

# 20240 *Sen* LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

*Rev 25/2/78*

Description *2 cyl<sup>d</sup> Compound S. B.*  
Made by *George Black*  
When *March 1874* At *Sunderland*  
Diameter of cylinder *22 1/2* Length of stroke *36"*  
No. of revolutions per minute *73*  
Point of cut off *5/8*  
Diameter of screw shaft *6 3/4"*  
Diameter of crank shaft journals *6 3/4"*  
Diameter of screw, or of paddle wheel *9' 1"*  
Pitch of screw *14 ft. 0 in*  
No. of blades, *(3)* Total surface *24 sq. ft*  
No. of bilge pumps *(2)* and sizes *3 1/2 dia, 15 stroke,*  
Do they pump from each compartment *Eng. room only*

Are all the bilge suction pipes fitted with roses *Yes*  
No. of feed pumps *(2)* and sizes *3 1/2 dia 15 stroke*  
What gauges are there attached to the engines and boilers ... *1 Steam gauge*  
*1 Vacuum gauge*  
Description and size of Donkey Pumps ... *Ballast 6 dia 10 stroke D.A.*  
*Boiler 4 " 6 " D.A.*  
Where do they pump from ... *Ballast from Tanks, sea & Eng. room*  
*Boiler from Eng. Room*  
No. of bilge injections *None* and sizes *—*  
Are they connected to air, or circulating pumps *—*  
Is there a hand pump in the engine room *No*  
Can it be worked by the main engines *Boiler donkey can be used*  
Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

### MAIN BOILERS.

Number *one* Description *Cylindrical tubular*  
Made by *George Black*  
When *March 1874* At *Sunderland*  
Working pressure *70 lbs*  
Tested by hydraulic pressure to *—*, Date *—*  
Description of super-heating apparatus *None horizontal receiver*  
Can each boiler be worked separately *one Boiler only*

Can the ~~super-heater~~ be shut off and the boilers worked separately *— No*  
Description and area of safety valves on each boiler *one low weight 8 dia*  
*= 28.2 sq inches*  
No. of square feet of fire-grate surface in each boiler *45 sq. 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 rose in fore hold.*

### DONKEY BOILER.

Description *Cylindrical Vertical no cross tubes*  
Where fixed *Upper Deck*  
Working pressure *40 lbs per sq. inch*

Tested by hydraulic pressure to *not ascertained*, Date *—*  
Description and area of safety valves *low weight 2 1/2 dia = 4.9*  
No. of square feet of fire grate *4.9 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 ... *2 Stop valves rest on common Cocks*  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Below*  
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 *Tank suction*  
How are they protected *Wood*  
When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Feb 1878 propeller & Sea Connections*  
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*

Manufacturer.

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 *"Heller"* owned by *Messrs J. Young & Sons & Co* of the Port of *London* of *340* Tons Register, and *70* Registered Horse Power, and that they have been carefully inspected and examined by me at *South Shields* and found to be at this date, viz., *Feb 13<sup>th</sup>* 1878 in good order and safe working condition.

Amount of Fee for Survey ... £ *—*

(Travelling Expenses, if any, £ *—*)

*George W. Manuel*  
Engineer Surveyor to Lloyd's Register of Shipping.  
*North Shields*