

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 11/4/78

Description *Compound Inverted Vertical*
 Made by *Messrs A & J Inglis*
 When *1878* At *Glasgow*
 Diameter of cylinder *18" x 34"* Length of stroke *24"*
 No. of revolutions per minute *90*
 Point of cut off *Variable*
 Diameter of screw shaft *6 1/2"*
 Diameter of crank shaft journals *7"*
 Diameter of screw, or of paddle wheel *9 1/2"*
 Pitch of screw *11 1/2"*
 No. of blades, *Three* Total surface *not ascertained*
 No. of bilge pumps *Two* and sizes *3 3/4" x 6" stroke*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *Two* and sizes *3 3/4" dia x 6" stroke*
 What gauges are there attached to the engines and boilers ... *One Steam One Vacuum + One Compound*
 Description and size of Donkey Pumps ... *Double acting 3 1/2" x 7" stroke*
 Where do they pump from ... *From the Sea & Bilge*
 No. of bilge injections *One* and sizes *3"*
 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 *Round Horizontal*
 Made by *A & J Inglis*
 When *1878* At *Glasgow*
 Working pressure *70 lbs*
 Tested by hydraulic pressure to *140*, Date *March 5th 1878*
 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 8.29" area*
 No. of square feet of fire-grate surface in each boiler *34 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 Engine Room*
 Working pressure *50 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *Mar. 5th 1878*
 Description and area of safety valves *Two direct 7" 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 *Yes*
 Are they Kingston valves or common cocks ... *Kingston Valve Cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Yes*
 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*
A & J Inglis Manufacturers

What pipes are carried through the bunkers *Large pipes to forehold*
 How are they protected *By wood casing*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *On ship previous to being launched*
 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*

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 *"Tenny"* owned by *J. Burnett & Co*
 of the Port of *London* of *1192* Tons Register, and *50* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Glasgow*
 and found to be at this date, viz., *April 9th 1878* in good order and safe working condition.

Amount of Fee for Survey ... £ *2:10:00* paid
 (Travelling Expenses, if any, £ ...)

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