

19584 Iron

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 4/11/77

Description *Inverted Compound surface Cond*
 Made by *Messrs Hall Russell & Co*
 When *Decr* 1876 At *Aberdeen*
 Diameter of cylinder *26 1/2* Length of stroke *2 1/2*
 No. of revolutions per minute *65*
 Point of cut off *9/16*
 Diameter of screw shaft *9" about 65 feet long*
 Diameter of crank shaft journals *10"*
 Diameter of screw, or of paddle wheel *12 1/4*
 Pitch of screw *15 1/6*
 No. of blades *Four* Total surface *about 41 sq feet*
 No. of bilge pumps *one* and sizes *4 1/2" dia 2 1/6 stroke*
 Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *one* and sizes *4 1/2" dia 2 1/6 stroke*
 What gauges are there attached to the engines and boilers ... *Two Glass Water on Boiler one each Pressure & Vacuum in Engine Room*
 Description and size of Donkey Pumps ... *Vertical Inverted Steam Gr 7" dia 8" stroke 3 1/2" dia S.A. Pump from Sea, Bilge, to Boiler and on Deck*
 Where do they pump from ... *There is also one large donkey for Pumping Ballast Tanks 8" dia 10" stroke 4 1/2" dia Pump*
 No. of bilge injections *one* and sizes *2 1/2" dia*
 Are they connected to air, or circulating pumps *air Pump*
 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 *One* Description *Circular Tubular*
 Made by *Messrs Hall Russell & Co*
 When *Decr* 1876 At *Aberdeen*
 Working pressure *70 lbs*
 Tested by hydraulic pressure to *140 lbs*, Date *4 Decr 1876*
 Description of super-heating apparatus *Vertical dumb*
 Can each boiler be worked separately

Can the super-heater be shut off and the boilers worked separately
 Description and area of safety valves on each boiler ... *Two Spring Safety by Hall Russell & Co 4 1/2" dia 15.9 in area each*
 No. of square feet of fire-grate surface in each boiler *64 sq feet*
 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 Circular*
 Where fixed *Engine Room*
 Working pressure *50 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *4 Decr 1876*
 Description and area of safety valves *Spring load 2 1/2 or 3 1/2 lbs*
 No. of square feet of fire grate *8.2 sq feet*

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 & Valves*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *yes*
 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 *none*
 How are they protected
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *before launching*
 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*

Hall Russell & Co Manufacturers

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 *"Petrel"* owned by *General Steam Navigation Co* of the Port of *London* of *540.36* Tons Register, and *99* Registered Horse Power, and that they have been carefully inspected and examined by me at *Aberdeen* and found to be at this date, viz., *27 Decr* 1876 in good order and safe working condition.

Fees - *4 x 19 0*
 Railway Exp *2 " 10 0*
 Cab *- " 2 0*
 Subsistence *1 " 5 0*

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

£8 16 0. Recd 20 Jan 1877, and forwarded to Dundee.