

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Compound, Inverted Direct Acting*
 Made by *James & Co. Thomson*
 When *1876* At *Glasgow*
 Diameter of cylinder *18" 8 1/4"* Length of stroke *48"*
 No. of revolutions per minute *60*
 Point of cut off *Variable*
 Diameter of screw shaft *1 1/4"*
 Diameter of crank shaft journals *15"*
 Diameter of screw, ~~and propeller~~ *16" x 6"*
 Pitch of screw *24 ft*
 No. of blades, *Four* Total surface *4 1/4 ft*
 No. of bilge pumps *Two* and sizes *6" dia x 24" 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 *Two 6 1/4" dia x 24" stroke*
 What gauges are there attached to the engines and boilers ... *One to each boiler in stokehold, one steam, one vacuum and one compound in engine room*
 Description and size of Donkey Pumps ... *Double acting 6" x 12" stroke*
 Where do they pump from ... *From the sea & bilge*
 No. of bilge injections *One* and sizes *4"*
 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 *Yes*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *Four* Description *Round Horizontal*
 Made by *James & Co. Thomson*
 When *1876* At *Glasgow*
 Working pressure *70 lbs*
 Tested by hydraulic pressure to *140 lbs*, Date *Sept. 29th 1876*
 Description of super-heating apparatus *Annular, Vertical with single flue*
 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 Direct Spring each 15.9" area*
 No. of square feet of fire-grate surface in each boiler *65 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 Horizontal, Auxiliary*
 Where fixed *In stokehold (forward) at middle line*
 Working pressure *70 lbs*

Tested by hydraulic pressure to *140 lbs*, Date *Sept. 29th 1876*
 Description and area of safety valves *Two Direct Spring each 4.6 area*
 No. of square feet of fire grate *30 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 *All fitted above turn of bilge except blow off cocks which are as high up as could be fitted for drains under bilge*
 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 *Pipe pipes to forehold*
 How are they protected *By wood 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*

James & Co. Thomson Manufacturer.
1 Grant

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 *"London Castle"* owned by *L. Skinner & Co* of the Port of *Glasgow* of *1616* Tons Register, and *400* Registered Horse Power, and that they have been carefully inspected and examined by me at *Glasgow* and found to be at this date, viz., *January 8th 1877* in good order and safe working condition.

See £10.0.0 paid for
James Morrison
 Engineer Surveyor to Lloyd's Register of Shipping.