

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *One Engine, Inverted, Compound, S.C. with L.P. on the top of*
 Made by *Messrs R. Stephenson & Co.*
 When *new* 1876 At *Newcastle*
 Diameter of cylinders *26" x 58"* Length of stroke *3' 6"*
 No. of revolutions per minute *about 56.*
 Point of cut off *3/4 stroke.*
 Diameter of screw shaft *10" x 11"*
 Diameter of crank shaft journals *11"*
 Diameter of screw, or of paddle wheel *16 ft.*
 Pitch of screw *20' 6" to 23' 6"*
 No. of blades, *4* Total surface *76 sq. ft.*
 No. of bilge pumps *1* and sizes *6" dia. x 1' 4" stroke single acting.*
 Do they pump from each compartment *yes,*

Are all the bilge suction pipes fitted with roses *yes.*
 No. of feed pumps *1* and sizes *6" dia. x 1' 4" stroke single acting.*
 What gauges are there attached to the engines and boilers *2 vacuum gauges, 1 steam on each end of boiler & 1 steam on engine.*
 Description and size of Donkey Pumps *2. 1 Inverted, double pumps & double acting. Large ones = 5" dia. x 8" stroke. Small one 3" dia. x 6" stroke double acting.*
 Where do they pump from *the tanks and bilges. The small one from the sea and hotwell.*
 No. of bilge injections *1* and sizes *3" dia.*
 Are they connected to air, or circulating pumps *Circulating pumps.*
 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 *Yes, and an iron pipe on deck.*

MAIN BOILERS.

Number *one.* Description *in ends and oval at each end. Horizontal, multitubular, round.*
 Made by *Messrs R. Stephenson & Co.*
 When *new* 1876 At *Newcastle.*
 Working pressure *80 lbs per sq. inch.*
 Tested by hydraulic pressure to *160 lbs.*, Date *Nov-11-75*
 Description of super-heating apparatus *Cylindrical, steam chest.*
 Can each boiler be worked separately *only 1 boiler.*

Can the super-heater be shut off and the boilers worked separately *no.*
 Description and area of safety valves on each boiler *2 spring safety valves 5 3/8" dia. area = 45 sq. ins.*
 No. of square feet of fire-grate surface in each boiler *80.*
 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 *Cylindrical & Multitubular, with dome on top.*
 Where fixed *on deck.*
 Working pressure *70 lbs per sq. inch.*

Tested by hydraulic pressure to *140 lbs (repacked)*, Date *April 76.*
 Description and area of safety valves *loaded direct 3" dia. 1 area*
 No. of square feet of fire grate *10 1/2 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 *stop valves & cocks.*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *no.*
 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 *none.*
 How are they protected *new.*
 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. by Cocks with only 1 port in plug.*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Tunnel is watertight. No sluice door. The entrance is above the deep load line.*

Wm. R. Stephenson & Co. Manufacturer, except of the Donkey boiler.
W. H. Hadden

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 "*Peer of the Realm*" owned by *Messrs Farlam & Co.* of the Port of *Newcastle* of *1182.40* Tons Register, and *200* Registered Horse Power, and that they have been carefully inspected and examined by me at *Newcastle and Sunderland.* and found to be at this date, viz., *April 21st* 1876. in good order and safe working condition.

Survey fee *£ 5.5.0*
 Certificate *0.5.0*

(10/1/76.)

Travelling expenses *£ 5.10.0*

Received at *Sunderland* by *W. H. Hadden* 27/4/76.

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