

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Rev 27/6/76

Report (if any) on Hull of Vessel. Port of Harlepool No. 3652

Description *Inverted Compound Surface Condensing*  
 Made by *Messrs Blair & Co*  
 When *new* 1876 At *Stockton*  
 Diameter of cylinder *32" x 60"* Length of stroke *39"*  
(one of each)  
 No. of revolutions per minute *56*  
 Point of cut off *1/2 stroke*  
 Diameter of screw shaft *10 3/4"*  
 Diameter of crank shaft journals *11"*  
 Diameter of screw, or of paddle wheel *14 6"*  
 Pitch of screw *16 feet*  
 No. of blades, *4* Total surface *58 sq. feet*  
 No. of bilge pumps *2* and sizes *4 dia x 28 stroke single*  
 Do they pump from each compartment *yes*

Are all the bilge suction pipes fitted with roses *yes*  
 No. of feed pumps *2* and sizes *4 dia x 28 stroke single*  
 What gauges are there attached to the engines and boilers ... *1 vacuum. 1 steam in engine room & 1 on each boiler in stokehold.*  
 Description and size of Donkey Pumps ... *2 inverted double acting. the large one 7 1/2 dia x 9 stroke. small one 4 dia x 8 stroke. The large one from the tanks and bilges. The small one from sea, tanks, bilges and hotwell.*  
 Where do they pump from .....  
 No. of bilge injections *1* and sizes *4 1/2 diameter*  
 Are they connected to air, or circulating pumps *to circulating pump.*  
 Is there a hand pump in the engine room *Donkey works by hand*  
 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 *Two* Description *Cylindrical & Multitubular*  
 Made by *Messrs Blair & Co*  
 When *May* 1876 At *Stockton*  
 Working pressure *80 lbs per sq. inch*  
 Tested by hydraulic pressure to *160 lbs*, Date *May 1<sup>st</sup> /76*  
I was present r.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 valves 3 1/4 dia = 16 1/2 sq. inch area.*  
 No. of square feet of fire-grate surface in each boiler *30 7/8 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 ..... *Suction pipes not accessible in fore tank when the small is loaded*

### DONKEY BOILER.

Description *Upright Cylindrical with 5 water tubes*  
 Where fixed *in the stokehold*  
 Working pressure *75 lbs*

Tested by hydraulic pressure to *160 lbs*, Date *April /76*  
 Description and area of safety valves *Two on boiler direct weight. Total area 2.98*  
 No. of square feet of fire grate *23 3/4*

### 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 (by non return valves) & shell cock with 1 part in ply.*  
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *yes*

*Pro Blair & Co* Manufacturers. *except of the donkey boiler.*  
*G W Blair*

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 *"Malaga"* owned by *John Hall* No. *140* Registered Horse Power, of the Port of *London* of *1823* Tons Register, and *140* Registered Horse Power, and that they have been carefully inspected and examined by me at *Stockton & Harlepool* and found to be at this date, viz., *15th June* 1876 in good order and safe working condition.

Survey fee *£4.0.0*  
 Certificate *5.0*  
 Received at Harlepool by *S. P. Gladstone*  
 Travelling expenses *£2.5.0*

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