

## LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

## ENGINES.

Description *Compound Inverted Direct Acting*  
 Made by *David Rowan*  
 When 18 *79* At *Glasgow*  
 Diameter of cylinder *33 1/4" x 61"* Length of stroke *45"*  
 No. of revolutions per minute *about 65*  
 Point of cut off *1/4"*  
 Diameter of screw shaft *12"*  
 Diameter of crank shaft journals *12"*  
 Diameter of screw, ~~or paddle wheel~~ *15 1/2" x 6"*  
 Pitch of screw *18 1/2"*  
 No. of blades, *four* Total surface *48 ft<sup>2</sup>*  
 No. of bilge pumps *two* and sizes *4 1/2" dia x 16 1/2" 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 *4 1/2" dia x 9 1/2" stroke*  
 What gauges are there attached to the engines and boilers ... *Five Steam, One Vacuum + One Compound*  
 Description and size of Donkey Pumps ... *One Double acting 4 1/2" x 10" stroke*  
*One Cyrrone 5 1/2" dia pump 25" dia*  
 Where do they pump from ... *From the Sea, Bilge, Hotwells + Ballast Tanks*  
 No. of bilge injections *One* and sizes *5"*  
 Are they connected to air, or circulating pumps *to 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 *two* Description *Round Horizontal double ended*  
 Made by *David Rowan*  
 When 18 *79* At *Glasgow*  
 Working pressure *40 lbs*  
 Tested by hydraulic pressure to *140 lbs*, Date *April 26<sup>th</sup> 1879*  
 Description of super-heating apparatus *None a Receiver is fitted on each Boiler*  
 Can each boiler be worked separately *yes*

Can the super-heater be shut off and the boilers worked separately  
 Description and area of safety valves on each boiler ... *Two Direct Spring each 14 1/2 sq. inches area*  
 No. of square feet of fire-grate surface in each boiler *40 ft<sup>2</sup>*  
 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* Made by *Wilson Liverpool*  
 Where fixed *In recess above after stokehold*  
 Working pressure *40 lbs*  
 Tested by hydraulic pressure to *140 lbs*, Date *4.2.79*  
 Description and area of safety valves *Two Direct Spring each 15 1/2 sq. inches area*  
 No. of square feet of fire grate *15 ft<sup>2</sup>*

## 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 ... *All fitted above the turn of the pipe*  
 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 *Main Steam pipes*  
 How are they protected *By Iron casing*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *On Ship previous to being launched*  
 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*

*David Rowan* 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 "Maharani" owned by *Atlantic Steam Nav. Co. (Limited)* of the Port of *Liverpool* of *104 1/2* Tons Register, and *190* Registered Horse Power, and that they have been carefully inspected and examined by me at *Belfast* and found to be at this date, viz., *June 5<sup>th</sup> 1879* in good order and safe working condition.

Amount of Fee for Survey ... £ *9 : 10 : 03* 5/6/79  
 (Travelling Expenses, if any, £ *4 : 14 : 6*)

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

The Machinery of this vessel has  
been made and fitted in accordance  
with the rules submitted that she  
is eligible to draw Licenses M  
C and a Certificate for

5 June 1879

MD 9.6.79



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