

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 8/6/77

Description *Inverted Compound Surface Condensing*
 Made by *Messrs Pattison & Atkinson*
 When *May 1877* At *Mushroom on Tyne*
 Diameter of cylinder *20 & 40* Length of stroke *30*
 No. of revolutions per minute *(about 70)*
 Point of cut off *1/2 stroke*
 Diameter of screw shaft *7 1/2*
 Diameter of crank shaft journals *7 1/2*
 Diameter of screw, or of paddle wheel *11 0*
 Pitch of screw *10 6 to 11 6*
 No. of blades, *4* Total surface *35 sq feet*
 No. of bilge pumps *2* and sizes *3 dia x 15 stroke*
 Do they pump from each compartment *from Engine room*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *3 dia x 15 stroke*
 What gauges are there attached to the engines and boilers ... *one steam gauge on boiler in stokehold, one in engine room, & 1 compound vacuum*
 Description and size of Donkey Pumps ... *one inverted double acting 4 dia x 8 stroke*
 Where do they pump from ... *sea tanks and bilges of engine room & aft well and fore hold*
 No. of bilge injections *one* and sizes *2 1/2 dia*
 Are they connected to air, or circulating pumps *to circulating pump*
 Is there a hand pump in the engine room *no (donkey can be used)*
 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 *none (at present)*

MAIN BOILERS.

Number *one* Description *Cylindrical & multitubular*
 Made by *Mr J. J. Elvingham*
 When *May 1877* At *South Shields*
 Working pressure *70 lbs per sq inch*
 Tested by hydraulic pressure to *140 lbs* Date *April 18/77*
 Description of super-heating apparatus *none*
 Can each boiler be worked separately *only 1 boiler*

Can the super-heater be shut off and the boilers worked separately
 Description and area of safety valves on each boiler *2 loaded direct 3 1/2 dia = 19.2 sq ins area*
 No. of square feet of fire-grate surface in each boiler *35*
 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 *Upright Cyl with 2 cross tubes*
 Where fixed *in the stokehold*
 Working pressure *60 lbs per sq inch*

Tested by hydraulic pressure to *120 lbs (reported)* Date *April 18/77*
 Description and area of safety valves *1 loaded direct 2 3/4 = 5.9 sq ins*
 No. of square feet of fire grate *9*

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 ... *stop 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*

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 *new*
 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*

Pattison & Atkinson Manufacturer of the Main Engines

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 *A. Simey No 51 (not named)* owned by *Pile & Co*
 of the Port of *London* of *400-85 Tons Register*, and *80* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Mushroom, South Shields & Sunderland*
 and found to be at this date, viz., *June 6th 1877* in good order and safe working condition.

Amount of Fee for Survey *Certificate £ 4 : 0 : 0*
 (Travelling Expenses, if any, £ *1-1*) *£ 4 : 3 : 0* Received *7/6/77 JAW*

William Allison
 Engineer Surveyor to Lloyd's Register of Shipping.