

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Compound, Inverted, Surface Condensing*  
 Made by *Messrs John Shaw & Co.*  
 When *July 18/76* At *Law Walker Newcastle*  
 Diameter of cylinder *26" x 46"* Length of stroke *30"*  
 No. of revolutions per minute *About 65*  
 Point of cut off *3/4" of stroke*  
 Diameter of screw shaft *8 1/2"* *Tunnel shaft 8 1/4"*  
 Diameter of crank shaft journals *8 1/2"*  
 Diameter of screw, ~~or of paddle wheel~~ *10 1/8"*  
 Pitch of screw *1 1/2" x 20" 0"*  
 No. of blades, *4* Total surface *34 sq ft*  
 No. of bilge pumps *2* and sizes *3 1/2" dia x 10" stroke Single Acting*  
 Do they pump from each compartment *From engine room only*

Are all the bilge suction pipes fitted with roses *Yes*  
 No. of feed pumps *2* and sizes *3 1/2" dia x 10" stroke Single Acting*  
 What gauges are there attached to the engines and boilers ... *One steam gauge in engine room and one in stokehole. One vacuum gauge*  
 Description and size of Donkey Pumps ... *Double Acting 4" dia x 9" stroke*  
 Where do they pump *From engine room, sea, tanks from after well and after compartment*  
 No. of bilge injections *1* and sizes *2 1/2" dia*  
 Are they connected to air, or circulating pumps *To Condenser*  
 Is there a hand pump in the engine room *Yes Worked from deck*  
 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 Multitubular*  
 Made by *Messrs John Shaw & Co.*  
 When *July 18/76* At *Law Walker Newcastle*  
 Working pressure *65 lbs*  
 Tested by hydraulic pressure to *120 lbs*, Date *10 June 1876*  
 Description of super-heating apparatus *None*  
 Can each boiler be worked separately *Only one boiler in ship*

Can the super-heater be shut off and the boilers worked separately *Yes*  
 Description and area of safety valves on each boiler *Each 4" dia. Total area 28.12 sq in*  
 No. of square feet of fire-grate surface in each boiler *60 sq 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 *Vertical Water tubes in furnace*  
 Where fixed *In stokehole*  
 Working pressure *36 1/2 lbs*

Tested by hydraulic pressure to *90 lbs*, Date *June 1876*  
 Description and area of safety valves *Direct weight 4.9 sq in*  
 No. of square feet of fire grate *9 sq ft*

### PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *All, except sea cock for filling after compartment*  
 Are they Kingston valves or common cocks ... *Kingston valves for circulating pump. The other 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 *About level*  
 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 *None*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Now*  
 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*

*John Shaw & 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 *Claf Lyngvæn* owned by *Nordenfjeldske Skibsrederi & Co* of the Port of *Trondhjem* of *404.16* Tons Register, and *90* Registered Horse Power, and that they have been carefully inspected and examined by me at *Law Walker* and found to be at this date, viz., *August 8th 1876* in good order and safe working condition.

Survey fee *4-10-0*

Certificate *5-0*

Received at *Shields* by *R. Young* *5/10/76*

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation

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