

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Inverted Cy Compound Surface Condensing*  
 Made by *Messrs Taylor Bos*  
 When *1877* At *Birkenhead*  
 Diameter of cylinders *23 & 40* Length of stroke *30*  
 No. of revolutions per minute *80*  
 Point of cut off *7 2/3 & 7 3/4*  
 Diameter of screw shaft *7 1/2*  
 Diameter of crank shaft journals *8*  
 Diameter of screw, ~~or of paddle wheel~~ *11 & 6*  
 Pitch of screw *13 feet*  
 No. of blades *Four* Total surface *40 feet*  
 No. of bilge pumps *One* and sizes *3 1/2" Diam 12" Stroke*  
 Do they pump from each compartment *Engine room only*

Are all the bilge suction pipes fitted with roses *yes*  
 No. of feed pumps *one* and sizes *3 1/2" Diam 12" Stroke*  
 What gauges are there attached to the engines and boilers ... *one water & three last cock on boiler two pressure stoke hold, one each Valve and Compound on Engines*  
 Description and size of Donkey Pumps ... *one horizontal 10" Cy 10" Stroke 8" Diam D. A. Pump for ballast Tanks one 8" Cy 8" Stroke 4" Diam S. A. pump for boiler feed*  
 Where do they pump from ... *large size from fore & after Tanks small size from Sea. hold & bilge to boiler and on deck*  
 No. of bilge injections *one* and sizes *2 3/4" bore*  
 Are they connected to air, or circulating pumps *Condenser*  
 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 *One* Description *Circular Tubular*  
 Made by *Messrs John Key & Sons*  
 When *Oct 1877* At *Kirkcaldy*  
 Working pressure *70 lbs*  
 Tested by hydraulic pressure to *140 lbs*, Date *28/8/77*  
 Description of super-heating apparatus *horizontal dumb*  
 Can each boiler be worked separately *— — — —*

Can the super-heater be shut off and the boilers worked separately *— — — —*  
 Description and area of safety valves on each boiler *Two Adams Spring safety 4 1/2" Diam = 29.8 area accumulation 2 per cent*  
 No. of square feet of fire-grate surface in each boiler *48 feet*  
 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 *Round Vertical 4' diam 8' high*  
 Where fixed *Stoke hold*  
 Working pressure *50 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *28/8/77*  
 Description and area of safety valves *Two Lever & Weight*  
 No. of square feet of fire grate *8.29 feet*

### 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 ... *Cocks & Valves*  
 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 *before launch*  
 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 Key & Sons* Manufacturers

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 *"Stura"* owned by *Messrs Gamman Sons & Carter* of the Port of *London* of *683.96* Tons Register, and *80* Registered Horse Power, and that they have been carefully inspected and examined by me at *Kirkcaldy* and found to be at this date, viz., *15<sup>th</sup> October* 1877 in good order and safe working condition.

Amount of Fee for Survey ... £ *4:0:0*

(Travelling Expenses, if any, £ *4.10.6*.)

(1000/31/7/76.)

Engineer Surveyor to Lloyd's Register of Shipping.

*John Sturrock*  
*John Key & Sons*

IRON 474-0277.1