

22017 Iron

Rec 31/10/78

Description *Compound, Inverted, Surface Condensing*
Made by *J. Richardson & Son*
When *June* 18*71* At *Hartlepool*
Diameter of cylinder *24 x 50* 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" Sammel shaft 8*
Diameter of screw, ~~or~~ of paddle wheel *11.6*
Pitch of screw *15.9"*
No. of blades, *11* Total surface *48.29 sq. ft.*
No. of bilge pumps *2* and sizes *6 x 6" stroke Single Act.*
Do they pump from each compartment *From engine room only*

Are all the bilge suction pipes fitted with roses *Yes*

No. of feed pumps *2* and sizes *3" x 2 3/4" Single Acting*

What gauges are there attached to the engines and boilers ... *2 Steam*
1 Vacuum

Description and size of Donkey Pumps ... *1 pump 1/2 dia x 9" stroke Double Acting*
2 " 1/2 " 4 1/2 " x 1/2 " "
2 " Pumps from ballast tanks and engine room. No 2 from sea, hotwell
Fore hold sumps of engine room.

Where do they pump from *a*

No. of bilge injections *1* and sizes *1 1/2"*

Are they connected to air, or circulating pumps *Circulating Pump*

Is there a hand pump in the engine room *Yes. Works from deck*

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*

Number One Description Cylindrical Multitubular
Made by Blair & Co (Lem.)
When Sept 1878 At Stockton on Tees
Working pressure 7 1/2 lb
Tested by hydraulic pressure to 148 lb, Date _____
Description of super-heating } None
apparatus }
Can each boiler be worked separately Only one boiler on ship

Can the super-heater be shut off and } *No superheater*
the boilers worked separately }
Description and area of } *Two spring safety valves 25" on*
safety valves on each }
boiler } *Combined area*
No. of square feet of fire-grate } *45.2 sq feet*
surface in each boiler }
Are there separate blow off and } *Yes*
brine cocks on each boiler, }
independent of those }
on the vessel's skin }
Are all pipes, cocks, roses, and pumps in } *All except suction pipes & roses*
connection with the machinery ac- }
cessible at all times..... } *in holds when ship is loaded*

Description *Vertical Water tubes in furnace*
Where fixed *In stokehole*
Working pressure *40 lbs* Loaded to *61 lbs*

Tested by hydraulic pressure to 140, Date 4/9/48
Description and area of safety valves $\left. \begin{array}{l} 1 \text{ direct } 2\frac{1}{2} \text{ dia} \\ 1 \text{ lever } 2\frac{3}{8}/32 \text{ or } \end{array} \right\} = 9.4 \text{ sq in.}$
No. of square feet of fire grate _____

Are all connections with the sea }
direct on the skin of the ship }

Are they Kingston valves } *Stop valves and*
or common cocks ... } *cocks*

Are they fixed sufficiently high on }
the ship's side to be seen } *Yes*
without lifting the stoke hold }
plates

Are the discharge pipes above or } *Below*
below the deep water line }

Are they each fitted with a discharge } *Yes*
valve on the plating of the vessel }

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 } October 1878

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 not watertight
Sluice door fastened

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 *Harley Hall* owned by *A. Irvine & Co* of the Port of *West Hartlepool* of *453* Tons Register, and *98* Registered Horse Power, and that they have been carefully inspected and examined by me at *West Hartlepool & Stockton on Tees* and found to be at this date, viz., *October 8th* 18*48* in good order and safe working condition. 19

Amount of Fee for Survey £ 4 : 18 : 0
Certificate 0 - 5 - 0
 (Travelling Expenses, if any, £

Engineer Surveyor to Lloyd's Register of Shipping.