

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Compound, Inverted, Surface Condensing*
 Made by *Blair & Co. (Lim)*
 When *July 18/9* At *Stockton on Tees*
 Diameter of cylinder *28 1/2* Length of stroke *33*
 No. of revolutions per minute *About 65*
 Point of cut off *About 1/2 stroke*
 Diameter of screw shaft *10*
 Diameter of crank shaft journals *9 1/2*
 Diameter of screw, or of paddle wheel *12 1/2*
 Pitch of screw *About 14:0*
 No. of blades, *4* Total surface *Not ascertained*
 No. of bilge pumps *2* and sizes *3 1/2 x 24 3/4 the Single Acting*
 Do they pump from each compartment *2 pumps draw from ballast tanks, one from after pump draws from after well, centre of engine room*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *2* and sizes *3 1/2 x 24 3/4 the Single Acting*
 What gauges are there attached to the engines and boilers ... *3 steam 1 vacuum*
 Description and size of Donkey Pumps ... *2 pumps 1 1/2 dia x 7 1/2 the Double Acting*
 Where do they pump from ... *from ballast tanks, fire hold, after well, centre of engine room*
 No. of bilge injections *1* and sizes *6 dia*
 Are they connected to air, or circulating pumps *Circulating pumps*
 Is there a hand pump in the engine room *Donkey work by hand*
 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 *Cylindrical Multitubular*
 Made by *Blair & Co. (Lim)*
 When *July 18/9* At *Stockton on Tees*
 Working pressure *81 lbs*
 Tested by hydraulic pressure to *162 lbs*, Date *10/6/9*
 Description of super-heating apparatus *None*
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *No Superheater*
 Description and area of safety valves on each boiler *Two spring valves on each boiler Combined area of two valves 16.5*
 No. of square feet of fire-grate surface in each boiler *25.33*
 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 *All except suction pipes & roses in holds when ship is loaded*

DONKEY BOILER.

Description *Horizontal Cylindrical Tubular*
 Where fixed *On Deck*
 Working pressure *50 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *30/6/9*
 Description and area of safety valves *1 spring 2 dia = 4.1 sq in area 1 lap 2 1/4 = 7.5 sq in*
 No. of square feet of fire grate *7.5 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 ... *Stop valves and Cocks*
 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 *Below*
 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 *New*
 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 *Tunnel not watertight Sluice door fitted*

Manufacturers of Engines & Main Boilers only

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 *Dione* owned by *Richardson, Duck & Co*
 of the Port of *Stockton* of *422 1/2* Tons Register, and *110* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Stockton & Middlesbrough*
 and found to be at this date, viz., *9th July 1899* in good order and safe working condition.

Donkey Boiler Survey Fee... £ *5 10 0*
 Amount of Fee for Survey... £ *5 10 0*
 Certificate (Travelling Expenses, if any, £ *0 5 0*)
 received by me, *James Blair*
 3/10/1899

Engineer Surveyor to Lloyd's Register of Shipping.

West Hartlepool