

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 27/6/76

Description *Vertical, Compound, Surface Cond.* Are all the bilge suction pipes fitted with roses *Yes*
 Made by *Messrs Gourlay Brothers & Coy* No. of feed pumps *one* and sizes *6" Diar 9" Stroke D.P.*
 When *June 1876* At *Dundee* What gauges are there *Two Water & one Pressure*
 Diameter of cylinder *42 1/2"* Length of stroke *3' 0"* attached to the en- *Gauges on each Boiler*
 No. of revolutions per minute *70* gines and boilers ... *one each Pressure, Compound*
 Point of cut off *9/16"* and Vacuum on Engines
 Diameter of screw shaft *11"* Description and size of *one Vertical direct acting 6" in*
 Diameter of crank shaft journals *12 1/4"* Donkey Pumps ... *Pump 8" Stroke for Tanks*
 Diameter of screw, or of paddle wheel *13 1/4"* Where do they pump *one do so for Boilers 3 1/2" Pump*
 Pitch of screw *19 feet* from *Holds, Tanks, & Sea*
 No. of blades, *Four* Total surface *64.5 Sq feet* No. of bilge injections *one* and sizes *3" Bore*
 No. of bilge pumps *one* and sizes *7 1/4" Diar 9" Stroke* Are they connected to air, or circulating pumps *Circulating*
 Do they pump from each compartment *Yes* *double acting* 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 *Circular Tubular* Can the super-heater be shut off and the boilers worked separately *None*
 Made by *Messrs Gourlay Bros & Coy* Description and area of *Adam's Spring (Talent)*
 When *June 1876* At *Dundee* safety valves on each *Two on each Boiler*
 Working pressure *65 lbs* boiler ... *28.36 Sq inches each*
 Tested by hydraulic pressure to *130 lbs*, Date *22 May/76* No. of square feet of fire-grate *54 Sq feet in each*
 Description of super-heating apparatus *Horizontal Domb on each Boiler* Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes*
 Can each boiler be worked separately *Yes* Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. *Yes*

DONKEY BOILER.

Description *Vertical, Circular 10 1/2" 4 x 5' 0"* Tested by hydraulic pressure to *100 lbs*, Date *22 May/76*
 Where fixed *Stokehold* Description and area of safety valves *Two Direct Load*
 Working pressure *50 lbs* No. of square feet of fire grate *7.6 ins area 13.25 Sq feet*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *Yes* What pipes are carried through the bunkers *None*
 Are they Kingston valves or common cocks ... *Cocks & Valves* How are they protected *—*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Yes with the exception of one cock for Stokehold water service above* When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Before Launched*
 Are the discharge pipes above or below the deep water line *above* Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes*
 Are they each fitted with a discharge valve on the plating of the vessel *Yes* Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Yes*

Gourlay Brothers 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 *Penguin* owned by *General Steam Navigation Coy*
 of the Port of *London* of *905.87* Tons Register, and *220* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Dundee*
 and found to be at this date, viz., *21st June* 1876 in good order and safe working condition.

Fees £ 11. 0. 0

John Sturrock
 Engineer Surveyor to Lloyd's Register of Shipping.