

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Compound Inverted, Direct-acting*  
 Made by *Palmer Compounded by Palmer*  
 When made *1865* At *Farrow Compounded at Farrow 1876*  
 Diameter of cylinder *On 48 & on 20* Length of stroke *30"*  
 No. of revolutions per minute *About 65*  
 Point of cut off *About 2/3 stroke*  
 Diameter of screw shaft *1 3/4"*  
 Diameter of crank shaft journals *8"*  
 Diameter of screw, or of paddle wheel *Not ascertained*  
 Pitch of screw *"*  
 No. of blades, Total surface *"*  
 No. of bilge pumps *2* and sizes *4 1/2 dia x 18" stroke Single acting*  
 Do they pump from each compartment *from engine room and after well*

Are all the bilge suction pipes fitted with roses *Yes*  
 No. of feed pumps *2* and sizes *4 1/2 dia x 18" stroke, Single acting*  
 What gauges are there attached to the engines and boilers ... *1 Steam gauge on each boiler, 1 in engine room, 1 Vac & 1 Combined gauge*  
 Description and size of Donkey Pumps ... *No 1 - Double acting, 8 1/2 dia x 10" stroke*  
*No 2 - " "*  
 Where do they pump from ... *Bilges, Sea & Ballast tanks*  
 No. of bilge injections *1* and sizes *3 3/4 outside*  
 Are they connected to air, or circulating pumps  
 Is there a hand pump in the engine room *No, small donkey can be used as such*  
 Can it be worked by the main engines *No*  
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

### MAIN BOILERS.

Number *2* Description *Round Multitubular*  
 Made by *Palmer*  
 When *March 1876* At *Farrow*  
 Working pressure *75 lbs*  
 Tested by hydraulic pressure to *150 lbs*, Date *Feb. 1876*  
 Description of super-heating apparatus *Annular Superheater*  
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *No*  
 Description and area of safety valves on each boiler ... *Adams spring, two on each boiler*  
 No. of square feet of fire-grate surface in each boiler *30.58 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 ... *Not accessible in holds when vessel is loaded*

### DONKEY BOILER.

Description *Round Vertical, Water tubes in furnace*  
 Where fixed *On deck*  
 Working pressure *41 lbs*

Tested by hydraulic pressure to *80 lbs*, Date *Mar 1876*  
 Description and area of safety valves *Direct wrought, 4.908 sq in*  
 No. of square feet of fire grate *9.45 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 ... *Stop valves and cocks*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *All except cock for running up ballast tanks & blow off cocks*  
 Are the discharge pipes above or below the deep water line *Main discharge below others 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 1876*  
 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*

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 "*Berrington*" owned by *John Fenwick & Son* of the Port of *Swansea* of *507.4* Tons Register, and *90* Registered Horse Power, and that they have been carefully inspected and examined by me at *Farrow in June* and found to be at this date, viz., *13<sup>th</sup> April* 1876 in good order and safe working condition.

Ames Bain  
 Engineer Surveyor to Lloyd's Register of Shipping.