

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Comp. Inverted Direct Acting*
 Made by *Barclay Curle & Co*
 When *1872* At *Glasgow*
 Diameter of cylinder *34 1/2" dia* Length of stroke *48"*
 No. of revolutions per minute
 Point of cut off *Not ascertained*
 Diameter of screw shaft *14 1/2" Intermediate 12 3/4"*
 Diameter of crank shaft journals *14 1/2"*
 Diameter of screw, *on paddle wheel* *14 1/2"*
 Pitch of screw *25 ft*
 No. of blades, *Four* Total surface *Not ascertained*
 No. of bilge pumps *Two* and sizes *5 3/8" dia x 29 1/2" stroke*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses
 No. of feed pumps *Two* and sizes *5 3/8" dia x 29 1/2" stroke*
 What gauges are there attached to the engines and boilers ... *Three Steam One Vacuum One Compound*
 Description and size of Donkey Pumps ... *Double Acting 6" x 12" stroke*
 Where do they pump *From the Sea Bilge and Hotwell*
 No. of bilge injections *One* and sizes *5"*
 Are they connected to air, or circulating pumps *Not circulating*
 Is there a hand pump in the engine room *Yes*
 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*

MAIN BOILERS.

Number *Four* Description *Flat sided Horizontal*
 Made by *Barclay Curle & Co*
 When *1872* At *Glasgow*
 Working pressure *60 lbs*
 Tested by hydraulic pressure to *Not ascertained*
 Description of super-heating apparatus *Round Vertical with four tubes*
 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 *One Lever & weight 28.24" area*
 No. of square feet of fire-grate surface in each boiler *38.7 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 *Flat sided Horizontal*
 Where fixed *On Upper Deck*
 Working pressure *Value loaded to 36 1/2" lbs*

Tested by hydraulic pressure to *Not ascertained* Date
 Description and area of safety valves *Direct loaded 6 1/4" area*
 No. of square feet of fire grate *12.5 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 ... *Screw down valves & Cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *The Blow off Cocks are under plates*
 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 *Main Steam & Donkey*
 How are they protected *Iron casing*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *August 14th 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 *The tunnel is open to Engine Room*

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 *"Colina"* owned by *Donaldson Brothers*
 of the Port of *Glasgow* of *1297* Tons Register, and *265* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Glasgow*
 and found to be at this date, viz., *September 4th 1877* in good order and safe working condition.

Amount of Fee for Survey ... £ 2 : 2 :

(Travelling Expenses, if any, £. / . /)

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