

SHIP'S NAME *T.S.S. "James Hall"*

24960 ton

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 15/11/79

Compound
Description *Int. Cyl. Surface Condensing*
Made by *Messrs Hall Russell & Co*
When *April* 1870 At *Aberdeen*
Diameter of cylinder *23 1/2* Length of stroke *30*
No. of revolutions per minute *70*
Point of cut off *about 3/8ths of stroke*
Diameter of screw shaft *8 inches*
Diameter of crank shaft journals *9*
Diameter of screw, or of paddle wheel *11 1/2*
Pitch of screw *14 1/2*
No. of blades, *4* Total surface *✓*
No. of bilge pumps *one* and sizes *5 1/2 dia 15 stroke*
Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*
No. of feed pumps *one* and sizes *5 1/2 dia 15 stroke*
What gauges are there attached to the engines and boilers ... *one water on boiler one pressure in stoke hold one each pressure and vacuum on engines*
Description and size of Donkey Pumps ... *one int. cyl 7 dia 8 stroke 3 1/2 pump*
Where do they pump from ... *from sea bilges to boiler through condenser on deck and ship side*
No. of bilge injections *one* and sizes *4 dia*
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 *no*
Is there a deck hose of sufficient length to reach to any part of the vessel *yes*

MAIN BOILERS.

Number *one* Description *Circular Tubular*
Made by *Messrs Hall Russell & Co*
When *Oct* 1879 At *Aberdeen*
Working pressure *65 lbs*
Tested by hydraulic pressure to *160 lbs*, Date *7.7.79*
Description of super-heating apparatus *none*
Can each boiler be worked separately *—*

Can the super-heater be shut off and the boilers worked separately *—*
Description and area of safety valves on each boiler ... *two spring load made by H.R. & Co 28.38 area*
No. of square feet of fire-grate surface in each boiler *50 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 *yes*

DONKEY BOILER.

Description *one Round Vertical*
Where fixed *stoke hold*
Working pressure *50 lbs*

Tested by hydraulic pressure to *160 lbs*, Date *7.7.79*
Description and area of safety valves *one spring load 7 inches area*
No. of square feet of fire grate *8.5 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 ... *cocks and valves*
Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *yes with the exception of boiler blow off cocks under the plates*
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 *none*
How are they protected *—*
When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *on ship 7.10.79*
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*

Hall Russell & Co Manufacturers

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 "*James Hall*" owned by *Aberdeen Newcastle & Hull* of the Port of *Aberdeen* of *221* Tons Register, and *65* Registered Horse Power, and that they have been carefully inspected and examined by me at *Aberdeen* and found to be at this date, viz., *23rd October* 1879 in good order and safe working condition.

Amount of Fee for Survey ... £ *3 : 3 : 0*

(Travelling Expenses, if any, £ *2.14.9*)

Witnessed by me and forwarded to James Russell Esq 1879 J.H.R.

John Sturrock
Engineer Surveyor to Lloyd's Register of Shipping.

Hall Russell & Co
makers of the boilers

180N 488-0454