

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Description *Inverted Compound Surface Condensing.*  
 Made by *Mr. G. Clark.*  
 When *March 1877* At *Sunderland.*  
 Diameter of cylinders *27 x 50* Length of stroke *36*  
 (one of each)  
 No. of revolutions per minute *about 65.*  
 Point of cut off *1/2 stroke.*  
 Diameter of screw shaft *9.*  
 Diameter of crank shaft journals *9*  
 Diameter of screw, or of paddle wheel *12.6*  
 Pitch of screw *14.0*  
 No. of blades, *4* Total surface *37 sq. ft.*  
 No. of bilge pumps *2* and sizes *4 1/2 x 18 stroke.*  
 Do they pump from each compartment *from Engine room, aft well, and fore hold.*

Are all the bilge suction pipes fitted with roses, *yes.*  
 No. of feed pumps *2* and sizes *4 1/2 x 18 stroke.*  
 What gauges are there attached to the engines and boilers ... *1 steam gauge on each boiler in stokehole, 1 in engine room, 1 vacuum gauge.*  
 Description and size of Donkey Pumps ... *2 inverted double acting 8 x 10 stroke and 4 dia x 6 stroke. Large one from sea. Tanks, and bilges, of engine room, aft well & fore hold. Small one, from sea. hotwell. tanks & bilges.*  
 Where do they pump from ...  
 No. of bilge injections *one* and sizes *3 1/2 dia.*  
 Are they connected to air, or circulating pumps *to circulating pumps.*  
 Is there a hand pump in the engine room *no (Donkey can be used)*  
 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 (from pipes to stokehole)*

### MAIN BOILERS.

Number *Two* Description *Cylindrical & Multitubular.*  
 Made by *Mr. G. Clark.*  
 When *March 1877* At *Sunderland.*  
 Working pressure *70 lbs per sq. inch.*  
 Tested by hydraulic pressure to *140 lbs*, Date *Feb 8/77*  
*I was present, n.a.*  
 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  
 Description and area of safety valves on each boiler *2 spring safety valves 3 1/2 dia. = 19.2 sq. ins. area*  
 No. of square feet of fire-grate surface in each boiler *33 1/2.*  
 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 (except the bilge suction of fore hold when full)*

### DONKEY BOILER.

Description *Upright, Cyl. with 3 cross tubes.*  
 Where fixed *in the stokehole.*  
 Working pressure *45 lbs*

Tested by hydraulic pressure to *100 lbs*, Date *Feb 18/77*  
 Description and area of safety valves *1 loaded direct 3" = 4.7 sq. ins.*  
 No. of square feet of fire grate *12.*

### 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 ... *stop valves & cocks.*  
 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 *below.*  
 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 *new.*  
 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*

*Mr. Geo. Clark*  
*W. G. Clark*

Manufacturer. *Except of the Donkey Boiler* *I was present when the steam was raised, engine worked, and safety valves tested, March 2/77 n.a.*

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 *"Malton"* owned by *R. B. Avery*  
 of the Port of *London* of *691.4* Tons Register, and *99* Registered Horse Power,  
 and that they have been carefully inspected and examined by me at *Sunderland.*  
 and found to be at this date, viz., *March 15<sup>th</sup> 1877* in good order and safe working condition.

Amount of Fee for Survey ... £ *4:19:*

... £ *0.5*

*Received 21/3/77*  
*W. G. Clark*

*William Allison,*  
 Engineer Surveyor to Lloyd's Register of Shipping.

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