

22260 Iron

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Compound Inverted Direct Acting*
 Made by *Compounded by Muir & Houston*
 When *1848* At *Glasgow*
 Diameter of cylinder *32 1/2 x 44* Length of stroke *30*
 No. of revolutions per minute *65*
 Point of cut off *1/2*
 Diameter of screw shaft *8*
 Diameter of crank shaft journals *8*
 Diameter of screw, ~~or paddle wheel~~ *11 1/2*
 Pitch of screw *14 1/2 to 18 1/2 16 1/2 mean*
 No. of blades, *Four* Total surface *16 1/2*
 No. of bilge pumps *Two* and sizes *3 1/2 x 4 1/2*
 Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *Two* and sizes *4 1/2 x 4 1/2* Stroke
 What gauges are there attached to the engines and boilers ... *Two Steam & one Vacuum*
 Description and size of Donkey Pumps ... *Double acting 3 1/2 x 4 1/2*
 Where do they pump from ... *From the sea Bilge Pumps*
 No. of bilge injections *One* and sizes *3 1/2*
 Are they connected to air, or circulating pumps *to 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 *Round Horizontal*
 Made by *Muir & Houston*
 When *1848* At *Glasgow*
 Working pressure *65 lbs*
 Tested by hydraulic pressure to *130 lbs*, Date *Sept 25th 1848*
 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 Direct Spring each 12.5" area*
 No. of square feet of fire-grate surface in each boiler *48 ft*
 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 Storehold*
 Working pressure *65 lbs*

Tested by hydraulic pressure to *130 lbs*, Date *Sept 25th 1848*
 Description and area of safety valves *Direct Spring 1" area*
 No. of square feet of fire grate *9 ft*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *The Donkey Suction is fitted outside*
 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 ... *How fitted above the turn of the bilge*
 Are the discharge pipes above or below the deep water line *About level with load line*
 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 Storehold*
 How are they protected *By Wood casing*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *On Slip Nov 12 1848*
 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 *No Tunnel, after compartment cover, for tunnel, a sluice door is fitted on bulkhead*

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 *"Clutha"* owned by *J. Bell*
 of the Port of *Glasgow* of *Glasgow* Tons Register, and *95* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Glasgow*
 and found to be at this date, viz., *December 22nd 1848* 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.