

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Two cylindrical compound horizontal S.C.*  
 Made by *Messrs Palmers Coy. Limited*  
 When *Jan'y 11<sup>th</sup> 1878* At *Saraw on Tyne*  
 Diameter of cylinder *32" x 60"* Length of stroke *39"*  
 No. of revolutions per minute *40*  
 Point of cut off *7/8<sup>th</sup> of stroke*  
 Diameter of screw shaft *10 3/4"*  
 Diameter of crank shaft journals *10 3/4" crank pins 11"*  
 Diameter of screw, or of paddle wheel *15' 6"*  
 Pitch of screw *15' 9" to 18' 0"*  
 No. of blades, *(14)* Total surface *57 sq. feet*  
 No. of bilge pumps *(2)* and sizes *4 1/4" dia 18" stroke*  
 Do they pump from each compartment *Eng. Room, aft well and main hold.*

Are all the bilge suction pipes fitted with roses *Yes 1 small Bayes*  
 No. of feed pumps *(2)* and sizes *4 1/4" dia 18" stroke*  
 What gauges are there attached to the engines and boilers ... *1 Steam strokehold for both boilers 1 do for each boiler Eng. Room 1 vacuum gauge*  
 Description and size of Donkey Pumps ... *"Ballast" 8" dia 12" stroke D.A. "Boiler" 4 " 8 " D.A.*  
 Where do they pump from ... *"Ballast" from Tanks, Eng. Room & Sea Boiler from Sea. Not well used same as main Bilge pumps*  
 No. of bilge injections *(1)* and sizes *6 1/4" dia*  
 Are they connected to air, or circulating pumps *circulating*  
 Is there a hand pump in the engine room *No*  
 Can it be worked by the main engines *Boiler donkey can be used*  
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes. fitted to coupling on iron pipe*

### MAIN BOILERS.

Number *Two* Description *Cylindrical Tubular*  
 Made by *Messrs Palmers Coy.*  
 When *Jan'y 11<sup>th</sup> 1878* At *Saraw on Tyne*  
 Working pressure *75 lbs per sq. inch*  
 Tested by hydraulic pressure to *150 lbs*, Date *Dec 15/77*  
 Description of super-heating apparatus *None Steam Receiver*  
 Can each boiler be worked separately *Yes.*

Can the <sup>receiver</sup> super heater be shut off and the boilers worked separately *No*  
 Description and area of safety valves on each boiler ... *two Spring valves "Palmers" 4" dia = 25 sq. inches*  
 No. of square feet of fire-grate surface in each boiler *45 sq. feet*  
 Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes,*  
 Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. *all except rose in holds*

### DONKEY BOILER.

Description *Vertical cylindrical (14) cross tubes*  
 Where fixed *Stoke hold*  
 Working pressure *75 lbs per sq. inch*

Tested by hydraulic pressure to *150 lbs reported*, Date *23<sup>rd</sup> Nov 77*  
 Description and area of safety valves *(1) dead weight = 3 1/2" = 9.6*  
 No. of square feet of fire grate *18 sq. feet*

### PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *Yes*  
 Are they Kingston valves or common cocks ... *3 Stop valves rest are common cocks,*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Yes*  
 Are the discharge pipes above or below the deep water line *above*  
 Are they each fitted with a discharge valve on the plating of the vessel *Yes*

What pipes are carried through the bunkers *None*  
 How are they protected *---*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Jan'y 1878*  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes by master works*  
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Yes,*

Manufacturer. *Palmer's Shipbuilding & Iron Works Limited*  
*William Gibbs*

I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *"North Britain"* owned by *Mr Hugh Roberts*  
 of the Port of *London* of *1118.39* Tons Register, and *1175* Registered Horse Power,  
 and that they have been carefully inspected and examined by me at *Saraw on Tyne*  
 and found to be at this date, viz., *Jan'y 11<sup>th</sup> 1878* in good order and safe working condition.

Amount of Fee for Survey ... £ *8 15 0*  
 (Travelling Expenses, if any, £ *0 5 0*)

Engineer Surveyor to Lloyd's Register of Shipping.