

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *4 Cylinder Compound Beamless S. C.*
 Made by *R & W. Hawthorn*
 When *June 14-1869* At *Newcastle*
 Diameter of cylinder *21" x 38"* Length of stroke *30"*
 No. of revolutions per minute *65*
 Point of cut off *16"*
 Diameter of screw shaft *8"*
 Diameter of crank shaft journals *4 3/4"*
 Diameter of screw, or of paddle wheel *11' 0"*
 Pitch of screw *15 ft increasing to 17 ft*
 No. of blades, *(4)* Total surface *36.5 sq. ft.*
 No. of bilge pumps *(12)* and sizes *4" dia, 17" stroke,*
 Do they pump from each compartment *Engine Room*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *(12)* and sizes *4" dia, 18" stroke,*
 What gauges are there attached to the engines and boilers ... *(1) on each boiler Engine room*
 Description and size of Donkey Pumps ... *(1) in stoke hold*
(1) vacuum gauge Engine room
No (1) 4" dia, 8" stroke D. A
(2) 8 dia, 12" stroke D. A
 Where do they pump from ... *No 1 Boiler Donkey Sea. Eng. Bilge*
+ Tanks
No 2 Ballast donkey from Tanks
+ Engine room Bilge
 No. of bilge injections *(1)* and sizes *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 *No 1 donkey used*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *(12)* Description *Cylindrical Tubular*
 Made by *Palm & Co.*
 When *March 18 64* At *Liverpool or Lyne*
 Working pressure *45 lbs per sq. inch*
These Boilers sufficient for 80 lbs per sq. inch
 Tested by hydraulic pressure to *150 lbs*, Date *17th Jan 64*
 Description of super-heating apparatus *None*
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *None*
 Description and area of safety valves on each boiler ... *(2) Spring safety valves by Messrs Palm & Co.*
each 3 1/2" dia = 17.5 sq. inches
 No. of square feet of fire-grate surface in each boiler *33.0 sq. ft.*
 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 ... *Yes*

DONKEY BOILER.

Description *Vertical Cyl- 3 cross tubes*
 Where fixed *Upper deck*
 Working pressure *46.8 lbs*
Made by Clarke Chapman & Gurney, Gateshead

Tested by hydraulic pressure to *100 lbs*, Date *6th Jan 64*
 Description and area of safety valves *(1) dead weight = 3 1/2" dia 8.2*
 No. of square feet of fire grate *15.9 sq. ft.*

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 ... *(2) Stop valves used 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 *March 15th 1864*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *No tunnel*

Manufacturer.

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 *"Mercury"* owned by *Messrs Hall Brothers*
 of the Port of *Newcastle* of *555* Tons Register, and *125* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Liverpool on 19th March 1864*
 and found to be at this date, viz., *19th March 1864* in good order and safe working condition.

Amount of Fee for Survey ... £
 (Travelling Expenses, if any, £)

George W. Marshall
 Engineer Surveyor to Lloyd's Register of Shipping.
North Shields