

20653 Iron
LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Compound S. Condensing*
Made by *North-eastern Comp^y*
When *1873* At *Sunderland*
Diameter of cylinder *27" - 50"* Length of stroke *33"*
No. of revolutions per minute *62*
Point of cut off *5/8*
Diameter of screw shaft *8 3/4*
Diameter of crank shaft journals *8 3/4*
Diameter of screw, or of paddle wheel *15 ft.*
Pitch of screw *14 ft.*
No. of blades, *4* Total surface *43 sq. ft.*
No. of bilge pumps *2* and sizes *3" x 33"*
Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
No. of feed pumps *2* and sizes *3" x 33"*
What gauges are there attached to the engines and boilers ... *1 Vacuum 2 Steam*
Description and size of Donkey Pumps ... *Double acting 6" x 10" 3 1/2" x 6"*
Where do they pump from ... *Engine room after well Ballast tanks & sea*
No. of bilge injections *1* and sizes *3 1/2"*
Are they connected to air, or circulating pumps *Circulating*
Is there a hand pump in the engine room *Yes*
Can it be worked by the main engines *Yes*
Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *Two* Description *Multitubular*
Made by *North Eastern Comp^y*
When *1873* At *Sunderland*
Working pressure *65*
Tested by hydraulic pressure to *130*, Date *1873*
Description of super-heating apparatus *Yes*
Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *Yes*
Description and area of safety valves on each boiler ... *Dead weight 19.63 area*
No. of square feet of fire-grate surface in each boiler *33 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 2 Gallon cylinders*
Where fixed *Stoke hole*
Working pressure *40 lb*

Tested by hydraulic pressure to *80*, Date *1873*
Description and area of safety valves *Dead weight 10.21*
No. of square feet of fire grate *11 ft.*

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 ... *Donkey & main injection are valves the rest - 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 *None*
How are they protected *Yes*
When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *This date*
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 *Lunis* owned by *James Nelson & Co* of the Port of *London* of *887* Tons Register, and *110* Registered Horse Power, and that they have been carefully inspected and examined by me at *Cardiff* and found to be at this date, viz., *March 28th* 1878 in good order and safe working condition.

Amount of Fee for Survey ... £ 4 : 19 : 0

(Travelling Expenses, if any, £)

(1000/31/7/76.)

Charles M. Jacobs
Engineer Surveyor to Lloyd's Register of Shipping.