

16303 Iron

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

See 11/5/76

No. 12192 Port Newcastle Report (if any) on Hull of Vessel.

Description *Corn Compound Inverted Direct Acting*
 Made by *Messrs Maudslayi Sons & Field*
 When *1872* At *London*
 Diameter of cylinder *1-38 1/2 x 1-70* Length of stroke *48"*
 No. of revolutions per minute *About 53*
 Point of cut off *High Pressure 3/4 of stroke Low Pressure 1/4 of stroke*
 Diameter of screw shaft *12 1/4"* Tunnel shaft *12"*
 Diameter of crank shaft journals *12 1/4"*
 Diameter of screw, or of paddle wheel *14" 0"*
 Pitch of screw *20" 0"*
 No. of blades, *4* Total surface *n*
 No. of bilge pumps *2* and sizes *6 1/2 dia x 14" stroke Single Acting*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *2* and sizes *5" dia x 20" stroke Single Acting*
 What gauges are there attached to the engines and boilers ... } *5 Steam*
 } *1 Vacuum*
 Description and size of Donkey Pumps ... } *No. 1 - 5 1/2" dia x 10 1/2" stroke Double Acting*
 } *No. 2 - 4 1/2" dia x 8" stroke Double Acting*
 Where do they pump from ... } *No. 1 - From tanks and all compartments*
 } *No. 2 - From Sea*
 No. of bilge injections *1* and sizes *6" dia*
 Are they connected to air, or circulating pumps *Air Pump*
 Is there a hand pump in the engine room *Yes Donkey can be used as such*
 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 *2* Description *Horizontal Cylindrical Double ended*
 Made by *Messrs R & W Hawthorn*
 When *April 1876* At *Newcastle on Tyne*
 Working pressure *70 lbs*
 Tested by hydraulic pressure to *110 lbs*, Date *9th March 1876*
 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 } *n*
 Description and area of safety valves on each boiler } *Adams Spring*
 } *31.8 sq inches*
 No. of square feet of fire-grate surface in each boiler } *64.59 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. } *Not accessible in holds when the vessel is loaded*

DONKEY BOILER.

Description *Vertical Cylindrical Water tubes in furnace*
 Where fixed *In Stoket hole*
 Working pressure *43 lbs*

Tested by hydraulic pressure to *not ascertained*, Date *1872*
 Description and area of safety valves *Direct weight 7.068 sq in*
 No. of square feet of fire grate *12.56 sq 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 ... } *Kingston valves for circulating pump and main blow off, the others common 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 } *Below*
 Are they each fitted with a discharge valve on the plating of the vessel } *Yes*

What pipes are carried through the bunkers } *Suction pipe to hand pump on deck*
 How are they protected } *Wood casing*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock } *April 1876*
 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*

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 "*Nankin*" owned by *Watts, Millburn & Co* of the Port of *London* of *2423* Tons Register, and *300* Registered Horse Power, and that they have been carefully inspected and examined by me at *Newcastle on Tyne & North Shields* and found to be at this date, viz., *April 21st* 1876 in good order and safe working condition.

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