

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

1958 Iron
Rec 12/11/77

Port *Sunderland* No. *112182*
Report (if any) on Hull of Vessel.

Description *Mounted Compound, Surface Condensing*
Made by *Mr. J. Dickinson*
When *Oct 1877* At *Sunderland*
Diameter of cylinder *27 1/2* Length of stroke *33*
No. of revolutions per minute *one of each about 65*
Point of cut off *1/2 stroke*
Diameter of screw shaft *9"*
Diameter of crank shaft journals *9"*
Diameter of screw, or of paddle wheel *12 1/2*
Pitch of screw *16 1/2*
No. of blades, *4* Total surface *40 sq feet*
No. of bilge pumps *2* and sizes *3 1/2 x 16 1/2 stroke*
Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*
No. of feed pumps *2* and sizes *3 1/2 x 16 1/2 stroke*
What gauges are there attached to the engines and boilers ... *2 Steam 1 Vacuum*
Description and size of Donkey Pumps ... *2 mounted, large one 8" x 10 stroke A double actinf. small one 4 1/2 x 6 single B*
Where do they pump from ... *4 from each compartment, tanks and condenser B from sea & hotwell*
No. of bilge injections *one* and sizes *3 1/2 diameter*
Are they connected to air, or circulating pumps *Circulating*
Is there a hand pump in the engine room *yes*
Can it be worked by the main engines
Is there a deck hose of sufficient length to reach to any part of the vessel *yes*

MAIN BOILERS.

Number *One* Description *Cylindrical & Multitubular*
Made by *Mr. J. Dickinson*
When *Oct 1877* At *Sunderland*
Working pressure *70 lbs*
Tested by hydraulic pressure to *140 lbs*, Date *Sept 28/77*
Description of super-heating apparatus *none*
Can each boiler be worked separately *only 1 boiler*

Can the super-heater be shut off and the boilers worked separately
Description and area of safety valves on each boiler *Mr Dickinson's patent. 2 off 4 dia - 25.2 sq in*
No. of square feet of fire-grate surface in each boiler *46 1/4*
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, except roses in holds & tanks*

DONKEY BOILER.

Description *Vertical*
Where fixed *Stoke hold*
Working pressure *50 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *Sept 11/77*
Description and area of safety valves *one 8W. 1 Lever each 12 inches diam*
No. of square feet of fire grate *12*

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 ... *Valves and cocks*
Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *all on turn of bilge*
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 *yes*

for John Dickinson Manufacturer.
Fred W. Grew

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 *"Britannia"* owned by *J. W. Taylor & Son* of the Port of *Sunderland* of *631 7/8* Tons Register, and *98* Registered Horse Power, and that they have been carefully inspected and examined by me at *Sunderland* and found to be at this date, viz., *November 1st* 18 *77* in good order and safe working condition.

Amount of Fee for Survey *£ 4 : 18 :*

(Travelling Expenses, if any, £ *5 : 3*)

William Allison & J. Milton
Engineer Surveyor to Lloyd's Register of Shipping.