

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Inverted, Compound, Surface Condensing*
 Made by *Mr. John Dickinson*
 When *Jan'y 18 78* At *Sunderland.*
 Diameter of cylinders *27 1/2 x 52* Length of stroke *33*
 No. of revolutions per minute *65*
 Point of cut off *1/2 stroke*
 Diameter of screw shaft *9"*
 Diameter of crank shaft journals *9"*
 Diameter of screw, or of paddle wheel *12' 0"*
 Pitch of screw *17' 6"*
 No. of blades, *4* Total surface *40 sq. feet.*
 No. of bilge pumps *2* and sizes *3 1/2 x 16 1/2 stroke.*
 Do they pump from each compartment *from Engine Room, aft well & fore hold*

Are all the bilge suction pipes fitted with roses *yes.*
 No. of feed pumps *2* and sizes *3 1/2 x 16 1/2 stroke.*
 What gauges are there attached to the engines and boilers ... *1 steam on each boiler and 1 common to both boilers. 1 vacuum.*
 Description and size of Donkey Pumps ... *1 inverted double acting 8 x 10 stroke. feed one, single 4 1/2 x 6. the large one from sea, tanks, Condenser & bilges of engine room, aft well & fore hold. Small one from sea & 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*
 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. John Dickinson.*
 When *Jan'y 18 78* At *Sunderland.*
 Working pressure *70 lbs*
 Tested by hydraulic pressure to *140 lbs*, Date *Oct 5th 77*
 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 ... *Mr Dickinson's patent. 3 dia = 14 sq. ins Area.*
 No. of square feet of fire-grate surface in each boiler *27.*
 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 bilge rose in fore hold.*

DONKEY BOILER.

Description *Upright Cyl. with 2 cross tubes.*
 Where fixed *in the stokehole.*
 Working pressure *60 lbs*

Tested by hydraulic pressure to *120 lbs (reported)*, Date *Nov 23rd 77*
 Description and area of safety valves *loaded direct 2 1/2" 6" 2*
 No. of square feet of fire grate *10.*

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 ... *yes.*
 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 *sluice fitted & apparently tight.*

Manufacturer.

Except of the Donkey Boiler

I was present when steam was raised engines worked, and safety valves adjusted to 70 lbs. & tested. Accumulation 2 lbs shut again at 67 lbs. Jan'y 5th 78 p.m.

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 *Lucretia* owned by *Bell & Symonds*
 of the Port of *Newcastle* of *515.95* Tons Register, and *99* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Sunderland*
 and found to be at this date, viz., *11th January* 18 *78* in good order and safe working condition.

Amount of Fee for Survey *£ 4 : 19 : 0*
 (Travelling Expenses, if any, £ *5.4*)

Received 12/1/78. HW

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