

19511 Iron

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Rec 5/11/11

3903  
Port of Hull  
Report on Engines No 31

Description *Compound, Inverted, Surface Condensing*  
 Made by *Messrs Blair & Co*  
 When *October 1877* At *Stockton*  
 Diameter of cylinder *43 x 80* Length of stroke *45"*  
 No. of revolutions per minute *About 60*  
 Point of cut off *1/2 stroke*  
 Diameter of screw shaft *14"*  
 Diameter of crank shaft journals *14"*  
 Diameter of screw, or of paddle wheel *15" 6"*  
 Pitch of screw *About 16.0*  
 No. of blades, *4* Total surface *Not ascertained*  
 No. of bilge pumps *Two* and sizes *4 1/2 x 3 3/4" the Single Acting*  
 Do they pump from each compartment *Yes*  
*4" bilge pump draws from sea, ballast tanks, wings & centre of engine room, after well. After pump draws from engine room only*

Are all the bilge suction pipes fitted with roses *Yes*  
 No. of feed pumps *Two* and sizes *4 1/2 x 3 3/4" the Single Acting*  
 What gauges are there attached to the engines and boilers ... *Four Steam One Vacuum*  
 Description and size of Donkey Pumps ... *1 1/2" dia x 9" the Double Acting 2 1/2" x 8"*  
 Where do they pump from ... *of engine room, after well & fore hold. 2" from sea, hold, wings of engine room, fore hold & after well*  
 No. of bilge injections *1* and sizes *6" inside*  
 Are they connected to air, or circulating pumps *Circulating Pump*  
 Is there a hand pump in the engine room *Donkeys work by hand*  
 Can it be worked by the main engines *No*  
 Is there a deck hose of sufficient length } *Yes*  
 to reach to any part of the vessel }

### MAIN BOILERS.

Number *Three* Description *Cylindrical, Multitubular*  
 Made by *Messrs Blair & Co*  
 When *October 1877* At *Stockton*  
 Working pressure *70 lbs*  
 Tested by hydraulic pressure to *152 lbs*, Date *5th Sept 1877*  
 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 } *No Superheaters*  
 Description and area of safety valves on each boiler ... *Two spring valves on each boiler Area of two valves 19.2 sq in*  
 No. of square feet of fire-grate surface in each boiler } *38 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 suction pipes & pump in holds when ship is loaded*

### DONKEY BOILER

Description *Vertical, Water tubes in furnaces*  
 Where fixed *In stokehold*  
 Working pressure *70 lbs*

Made by *H Potter, Bowditch & Barber Works*  
 Tested by hydraulic pressure to *140 lbs*, Date *10th Sept 1877*  
 Description and area of safety valves *Two direct weighted valves 2 3/4" dia total area 8.8 sq in*  
 No. of square feet of fire grate *15.9 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 ... } *Yes*  
 Are the discharge pipes above or below the deep water line } *Yes*  
 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 *None*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock } *New*  
 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 } *Yes*

Manufacturers of Engines & Main Engines only

Blair & Co

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 *De Grey* owned by *The General Steam Navigation Company* of the Port of *London* of *1095.23* Tons Register, and *250* Registered Horse Power, and that they have been carefully inspected and examined by me at *Stockton* and found to be at this date, viz., *30th October 1877* in good order and safe working condition.

Amount of Fee for Survey ... £12:10:0  
 Certificate 0:5:0  
 (Travelling Expenses, if any, £)

*James Blair*  
 Engineer Surveyor to Lloyd's Register of Shipping.

*MC*