

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 27/6/76

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"*
 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.*
 Where do they pump from ... *The large one from the tanks and bilges. The small one from sea, tanks, bilges and hotwell.*
 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 1st/76*
 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 vessel is loaded*

DONKEY BOILER.

Description *Upright Cylindrical with 5 water tubes*
 Where fixed *in the stokehold*
 Working pressure *70 lbs*

Tested by hydraulic pressure to *160 lbs*, Date *April/76*
 Description and area of safety valves *Two on boiler direct weight*
 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 foot in ply.*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *yes*

Robt Blair & Co Ltd
G W Blair

Manufacturer. except of the donkey boiler.

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 & Co* 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 & Hartlepool* 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*
 Travelling expenses *£2.5.0*
 Received at Hartlepool by *S P Gladstone*

William Allison
 Engineer Surveyor to Lloyd's Register of Shipping