

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 22/5/77

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 *13.6.*
 Pitch of screw *16.6.*
 No. of blades, *4* Total surface *50 sq. feet.*
 No. of bilge pumps *2* and sizes *3 3/4 dia x 19 stroke.*
 To they 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 & 10 stroke, the other single acting 4 1/2 x 6 stroke. The large one from sea tanks & bilges.*
 Where do they pump from ... *of engine room, fore hold & aft well. The small one from sea, and hotwell.*
 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 3/4 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 3/4 = 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 cock)*
 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 Dickinson

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*

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