

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Compound Inverted Direct Acting*  
 Made by *Robert Blackwood & Co. Ltd.*  
 When *1876* At *Port Glasgow*  
 Diameter of cylinder *20 1/2* Length of stroke *24*  
 No. of revolutions per minute *85*  
 Point of cut off *3/8*  
 Diameter of screw shaft *6 7/8*  
 Diameter of crank shaft journals *6 1/2*  
 Diameter of screw, *over paddle wheel* *9 1/2*  
 Pitch of screw *13 1/2*  
 No. of blades, *Three* Total surface *22.5 ft*  
 No. of bilge pumps *Two* and sizes *2 3/4 x 1 1/4 stroke*  
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*  
 No. of feed pumps *Two* and sizes *2 3/4" dia x 1 1/4" stroke*  
 What gauges are there attached to the engines and boilers ... *One Steam & One Vacuum*  
 Description and size of Donkey Pumps ... *Double acting 3" x 6" stroke*  
 Where do they pump from ... *From the Sea, Midge & Hotwell*  
 No. of bilge injections *One* and sizes *2 1/4"*  
 Are they connected to air, or circulating pumps *& Circulating*  
 Is there a hand pump in the engine room *Yes*  
 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 *One* Description *Round Horizontal*  
 Made by *Blackwood & Co. Ltd.*  
 When *1877* At *Port Glasgow*  
 Working pressure *65 lbs*  
 Tested by hydraulic pressure to *130 lbs*, Date *March 15th 1876*  
 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 *Two Direct Spring each 8.29" area*  
 No. of square feet of fire-grate surface in each boiler *32 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 *Round Vertical*  
 Where fixed *On Upper or Main Deck*  
 Working pressure *4 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *July 1877*  
 Description and area of safety valves *Direct loaded 7" area*  
 No. of square feet of fire grate *7 ft. 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 ... *Screw down valves & cocks*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Yes they are all fitted above the turn of the bilge*  
 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 *None*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *July 24th 1877*  
 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*

*Robert Blackwood & Co. Ltd.* Manufacturer.  
*A. McEwan m an ager*

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 *"Luva"* owned by *James McEwan & Co.* of the Port of *Melbourne* of *176.52* Tons Register, and *54* Registered Horse Power, and that they have been carefully inspected and examined by me at *Port Glasgow* and found to be at this date, viz., *July 26th 1877* in good order and safe working condition.

Amount of Fee for Survey *£2 : 14 : 0*  
 (Travelling Expenses, if any, £ *0*)

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