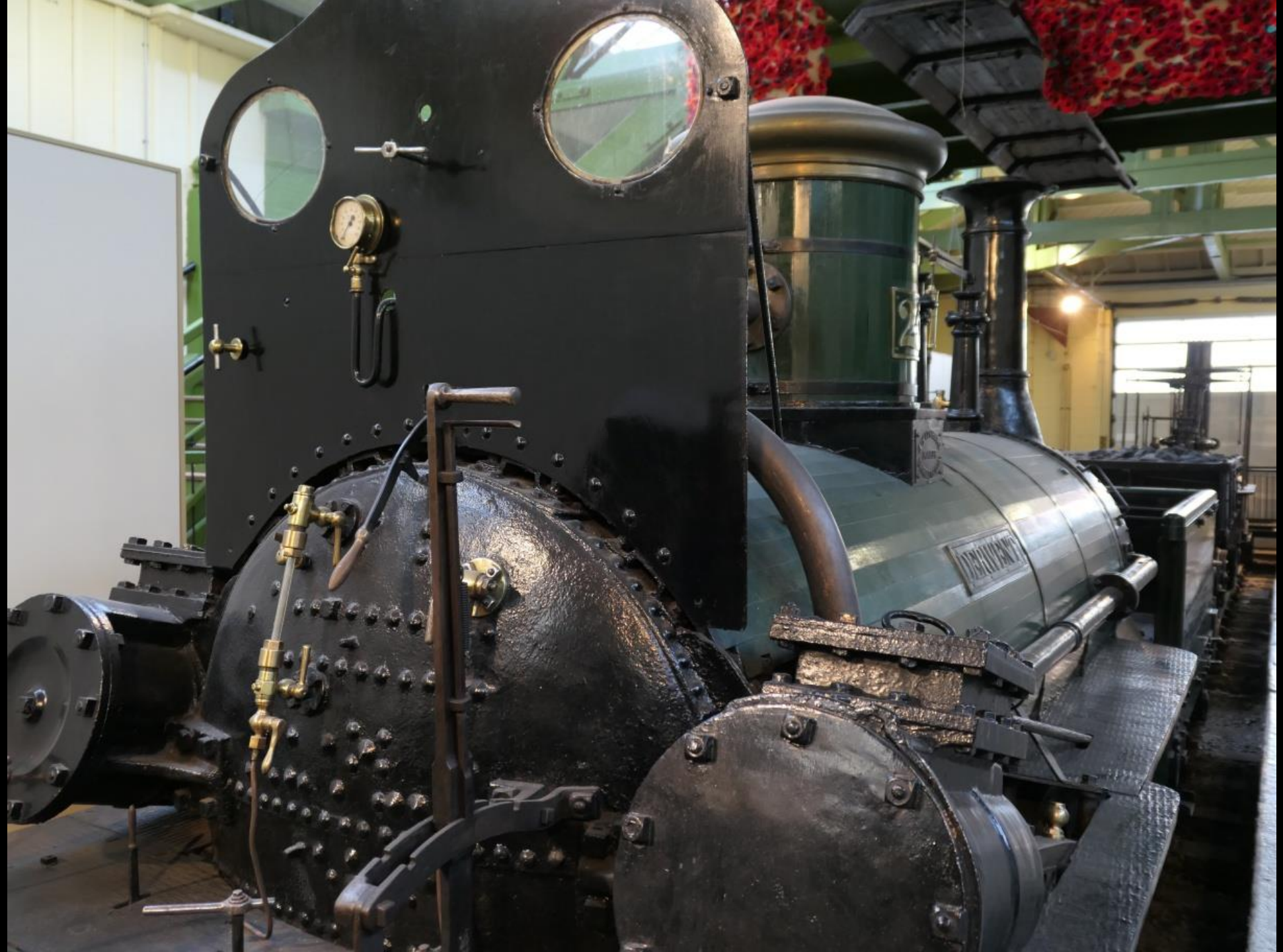

N E R
SEE YORKSHIRE
BY TRAIN
B6


Made in Darlington
No 1453
25
DERWENT


THE
STOCKTON & DARLINGTON
RAILWAY COMPANY
Hereby give Notice,


LONDON NORTH EASTERN RAILWAY 1944
BUILT BY AND ON LOAN TO LONDON NORTH EASTERN RAILWAY Co 1944 DONCASTER WORKS No 1959
LONDON NORTH EASTERN RAILWAY Co 1945
L N E R BUILT 1922 S R
LONDON NORTH EASTERN RAILWAY Co No 2009 DARLINGTON 1947
No 2090 DARLINGTON 1949
No 62007 1948
NORTH EASTERN No 2039 DARLINGTON 1948 REGION
REBUILT
9640
8566
5586
7461
5930
60821
5948
9697
60937
1756
3965
2479
88035
87674
63438
5315
4560
65855
2183
687
68407
ROBERT STEPHENSON 6848 1938 & HAWTHORNS LD
ROBERT STEPHENSON & HAWTHORNS LD
BLACK HAWTHORN & Co LIMITED 1068 ENGINEERS 1894 GATESHEAD ON TYNE
JOHN F WAKE DARLINGTON
R & W HAWTHORN LESLIE & Co LD


KITCHING
MAKER
DARLINGTON
DERWENT




25
A·KITCHING
MAKER
DARLINGTON
DERWENT


CAPSTAN


LONDON & NORTH EASTERN
RAILWAY
901
DARLINGTON WORKS 1913


1
THE
CHEMICAL & INSULATION
CO. LTD.

The second group visited the Hitachi Train Assembly Plant at Newton Aycliffe. Our guide for the visit was Nina Harding, Communications Manager.

We all left with a far greater knowledge and understanding of the work undertaken at Newton Aycliffe, and a high respect for the positive culture which obviously runs through the company.

The long term commitment to the training of many young people from the local area through sponsorship of a technical college was particularly impressive.

The body shells arrive at Teesside Port from Japan and taken by road to Newton Aycliffe.

Vehicles assembled on site include Class 800s for Great Western Railway and Class 385s for ScotRail with Class 800s shortly to commence construction for use on East Coast mainline.

The plant took 665 days from the start of construction to opening in 2015 and now employs over 1,100 staff over two shifts.

Everything was ordered and clean.  Safety and efficiency was evident everywhere.


CAUTION!!!
BOILING WATER


HITACHI

Photography was restricted but we were allowed to take some overview shots.

We were not able to inspect a finished vehicle as they were all undergoing tests.


385 115


U3A