

16788 Iron

Rec 17/7/76

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

176

Report (if any) on Hull of Vessel. Port Sunderland No. 11,463

Description *Compound Inverted Direct Acting Surface Cond.*  
 Made by *Messrs R. & W. Hawthorn*  
 When *July 1876* At *Newcastle*  
 Diameter of cylinder *26" x 4" of each* Length of stroke *36"*  
 No. of revolutions per minute *About 63*  
 Point of cut off *24" full gear 20" working position*  
 Diameter of screw shaft *8 1/2"*  
 Diameter of crank shaft journals *8 3/4" Tunnel shaft 8" dia*  
 Diameter of screw, or of paddle wheel *11" 0"*  
 Pitch of screw *14" 0" to 14" 0"*  
 No. of blades, *4* Total surface *144 sq feet*  
 No. of bilge pumps *2* and sizes *3" dia x 18" stroke Single Acting*  
 Do they pump from each compartment *from port side of engine room only*

Are all the bilge suction pipes fitted with roses *Yes*  
 No. of feed pumps *2* and sizes *4" dia x 18" stroke Single Acting*  
 What gauges are there attached to the engines and boilers ... *1 Steam gauge common to both boilers 1 Vacuum and 1 Compound gauge*  
 Description and size of Donkey Pumps ... *Lead donkey Pump 4" dia 8" stroke Single Acting Ballast " " 8" " " Double Acting*  
 Where do they pump from ... *Lead donkey draws from sea, engine room upper well, fore hold, and boiler. Ballast donkey from sea tanks, & starboard side of engine room*  
 No. of bilge injections *1* and sizes *4" dia*  
 Are they connected to air, or circulating pumps *Circulating Pump*  
 Is there a hand pump in the engine room *Yes Donkeys work by hand*  
 Can it be worked by the main engines *Yes*  
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

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### MAIN BOILERS.

Number *2* Description *Cylindrical Multitubular*  
 Made by *Messrs R. & W. Hawthorn*  
 When *July 1876* At *Newcastle*  
 Working pressure *70 lbs*  
 Tested by hydraulic pressure to *110 lbs*, Date *May 15/76*  
 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 *Yes*  
 Description and area of safety valves on each boiler *Vertical spring safety valves Total area 11.13 sq in on each boiler*  
 No. of square feet of fire-grate surface in each boiler *29.39 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 accessible except in fore hold one for tank when vessel is loaded*

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### DONKEY BOILER.

Description *Vertical (water tubes in furnace)*  
 Where fixed *On deck*  
 Working pressure *45 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *April 18/76*  
 Description and area of safety valves *Vertical weight 5.94 sq in*  
 No. of square feet of fire grate *12.5 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 ... *Kingston valves and Common Cocks*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *No*  
 Are the discharge pipes above or below the deep water line *Below*  
 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 *Yes*  
 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*

*R. & W. Hawthorn* 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 *Howen* owned by *A. Pring* of the Port of *Newcastle* of *481* Tons Register, and *95* Registered Horse Power, and that they have been carefully inspected and examined by me at *Newcastle and Sunderland* and found to be at this date, viz., *July 15<sup>th</sup>* 18 *76* in good order and safe working condition.

Survey fee *£4-15-0*  
 Certificate *5-0-0* Received at *Sunderland*  
 £ *5-0-0* by *HW 15/7/76*

*James & John W. Allison*  
 Engineer Surveyors to Lloyd's Register of Shipping.

Lloyd's Register Foundation  
 IRON 467-0400

Builder's Signature, *James Pring* Surveyor's Signature, *James Allison*  
 Surveyor to Lloyd's Register of British and Foreign Shipping.