

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Per 31/8/76

Description *Compound, Inverted Direct Acting*  
 Made by *J. Howden & Co*  
 When 18 *70* At *Glasgow*  
 Diameter of cylinder *33" x 60* Length of stroke *39"*  
 No. of revolutions per minute *65*  
 Point of cut off *No expansion gear*  
 Diameter of screw shaft *1 1/2"*  
 Diameter of crank shaft journals *11"*  
 Diameter of screw, *as per maker's work*  
 Pitch of screw *Not ascertained*  
 No. of blades, Total surface  
 No. of bilge pumps *One* and sizes *5" dia. x 14" stroke*  
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*  
 No. of feed pumps *One* and sizes *5" dia. x 14" stroke*  
 What gauges are there attached to the engines and boilers ... *One Steam Gauge to Steam pipe, One Vacuum to Boiler, One Steam to Boiler*  
 Description and size of Donkey Pumps ... *Double acting 4" dia x 9" stroke*  
 Where do they pump from ... *From the sea & bilge*  
 No. of bilge injections *One* and sizes *5"*  
 Are they connected to air, or circulating pumps *To Circulating*  
 Is there a hand pump in the engine room *Yes & Donkey worked*  
 Can it be worked by the main engines *by hand*  
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

### MAIN BOILERS.

Number *One* Description *Round, Horizontal Double ended*  
 Made by *John & James Thomson*  
 When 18 *76* At *Glasgow*  
 Working pressure *65 lbs*  
 Tested by hydraulic pressure to *130 lbs.* Date *May 11<sup>th</sup> 76*  
 Description of super-heating apparatus *None*  
 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 Direct Spring each 22.69 area.*  
 No. of square feet of fire-grate surface in each boiler *84 ft*  
 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 *Now repaired Round Horizontal*  
 Where fixed *On Upper Deck*  
 Working pressure *40 lbs*

Tested by hydraulic pressure to \_\_\_\_\_, Date \_\_\_\_\_  
 Description and area of safety valves *Direct weight*  
 No. of square feet of fire grate *11 ft*

### PIPES, COCKS, AND CONNECTIONS.

all connections with the sea direct on the skin of the ship *All except main injection valve which is fitted to coal from*  
 they Kingston valves or common cocks ... *Screw down valves & cocks*  
 fixed sufficiently high on ship's side to be seen without lifting the stoke hold *Main Blow off cock is under guard. It has not been fitted with*  
 discharge pipes above or below the deep water line *Above*  
 each fitted with a discharge on the plating of the vessel *Yes*

What pipes are carried through the bunkers *bilge pipes to fore hold*  
 How are they protected *By strong lead casings*  
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *May 15<sup>th</sup> 1876*  
 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 *"Atholl"* owned by *J. Warrack & Co*  
 of the Port of *Leith* of *11436.30* Tons Register, and *170* Registered Horse Power,  
 and that they have been carefully inspected and examined by me at *Glasgow*  
 and found to be at this date, viz., *Aug. 10<sup>th</sup>* 18 *76* in good order and safe working condition.

*James Morrison*  
 Engineer Surveyor to Lloyd's Register of Shipping.

(10/176.)  
 Cert written  
 No. *2976*