

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Two cylinder compound inverted*  
 Made by *Gilbert & Cooper*  
 When *1871* At *Hull*  
 Diameter of cylinder *35" & 66"* Length of stroke *36"*  
 No. of revolutions per minute *57*  
 Point of cut off *half stroke*  
 Diameter of screw shaft *10 1/2"*  
 Diameter of crank shaft journals *10 1/2"*  
 Diameter of screw, or of paddle wheel *15 ft.*  
 Pitch of screw *17 ft.*  
 No. of blades, *4* Total surface *not ascertained*  
 No. of bilge pumps *2* and sizes *6 3/4" dia. 10" stroke,*  
 Do they pump from each compartment *Yes.*

Are all the bilge suction pipes fitted with roses *Yes.*  
 No. of feed pumps *2* and sizes *6 3/4" dia. 18" stroke*  
 What gauges are there attached to the engines and boilers ... *1 Steam, 1 compound, 1 Vacuum in engine, 1 Steam for both Boilers, vertical double actions*  
 Description and size of Donkey Pumps ... *5" dia. 8" stroke*  
 Where do they pump from *Sea & all compartments*  
 No. of bilge injections *1* and sizes *3 1/4"*  
 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.

Number *2* Description *cylindrical with domes*  
 Made by *Gilbert & Cooper*  
 When *1871* At *Hull*  
 Working pressure *58 lbs per sq. inch*  
 Tested by hydraulic pressure to *not ascertained* Date *—*  
 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 *Yes.*  
 Description and area of safety valves on each boiler *Two and weight 34.26 sq. inches*  
 No. of square feet of fire-grate surface in each boiler *50.2 sq. 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. *all except Bilge suction pipes in Fore & Main hold*

### DONKEY BOILER.

Description *Cylindrical Vertical*  
 Where *on Main Deck*  
 It *weighs* *48.6 lbs*

Tested by hydraulic pressure to *not ascertained*, Date *—*  
 Description and area of safety valves *Dead weight = 10.3 sq. in.*  
 No. of square feet of fire grate *20.2 sq. feet*

### PIPES, COCKS, AND CONNECTIONS.

with the sea skin of the ship *Yes.*  
 on valves *1 stop valve rest are common cocks,*  
 sufficiently high on to be seen the stoke hold *Cocks in Eng. room & 2 Boilers blow off below-remains can be seen*  
 pipes above or deep water line *Below*  
 are each fitted with a discharge valve on the plating of the vessel *Yes.*

What pipes are carried through the bunkers *Main Steam & Steam - pipes*  
 How are they protected *Iron casing*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Screw & connections July-75*  
 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 *No.*

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 *"Empress"* owned by *Mr Hoop*  
 of the Port of *Hull* of *987* Tons Register, and *170* Registered Horse Power,  
 and that they have been carefully inspected and examined by me at *London*  
 and found to be at this date, viz., *August 11<sup>th</sup>* 18 *76* in good order and safe working condition.

*G. W. Mammel*

Engineer Surveyor to Lloyd's Register of Shipping.