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LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Comp Inverted*
 Made by *Seaward & Co*
 When *Jan 1878* At *London*
 Diameter of cylinder *30 x 58* Length of stroke *30*
 No. of revolutions per minute *57*
 Point of cut off *5/8*
 Diameter of screw shaft *8 1/2*
 Diameter of crank shaft journals *8 1/2*
 Diameter of screw, or of paddle wheel *11.6*
 Pitch of screw *13.6*
 No. of blades, *3* Total surface
 No. of bilge pumps *2* and sizes *4" x 10"*
 Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *5 x 12*
 What gauges are there attached to the engines and boilers ... *1 Steam to each boiler*
1 Steam 1 Vac in Eng Room
 Description and size of Donkey Pumps ... *one in Eng Room*
4" x 8"
 Where do they pump from ... *All compartments*
 No. of bilge injections *none* and sizes
 Are they connected to air, or circulating pumps
 Is there a hand pump in the engine room *yes*
 Can it be worked by the main engines *from deck*
 Is there a deck hose of sufficient length to reach to any part of the vessel *yes*

MAIN BOILERS.

Number *Two* Description *Cylindrical*
 Made by *Seaward & Co*
 When *18 78* At *London*
 Working pressure *65 lbs per sq in*
 Tested by hydraulic pressure to *130 lbs*, Date *20/1/77*
 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 *none*
 Description and area of safety valves on each boiler *Adams Spring*
19.2 sq in
 No. of square feet of fire-grate surface in each boiler *35.5 sq 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 *Stoke hold*
 Working pressure *45 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *27/9/77*
 Description and area of safety valves *3.54 area*
 No. of square feet of fire grate *7 sq ft*

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 ... *Cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *not all, (trunkies & such)*
 Are 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 *2 Bilge disch.*
 How are they protected *Wood Casings*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Dec 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 *No*

Seaward & Co 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 *Maria Pia* owned by *Benoni Luff & Co* of the Port of *Liston* of *393* Tons Register, and *130* Registered Horse Power, and that they have been carefully inspected and examined by me at *London* and found to be at this date, viz., *January 7th 1878* in good order and safe working condition.

Amount of Fee for Survey ... *6:10:0* (Travelling Expenses, if any, £)

William Paisley
James Mutton
 7.2.78 Engineer Surveyor to Lloyd's Register of Shipping
 London

