

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 22/1777

Description *Inverted, Compound Surface Condensing*
 Made by *Mr. J. Dickinson*
 When *April 1877* At *Sunderland*
 Diameter of cylinders *29 & 55* Length of stroke *36*
one of each
 No. of revolutions per minute *about 60*
 Point of cut off *1/2 stroke*
 Diameter of screw shaft *10*
 Diameter of crank shaft journals *9 1/2*
 Diameter of screw, or of paddle wheel *13 1/2*
 Pitch of screw *16 1/2*
 No. of blades, *4* Total surface *50 sq. feet*
 No. of bilge pumps *2* and sizes *3 3/4 dia x 19 stroke*
 To pump from each compartment *Engine room, fore hold & aft well*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *3 3/4 dia x 19 stroke*
 What gauges are there attached to the engines and boilers ... } *1 steam gauge on each boiler in stokehold, 1 in engine room, 1 vacuum gauge*
 Description and size of Donkey Pumps ... } *2 inverted, one double acting 8 dia x 10 stroke, the other single acting 4 1/2 x 10 stroke the large one from sea tanks & bilges of engine room, fore hold & aft well. The small one from sea and hotwell.*
 Where do they pump from
 No. of bilge injections *one* and sizes *4 diameter*
 Are they connected to air, or circulating pumps *to circulating pumps*
 Is there a hand pump in the engine room *yes*
 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 & Multitubular*
 Made by *Mr. J. Dickinson*
 When *April 1877* At *Sunderland*
 Working pressure *70 lbs per sq. inch*
 Tested by hydraulic pressure to *140 lbs*, Date *March 1st 1877*
I was present n.a.
 Description of super-heating apparatus } *none*
 Can each boiler be worked separately *yes*

Can the super-heater be shut off and the boilers worked separately }
 Description and area of safety valves on each boiler } *2 spring safety valves 3 1/4 dia = 16 1/2 sq. ins area*
 No. of square feet of fire-grate surface in each boiler } *32*
 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 } *all, except bilge suction in fore hold when cargo is in*

DONKEY BOILER.

Description *Upright cylindrical with 3 cross tubes*
 Where fixed *in the stokehold*
 Working pressure *45 lbs per sq. inch*

Tested by hydraulic pressure to *100 lbs*, I was not present, Date *July 14th 1877*
n.a.
 Description and area of safety valves *1 loaded direct 3 1/4 = 8 1/2 area*
 No. of square feet of fire grate *12*

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 } *all (except the small donkey)*
each
 Are the discharge pipes above or below the deep water line } *above*
 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 } *new*
 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 Dickenson

Manufacturer. *Except of the Donkey boiler*

I was present when steam was raised the engine worked, and the safety valves adjusted & tested, all satisfactory April 6th 1877 n.a.

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 *"Adara"* owned by *R. H. Penny*
 of the Port of *Shoreham* of *832.25* Tons Register, and *120*, Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Sunderland*
 and found to be at this date, viz., *May 2nd 1877* in good order and safe working condition.

Amount of Fee for Survey *£ 6:0:0*
 Travelling Expenses, if any, £ *2:6:5* Received *19/5/77*

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