

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Inverted, Compound*
 Made by *Compounded by Baltic Engine Works*
 When *1876* At *Hull*
 Diameter of cylinder *24 1/2* Length of stroke *26*
 No. of revolutions per minute *75*
 Point of cut off *1/2 of stroke*
 Diameter of screw shaft *7 1/4*
 Diameter of crank shaft journals *10 1/2*
 Diameter of screw, or of paddle wheel *14*
 Pitch of screw
 No. of blades, *3* Total surface
 No. of bilge pumps *2* and sizes *4 1/8 x 12*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *2* and sizes *4 1/8 x 12*
 What gauges are there attached to the engines and boilers... *One steam gauge and one vacuum gauge in engine room*
 Description and size of Donkey Pumps... *Vertical 7 x 8 plunger 4*
 Where do they pump from... *From sea and from bilge*
 No. of bilge injections *1* and sizes *3 pipe circulating*
 Are they connected to air, or 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 *1* Description *Tubular circular*
 Made by *Baltic Engine Works*
 When *1876* At *Hull*
 Working pressure *62 lb p. square inch*
 Tested by hydraulic pressure to *124 lb*, Date *18 Oct. 76*
 Description of super-heating apparatus *Horizontal chest*
 Can each boiler be worked separately

Can the super-heater be shut off and the boilers worked separately *No*
 Description and area of safety valves on each boiler... *2 Adams' patent spring valves 3 1/8*
 No. of square feet of fire-grate surface in each boiler *45*
 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 circular*
 Where fixed *On deck*
 Working pressure *50 lb p. square inch*

Tested by hydraulic pressure to *100 lb*, Date *6 Oct. 76*
 Description and area of safety valves *Direct loaded 3 1/4*
 No. of square feet of fire grate *0.6*

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... *Common cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates... *Yes except the blairgaff cock*
 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 *No*

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 *12 October 76, 2 Nov. 76*
 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, forms a tank*

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 *"Vine"* owned by *E. Leatham* of the Port of *Hull* of *460* Tons Register, and *60* Registered Horse Power, and that they have been carefully inspected and examined by me at *Hull* and found to be at this date, viz., *November 14* 18 *76* in good order and safe working condition.

Engineer Surveyor to Lloyd's Register of Shipping.