

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Dec 10/1877

Description *Compound, Inverted, Direct Acting*
 Made by *Messrs J. Richardson & Sons*
 When *November 1877* At *Hartlepool*
 Diameter of cylinder *24* Length of stroke *33*
 No. of revolutions per minute *About 65*
 Point of cut off *1/2 stroke*
 Diameter of screw shaft *8 1/2*
 Diameter of crank shaft journals *8 1/2*
 Diameter of screw, or of paddle wheel *13' 0*
 Pitch of screw *15 1/2*
 No. of blades, *4* Total surface *50 sq feet*
 No. of bilge pumps *2* and sizes *2 1/8 x 3 1/4* *Single Acting*
 Do they pump from each compartment *From wings & centre of engine room*
fore hold & after hold

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *2* and sizes *3 x 2 1/2* *Single Acting*
 What gauges are there attached to the engines and boilers ... *New Steam*
 Description and size of *1 x 1 pump 1 1/2 dia x 9* *Double Acting*
 Donkey Pumps ... *2 x 2 1/2* *3 1/2* *4*
 Where do they pump *From wings & centre of bilge tanks*
And from engine room 2 pumps from sea
hold, wings & centre of engine room for hold & after hold
 No. of bilge injections *1* and sizes *4*
 Are they connected to air, or circulating pumps *Circulating Pump*
 Is there a hand pump in the engine room *Montage 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 *One* Description *Cyl. Tubular, fired at both ends*
 Made by *Messrs J. Richardson & Sons*
 When *Nov* 1877 At *Hartlepool*
 Working pressure *65 lbs*
 Tested by hydraulic pressure to *130*, Date *20th Oct. 1877*
 Description of super-heating apparatus *None*
 Can each boiler be worked separately *Only one boiler in ship*

Can the super-heater be shut off and the boilers worked separately *No superheater*
 Description and area of safety valves on each boiler *2 x spring valves on boiler*
 Total area *30.39 in*
 No. of square feet of fire-grate surface in each boiler *52.39 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. *All except suction pipes and pumps in holds when ship is loaded*

DONKEY BOILER

Description *Vertical, Water tubes in furnace*
 Where fixed *In stokehold*
 Working pressure *60 lbs*

Made by *Messrs Geo. Duncan, West Hartlepool*
 Tested by hydraulic pressure to *130 lbs*, Date *22nd Oct. 1877*
 Description and area of safety valves *Direct & Lever & weight. Total area 8.86*
 No. of square feet of fire grate *14.83 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 & 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 and watertight. Sluice door fitted*

Richardson & Sons
M. C. Smith

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 *"Blenheim"* owned by *Spil, Young & Co*
 of the Port of *London* of *734.67* Tons Register, and *99* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Hartlepool*
 and found to be at this date, viz., *27th Nov* 1877 in good order and safe working condition

Amount of Fee for Survey ... £ *4 19 0*
 (Travelling Expenses, if any, £ *0 5 0*)

Engineer Surveyor to Lloyd's Register of Shipping.