

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Two Inverted Cyl-Compound*
 Made by *Hawthorn Compound & Palmer*
 When *1872* At *Sarrow*
 Diameter of cylinder *26" x 51"* Length of stroke *30"*
 No. of revolutions per minute *60*
 Point of cut off *$\frac{5}{8}$ to $\frac{3}{4}$ of stroke;*
 Diameter of screw shaft *$8\frac{5}{8}$ "*
 Diameter of crank shaft journals *all 8"*
 Diameter of screw, ~~or of paddle wheel~~ *12 ft.*
 Pitch of screw *14 ft. increasing to 18 ft*
 No. of blades, *4* Total surface *40 sq. ft*
 No. of bilge pumps *2* and sizes *4" dia, 18" stroke,*
 Do they pump from each compartment *Engine Room only*

Are all the bilge suction pipes fitted with roses *Yes!*
 No. of feed pumps *2* and sizes *4" dia, 18" stroke,*
 What gauges are there attached to the engines and boilers ... *1 on each Boiler - "Steam"*
1 in Engine Room "Vacuum"
1 in Stroke hole "Steam"
 Description and size of Donkey Pumps ... *Vertical double action*
4 1/2" dia 8" stroke
 Where do they pump from ... *Sea Engine room Bilge & Tanks*
 No. of bilge injections *1* and sizes *6 1/2"*
 Are they connected to air, or circulating pumps *Circulating*
 Is there a hand pump in the engine room *No. donkey pump - 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 *Two* Description *Cylindrical horizontal*
 Made by *Palmer*
 When *1872* At *Sarrow*
 Working pressure *75 lbs per sq. inch*
 + reported
 + Tested by hydraulic pressure to *120 lbs*, Date *1872*
 Description of super-heating apparatus *Annular & vertical*
 Can each boiler be worked separately *Yes!*

Can the super-heater be shut off and the boilers worked separately *No!*
 Description and area of safety valves on each boiler ... *Two, 100 lbs weight*
19.2 sq. inch area
 No. of square feet of fire-grate surface in each boiler *30.9 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 *Cylindrical, vertical*
 Where fixed *Main Deck*
 Working pressure *45 lbs per sq. inch*

Tested by hydraulic pressure to *70 lbs*, Date *1872*
 Description and area of safety valves *Two, 100 lbs weight*
3.97 sq. inches
 No. of square feet of fire grate *7.0 sq. ft*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *All 4 except donkey sea tank & ash cock*
 Are they Kingston valves or common cocks ... *1 stop valve rest common - 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 *Yes!*
 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 ...
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Sub. 24th 1876*
now ruled Brass bushes fitted
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *all bilge Bilge suction which is secured by guard & padlock*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *No Tunnel*

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 *"Aurora"* owned by *London Steam Shipping Co Ltd*
 of the Port of *London* of *446* Tons Register, and *160* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *London*
 and found to be at this date, viz., *11th August* 1876 in good order and safe working condition.

G. W. Mammie

Engineer Surveyor to Lloyd's Register of Shipping.

110/176.
 Cent written
 Feb.
 1.9.76.

IRON 467-0471

Answer

ALLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

No. of the engine	1
Location of engine	Fore and Aft
Power of engine	1000
Speed of engine	10
Direction of rotation	Right hand
Kind of fuel	Coal
Kind of boiler	Water tube
Kind of condenser	Surface
Kind of pump	Centrifugal
Kind of valve	Slide
Kind of governor	Centrifugal
Kind of indicator	Slide
Kind of thermometer	Slide
Kind of barometer	Slide
Kind of chronometer	Slide
Kind of compass	Slide
Kind of log	Slide
Kind of telegraph	Slide
Kind of alarm	Slide
Kind of bell	Slide
Kind of whistle	Slide
Kind of siren	Slide
Kind of horn	Slide
Kind of gong	Slide
Kind of bell	Slide
Kind of whistle	Slide
Kind of siren	Slide
Kind of horn	Slide
Kind of gong	Slide

MAIN BOILERS.

No. of the boiler	1
Location of boiler	Fore and Aft
Power of boiler	1000
Speed of boiler	10
Direction of rotation	Right hand
Kind of fuel	Coal
Kind of boiler	Water tube
Kind of condenser	Surface
Kind of pump	Centrifugal
Kind of valve	Slide
Kind of governor	Centrifugal
Kind of indicator	Slide
Kind of thermometer	Slide
Kind of barometer	Slide
Kind of chronometer	Slide
Kind of compass	Slide
Kind of log	Slide
Kind of telegraph	Slide
Kind of alarm	Slide
Kind of bell	Slide
Kind of whistle	Slide
Kind of siren	Slide
Kind of horn	Slide
Kind of gong	Slide
Kind of bell	Slide
Kind of whistle	Slide
Kind of siren	Slide
Kind of horn	Slide
Kind of gong	Slide

DONKEY BOILER.

No. of the boiler	1
Location of boiler	Fore and Aft
Power of boiler	1000
Speed of boiler	10
Direction of rotation	Right hand
Kind of fuel	Coal
Kind of boiler	Water tube
Kind of condenser	Surface
Kind of pump	Centrifugal
Kind of valve	Slide
Kind of governor	Centrifugal
Kind of indicator	Slide
Kind of thermometer	Slide
Kind of barometer	Slide
Kind of chronometer	Slide
Kind of compass	Slide
Kind of log	Slide
Kind of telegraph	Slide
Kind of alarm	Slide
Kind of bell	Slide
Kind of whistle	Slide
Kind of siren	Slide
Kind of horn	Slide
Kind of gong	Slide
Kind of bell	Slide
Kind of whistle	Slide
Kind of siren	Slide
Kind of horn	Slide
Kind of gong	Slide

PIPES, COCKS, AND CONNECTIONS.

No. of the pipe	1
Location of pipe	Fore and Aft
Power of pipe	1000
Speed of pipe	10
Direction of rotation	Right hand
Kind of fuel	Coal
Kind of pipe	Water tube
Kind of condenser	Surface
Kind of pump	Centrifugal
Kind of valve	Slide
Kind of governor	Centrifugal
Kind of indicator	Slide
Kind of thermometer	Slide
Kind of barometer	Slide
Kind of chronometer	Slide
Kind of compass	Slide
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Kind of horn	Slide
Kind of gong	Slide
Kind of bell	Slide
Kind of whistle	Slide
Kind of siren	Slide
Kind of horn	Slide
Kind of gong	Slide

I hereby certify that the above is a true and correct statement of the condition of the machinery of the ship (or vessel) at the time of the survey.

Signature of Engineer Surveyor

Signature of Master

Signature of Chief Officer

Signature of Second Officer

Signature of Third Officer

Signature of Fourth Officer

Signature of Fifth Officer

Signature of Sixth Officer

Signature of Seventh Officer

Signature of Eighth Officer

Signature of Ninth Officer

Signature of Tenth Officer



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