

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Compound mounted 2 Cyls. S.C.*
 Made by *Messrs Palmer & Coys*
 When *1873* At *Newcastle*
 Diameter of cylinder *24" + 45"* Length of stroke *30*
 No. of revolutions per minute *65*
 Point of cut off *not ascertained*
 Diameter of screw shaft *7 1/4"*
 Diameter of crank shaft journals *7 1/2"*
 Diameter of screw, ~~or of paddle wheel~~ *12 feet*
 Pitch of screw *12 to 16 feet*
 No. of blades, *(4)* Total surface
 No. of bilge pumps *(2)* and sizes *5 1/8" dia 6" stroke*
 Do they pump from each compartment *Engine room only*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *(2)* and sizes *4 1/4" dia, 8" stroke*
 What gauges are there attached to the engines and boilers ... *1 Steam in Engine room, 1 in stoke hold, 1 vacuum gauge*
 Description and size of Donkey Pumps ... *No 1 D.A. 18" dia, 12" stroke, No 2 D.A. 14" dia, 8" stroke*
 Where do they pump from ... *No 1 from Tanks & Eng-Room, No 2 Sea Bilge & Hotwell*
 No. of bilge injections *1* and sizes *6" dia*
 Are they connected to air, or circulating pumps *circulating*
 Is there a hand pump in the engine room *No. No 2 from keel*
 Can it be worked by the main engines *used instead*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *(1)* Description *Cylindrical tubular*
 Made by *Messrs Palmer & Coys*
 When *1873* At *Newcastle*
 Working pressure *70 lbs*
 Tested by hydraulic pressure to *140 lbs*, Date *1873*
 Description of super-heating apparatus *Annular*
 Can each boiler be worked separately *one boiler*

Can the super-heater be shut off and the boilers worked separately *No.*
 Description and area of safety valves on each boiler ... *(2) Lion & Wright each 4 1/2" dia, 26.6 sq inches*
 No. of square feet of fire-grate surface in each boiler *49.5 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 tubular 2 cross tubes*
 Where fixed *Upper Deck*
 Working pressure *45 lbs per sq inch*

Tested by hydraulic pressure to *not ascertained*, Date
 Description and area of safety valves *(1) dead weight 2 1/2" dia = 4.6 sq. in.*
 No. of square feet of fire grate *8.5 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 ... *2 Stop Valves, rest common cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Boiler blow & ash cock below engine platform rest above*
 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 *Stern tube examined Dec-75, Propeller & connections*
 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. tunnel*

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 *"Peter Graham"* owned by *Northfleet Coal & Ballast Co. Ltd.* of the Port of *London* of *823* Tons Register, and *80* Registered Horse Power, and that they have been carefully inspected and examined by me at *Howdon on Tyne* and found to be at this date, viz., *Jan 4th 1877* in good order and safe working condition.

Amount of Fee for Survey ... £ *see Report.*
 (Travelling Expenses, if any, £)

George W. Manby
 Engineer Surveyor to Lloyd's Register of Shipping.