

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 12/6/76

Report (if any) on Hull of Vessel. Port *Newcastle* No. *1322*

Description *Compound Inverted Surface Condensing* Are all the bilge suction pipes fitted with roses *Yes*
 Made by *Messrs J. Clark & Co* No. of feed pumps *2* and sizes *4" dia x 18" stroke Single Acting*
 When *May 1876* At *Newcastle* What gauges are there attached to the engines and boilers ... *3 steam 1 vacuum*
 Diameter of cylinder *1-29" and 1-56"* Length of stroke *36* Description and size of Donkey Pumps ... *No 1 - Pump 8" dia x 10" stroke Double Acting*
 No. of revolutions per minute *About 65* *No 2 - " 4" x 10" " "*
 Point of cut off *11-10th & 1-10th of stroke*
 Diameter of screw shaft *9 1/4"* Where do they pump from *Ballast tanks, sea, bilge and from Hotwell*
 Diameter of crank shaft journals *9 1/4"*
 Diameter of screw, ~~or of paddle wheel~~ *14" 0"* No. of bilge injections *One* and sizes *4" dia*
 Pitch of screw *16" 6"* Are they connected to air, or circulating pumps *Circulating pump*
 No. of blades, *4* Total surface *48^{sq} ft* Is there a hand pump in the engine room *No. Small donkey can be used as such*
 No. of bilge pumps *2* and sizes *4" dia x 18" stroke Single Acting* Can it be worked by the main engines *No*
 Do they pump from each compartment *from engine room & afterwell* Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *Two* Description *Round Horizontal Multitubular* Can the super-heater be shut off and the boilers worked separately *Yes*
 Made by *Messrs J. Clark & Co* Description and area of safety valves on each boiler *Lever and weight. Two on each boiler. Total area 19.2^{sq} in*
 When *Nov 1876* At *Newcastle* No. of square feet of fire-grate surface in each boiler *38^{sq} ft*
 Working pressure *65 lbs* Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes*
 Tested by hydraulic pressure to *130 lbs* Date *March 1876* Description of super-heating apparatus *No superheater*
 Can each boiler be worked separately *Yes* Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times *Yes*

DONKEY BOILER.

Description *Vertical Cylindrical Water tubes in furnace* Tested by hydraulic pressure to *120 lbs* Date *April 1876*
 Where fixed *In stokehold* Description and area of safety valves *Direct weight 8.29^{sq} in*
 Working pressure *45 lbs* No. of square feet of fire grate *18.9^{sq} ft*
 Made by *Messrs Clark, Chapman & Gurney Newcastle*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *Yes* What pipes are carried through the bunkers *None*
 Are they Kingston valves or common cocks ... *Stop valves and common cocks* How are they protected *Yes*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *No* When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Nov 1876*
 Are the discharge pipes above or below the deep water line *Above* Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes*
 Are they each fitted with a discharge valve on the plating of the vessel *Yes* Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Yes*

J. Clark & Co 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 *Silurian* owned by *J. Edwards Esq*
 of the Port of *Cardiff* of *791.50* Tons Register, and *120* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Walsend on 22nd May 1876*
 and found to be at this date, viz., *22nd May 1876* in good order and safe working condition.

Survey fee *£3-3-0*

Certificate *5-0* Received at *Shields*
£3-8-0 by *T. Young*
10/6/76