

1706 Iron

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Rec 2/10/76

Report (if any) on Hull of vessel. Port - Sunderland, No.

Description *Inverted, Direct Acting, Surface Condensing.*  
 Made by *The North Eastern Marine Engineering Coy.*  
 When *1869* At *Sunderland.*  
 Diameter of cylinders *36.2* off Length of stroke *30.*  
 No. of revolutions per minute *60.*  
 Point of cut off *about 5/8<sup>th</sup> of the stroke.*  
 Diameter of screw shaft *8.*  
 Diameter of crank shaft journals *8.*  
 Diameter of screw, or of paddle wheel *11 feet.*  
 Pitch of screw *12 to 16 feet*  
 No. of blades, *4* Total surface *40 sq. ft.*  
 No. of bilge pumps *2* and sizes *3 3/8 dia. x 30 stroke.*  
 Do they pump from each compartment *from Engine room & aft well.*

Are all the bilge suction pipes fitted with roses *yes.*  
 No. of feed pumps *2* and sizes *2 3/8 dia. x 30 stroke.*  
 What gauges are there attached to the engines and boilers ... } *1 steam gauge on boiler*  
 } *1 vacuum.*  
 Description and size of Donkey Pumps ... } *2. Inverted, double acting, large one 4" dia. x 9 stroke, small one 3" x 6 stroke.*  
 } *the large one from Tanks, bilges*  
 } *& sea. Small one from sea,*  
 } *bilges and hotwell.*  
 Where do they pump from .....  
 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.*

### MAIN BOILERS.

Number *one* Description *Cylindrical & Multitubular*  
 Made by *The North Eastern Marine Engineering Coy.*  
 When *Sept. 1876.* At *Sunderland.*  
 Working pressure *40 lbs per sq. inch.*  
 Tested by hydraulic pressure to *80 lbs*, Date *Aug 21/76*  
 Description of super-heating apparatus } *steam done partly in the uptake.*  
 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 valves 4 1/2 dia = 33.4 sq. inches.*  
 No. of square feet of fire-grate surface in each boiler } *49 sq. 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. .... } *yes, except the air pipes from hotwell, when coals are in.*

### DONKEY BOILER.

Description *Upright Cylindrical, with 2 cross tubes.*  
 Where fixed *in the stokehole.*  
 Working pressure *40 lbs per sq. inch*

Tested by hydraulic pressure to *120 lbs*, Date *Aug 1/76*  
 Description and area of safety valves *1 loaded direct 2 3/8 = 4.4 ans.*  
 No. of square feet of fire grate *8 1/2.*

### PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship } *Cast iron pieces, between inlet valve to circulating pumps, blow off, and ash cock.*  
 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 ..... } *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 *2 air pipes from hotwell*  
 How are they protected *Close up to the deck.*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock } *August 1876.*  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge } *yes, by non return valves.*  
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead } *Tunnel is watertight no sluice door.*

*P. A. E. M. & Co (Ld)* Manufacturer. *except of the Donkey boiler.*  
*W. Allan*

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 "*Usworth*" owned by *J. Johansson.*  
 of the Port of *London* of *331* Tons Register, and *80.* Registered Horse Power,  
 and that they have been carefully inspected and examined by me at *Sunderland.*  
 and found to be at this date, viz., *September 14<sup>th</sup>* 1876. in good order and safe working condition.

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

*Certified*  
*W. A.*  
*3.10.76.*

IRON 468-0253