

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

No. *22135 Iron*

Description *Compound Inverted*
 Made by *Henderson Colburn & Co*
 When *1874* At *Renfrew*
 Diameter of cylinder *57 1/2* Length of stroke *54*
 No. of revolutions per minute *50*
 Point of cut off *not ascertained*
 Diameter of screw shaft *15 inches*
 Diameter of crank shaft journals
 Diameter of screw, or of paddle wheel *18 feet*
 Pitch of screw *30 ft stated*
 No. of blades, *4* Total surface
 No. of bilge pumps *2* and sizes *7 1/2*
 Do they pump from each compartment

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *7 1/2 dia*
 What gauges are there attached to the engines and boilers ...
 Description and size of *2 Double acting 6 inch*
 Donkey Pumps ... *x 9 stroke*
 Where do they pump from *Sea Bilges*
 No. of bilge injections *One* and sizes *about 4"*
 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 *no*
 Is there a deck hose of sufficient length to reach to any part of the vessel *yes*

MAIN BOILERS.

Report (if any) on Hull of Vessel. Port

Number *Six* Description *Cylindrical*
 Made by *Henderson Colburn & Co*
 When *1874* At *Renfrew*
 Working pressure *65 lb*
 Tested by hydraulic pressure to *not known* Date
 Description of super-heating apparatus *3 horizontal chests in uptake*
 Can each boiler be worked separately *yes*

Can the super-heater be shut off and the boilers worked separately *no*
 Description and area of safety valves on each boiler *Seven & weight two 15-9 sq inches each*
 No. of square feet of fire-grate surface in each boiler
 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 *Tubular*
 Where fixed *Stoke hold*
 Working pressure *30 lb*

Tested by hydraulic pressure to *not ascertained* Date
 Description and area of safety valves
 No. of square feet of fire grate

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 *Valves & Cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *not all*
 Are the discharge pipes above or below the deep water line
 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 *At this survey*
 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 *Vancouver* owned by
 of the Port of *London* of *1988* Tons Register, and *530* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *London*
 and found to be at this date, viz., *30th October* 18 *78* in good order and safe working condition.

Amount of Fee for Survey ... £ *...*
 (Travelling Expenses, if any, £ *...*)

James Milton
 Engineer Surveyor to Lloyd's Register of Shipping.