

20265 In

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec. 22/2/18

Description *Compound. Inverted. Surface Condensing* Are all the bilge suction pipes fitted with roses *Yes*
Made by *J. Richardson & Sons* No. of feed pumps *1* and sizes *3 1/4 x 2 1/4 Single Acting*
When *Feb 1878* At *Hartlepool* What gauges are there attached to the engines and boilers ... *Two steam*
Diameter of cylinder *25 x 48* Length of stroke *30"* Description and size of Donkey Pumps ... *One vacuum 1801 Pump 1 1/2 dia x 9 ft. Double acting*
No. of revolutions per minute *About 70* Point of cut off *1/2 stroke*
Diameter of screw shaft *8* Where do they pump from ... *From tanks and engine room*
Diameter of crank shaft journals *8 Tunnel shaft 1 1/2 dia* No. of bilge injections *1* and sizes *4 1/2*
Diameter of screw, or of paddle wheel *11.8* Are they connected to air, or circulating pumps *Circulating Pump*
Pitch of screw *15.0"* Is there a hand pump in the engine room *Donkey work by hand*
No. of blades, *4* Total surface *Just ascertained* Can it be worked by the main engines *No*
No. of bilge pumps *1* and sizes *3 1/4 x 2 1/4 Single Acting* Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*
Do they pump from each compartment *From tanks & centre of engine room & fore hold*

MAIN BOILERS.

Number *One* Description *Cylindrical Multitubular* Can the super-heater be shut off and the boilers worked separately *No superheater*
Made by *J. Richardson & Sons* Description and area of safety valves on each boiler *Two spring safety valves on boiler. Combined area 30 sq in*
When *Feb 1878* At *Hartlepool* No. of square feet of fire-grate surface in each boiler *47 sq feet*
Working pressure *65 lbs* Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes*
Tested by hydraulic pressure to *130 lbs*, Date *22 Dec 1877* Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times *All except suction pipes & pumps in holds when ship is loaded*
Description of super-heating apparatus *None* Can each boiler be worked separately *Only one boiler in ship*

DONKEY BOILER

Description *Vertical. Water tubes in furnace* Made by *Geo Dun Can Wat Hartlepool*
Where fixed *In stokehole* Tested by hydraulic pressure to *130 lbs*, Date *18 Dec 1877*
Working pressure *50 lbs* Description and area of safety valves *Direct & 1 Lever & weight. Combined area 7.9 sq in*
No. of square feet of fire grate *12.56 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 ... *Stop valves and common cocks* How are they protected *None*
Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *Yes* When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Now*
Are the discharge pipes above or below the deep water line *Below* 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 *Tunnel out water tight. Sluice door fitted*

J. Richardson & Sons Manufacturer.
M. Chas Smith

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 *Machinery of London & the Marquis of Londonderry*
of the Port of *Sunderland* of *442.54* Tons Register, and *190* Registered Horse Power,
and that they have been carefully inspected and examined by me at *Hartlepool*
and found to be at this date, viz., *31 January 1878* in good order and safe working condition.

Amount of Fee for Survey ... £ *4* : *10* : *0*
Certificate (Travelling Expenses, if any, £) *0* : *5* : *0*

Engineer Surveyor to Lloyd's Register of Shipping.

Wm. Hartlepool