

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Compound Inverted*  
 Made by *R & W Hawthorn*  
 When *Jan 1874* At *Newcastle*  
 Diameter of cylinder *52" x 96"* Length of stroke *51"*  
 No. of revolutions per minute *50*  
 Point of cut off *not ascertained*  
 Diameter of screw shaft *14 1/2 inches*  
 Diameter of crank shaft journals *15 1/2 inches*  
 Diameter of screw, or of paddle wheel *20 feet*  
 Pitch of screw *increasing from 22 to 26 ft*  
 No. of blades, *4* Total surface *not known.*  
 No. of bilge pumps *2* and sizes *6 1/2 x 18 inches*  
 Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*  
 No. of feed pumps *2* and sizes *8 1/2 x 13 1/4*  
 What gauges are there attached to the engines and boilers ... *5th each boiler*  
 Description and size of Donkey Pumps ... *5th Engine & Vac to engines.*  
 Where do they pump from ... *Inverted some 8" x 12" str. some 6" x 12" str. from sea to boiler*  
 No. of bilge injections *one* and sizes  
 Are they connected to air, or circulating pumps *Circulating*  
 Is there a hand pump in the engine room *Donkey can be*  
 Can it be worked by the main engines *used as such*  
 Is there a deck hose of sufficient length to reach to any part of the vessel *yes*

### MAIN BOILERS.

Number *Three* Description *Cylindrical*  
 Made by *R & W Hawthorn*  
 When *Jan 1874* At *Newcastle*  
 Working pressure *70 lbs.*  
 Tested by hydraulic pressure *when new*  
 Description of super-heating apparatus *Cylindrical, Hor.*  
 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 ... *Two weight valves each 25 lbs. each boiler.*  
 No. of square feet of fire-grate surface in each boiler *85 square 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*  
 Where fixed *Stokehold*  
 Working pressure

Tested by hydraulic pressure *when new*  
 Description and area of safety valves *not taken out.*  
 No. of square feet of fire grate

### 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 & Com. Cocks*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *not all.*  
 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 *at this time*  
 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*

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 *Hankow* owned by *Watts, Milburn & Co*  
 of the Port of *London* of *2332* Tons Register, and *450* Registered Horse Power,  
 and that they have been carefully inspected and examined by me at *London*  
 and found to be at this date, viz., *July 29<sup>th</sup>* 18 *76* in good order and safe working condition.

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