

S. S. "Behera"

23294

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 1/5/79

Description *Compound Inverted Direct Acting*  
 Made by *Messrs M Paul & Coy*  
 When *1879* At *Gumbarton*  
 Diameter of cylinder *30 1/4"* Length of stroke *36"*  
 No. of revolutions per minute *65*  
 Point of cut off *20"*  
 Diameter of screw shaft *10"*  
 Diameter of crank shaft journals *10"*  
 Diameter of screw, ~~or crank shaft~~ *13 1/2"*  
 Pitch of screw *16 1/2"*  
 No. of blades *four* Total surface *55 ft flat + 1/3 Proj*  
 No. of bilge pumps *two* and sizes *5 1/2 dia*  
 Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*  
 No. of feed pumps *two* and sizes *6" dia*  
 What gauges are there attached to the engines and boilers ... *three steam, one vacuum one compound*  
 Description and size of Donkey Pumps ... *double acting 1 1/2 x 9"*  
 Where do they pump from ... *from the sea & bilge*  
 No. of bilge injections *two* and sizes *2 3/4" cocks*  
 Are they connected to air, or circulating pumps *to air*  
 Is there a hand pump in the engine room *yes*  
 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 *Round Horizontal*  
 Made by *M. Paul & Coy*  
 When *1879* At *Gumbarton*  
 Working pressure *70 lbs*  
 Tested by hydraulic pressure to *140 lbs*, Date *14.3.79*  
 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 *yes*  
 Description and area of safety valves on each boiler ... *two direct spring each 3 1/4" dia*  
 No. of square feet of fire-grate surface in each boiler *32 1/2*  
 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 *Round Vertical*  
 Where fixed *In Stokchold*  
 Working pressure *60 lbs*

Tested by hydraulic pressure to *120 lbs*, Date *March/78*  
 Description and area of safety valves *one direct spring 4" area*  
 No. of square feet of fire grate *14 1/2*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *All except main injection which is fitted on side*  
 Are they Kingston valves or common cocks ... *Screw down valves & cocks*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *They have now been moved from flat of bottom to upper stern of bilge*  
 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 *bilge pipes to stokehold*  
 How are they protected *By wood casing*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *April 7<sup>th</sup> 1879*  
 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 *A sluice door is fitted on bulkhead the tunnel is open in the bottom*

Manufacturer.

I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron ~~and Wood~~ Screw ~~and~~ Steam Vessel *"Behera"* owned by *J. Silburn* of the Port of *Glasgow* of *1031* Tons Register, and *127* Registered Horse Power, and that they have been carefully inspected and examined by me at *Glasgow, Gumbarton & Glasgow* and found to be at this date, viz., *April 25<sup>th</sup> 1879* in good order and safe working condition

Amount of Fee for Survey ... £ " : " : "  
 (Travelling Expenses, if any, £ *✓*)

*James Morrison*  
 Engineer Surveyor to Lloyd's Register of Shipping.  
*Clyde Street*