

REPORT ON MACHINERY.

No. 3616 (Received in London Office Rec'd 21st M. 1883)
 No. in Survey held at Barrus Date, first Survey October 30th 1882 Last Survey May 3rd 1883
 Reg. Book. 280 on the S.S. "City of Rome" Tons 4615
 Master Muuro Built at Barrus When built 1881
 Engines made at Barrus By whom made A. B. Caplin when made 1881
 Boilers made at " By whom made " when made 1881
 Registered Horse Power 1500 Owners Barron Steam Ship Co. Ltd. Port belonging to Barrus

ENGINES, &c.—

Description of Engines 3 cylinders 46 dia (formerly 43)
 Diameter of Cylinders 3 Length of Stroke 86 No. of Rev. per minute _____ Point of Cut off, High Pressure _____ Low Pressure _____
 Diameter of Screw shaft _____ Diameter of Tunnel shaft _____ Diameter of Crank shaft journals _____ Diameter of Crank pin _____ size of Crank webs _____
 Diameter of screw _____ Pitch of screw _____ No. of blades _____ state whether moveable _____ total surface _____
 No. of Feed pumps _____ diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____
 No. of Bilge pumps _____ diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____
 Where do they pump from _____
 No. of Donkey Engines _____ Size of Pumps _____ Where do they pump from _____

Are all the bilge suction pipes fitted with roses _____ Are the roses always accessible _____ Are the sluices on Engine room bulkheads always accessible _____
 No. of bilge injections _____ and sizes _____ Are they connected to condenser, or to circulating pump _____
 How are the pumps worked _____
 Are all connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the discharge pipes above or below the deep water line _____
 Are they each fitted with a discharge valve always accessible on the plating of the vessel _____ Are the blow off cocks fitted with a spigot and brass covering plate _____
 What pipes are carried through the bunkers _____ How are they protected _____
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times _____
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges _____
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock _____
 Is the screw shaft tunnel watertight _____ and fitted with a sluice door _____ worked from _____

BOILERS, &c.—

Number of Boilers 1 Description Cylindrical multitubular all steel
 Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs Date of test 2nd 16th 19th March 1883
 Description of superheating apparatus on steam chest Cylindrical with internal flues
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes
 No. of square feet of fire grate surface in each boiler 58.4 Description of safety valves Spring (Cockburn's)
 No. to each boiler 2 area of each valve 16.8 Are they fitted with easing gear Not Completed at Barrus
 No. of safety valves to superheater two area of each valve 28.24 are they fitted with easing gear _____
 Smallest distance between boilers and bunkers or woodwork 18"
 Diameter of boilers 4'-0" Length of boilers 8'-10" Description of riveting of shell long. seams Quadrant: Full Riv. Circum. seams lap Riv.
 Thickness of shell plates 3/16 diameter of rivet holes 1/16 whether punched or drilled drilled pitch of rivets 5/4
 Lap of plating 15" wide per centage of strength of longitudinal joint 80 working pressure of shell by rules 100 lbs
 Size of manholes in shell 2' 10" x 17" size of compensating rings 8" 13/16
 No. of Furnaces in each boiler 3 mean outside diameter 3'-8 1/2" length, top 6'-0" bottom 6'-0"
 Thickness of plates 3/16 description of joint Compound if rings are fitted _____ greatest length between rings _____
 Working pressure of furnace by the rules 76.6 lbs
 Combustion chamber plating, thickness, sides 1/2 back 1/2 top 1/2
 Pitch of stays to ditto _____ sides 9 x 9 back 9 x 9 top 9 x 9
 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 95 lbs
 Diameter of stays at smallest part 1.3824 working pressure of ditto by rules 102 lbs
 End plates in steam space, thickness 3/16 pitch of stays to ditto 17 x 15 how stays are secured Nuts & washers
 Working pressure by rules 93 lbs diameter of stays at smallest part 2 1/2 working pressure by rules 20 1/2 lbs
 Front plates at bottom, thickness 3/4 Back plates, thickness 3/4 greatest pitch of stays _____



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Diameter of tubes $3\frac{1}{2}$ pitch of tubes $4\frac{3}{8} \times 4\frac{3}{8}$ thickness of tube plates, front $\frac{3}{4}$ back $\frac{1}{16}$
 How stayed Stay Lutes pitch of stays $14\frac{3}{8} \times 9\frac{1}{2}$ width of water spaces $1\frac{1}{8}$ between tubes
 Diameter of Superheater ~~Steam chest~~ $13-6$ length $16-0$
 Thickness of plates $\frac{1}{16}$ (In) description of longitudinal joint ~~Double Butt~~ ~~Field Riveted~~ diameter of rivet holes $\frac{1}{8}$ pitch of rivets $5\frac{1}{2}$
 Working pressure of shell by rules 103 lbs Diameter of flue $4-0$ thickness of plates $\frac{3}{8}$ $5\frac{1}{2}$
 If stiffened with rings ~~yes~~ distance between rings $3-10\frac{3}{8}$ Working pressure by rules 104 lbs
 End plates of superheater, or steam chest; thickness $\frac{3}{4}$ How stayed by Flues and by 5 Stays each $2\frac{1}{2}$ effective dia.
 Superheater or steam chest; how connected to boiler

DONKEY BOILER—

Made at	Description	By whom made	when made		
Where fixed	working pressure	Tested by hydraulic pressure to	No. of Certificate		
Fire grate area	Description of safety valves	No. of safety valves	area of each		
If fitted with easing gear	If steam from main boilers can enter the donkey boiler				
Diameter of donkey boiler	length	description of riveting			
thickness of shell plates	diameter of rivet holes	whether punched or drilled			
pitch of rivets	lap of plating	per centage of strength of joint			
thickness of crown plates	stayed by				
Diameter of furnace, top	bottom	length of furnace			
thickness of plates	description of joint				
thickness of furnace crown plates	stayed by				
Working pressure of shell by rules	working pressure of furnace by rules				
diameter of uptake	thickness of plates	thickness of water tubes			

The foregoing is a correct description,

B.S.B. Co
 Geo. Rodger MANAGER ENGINEERING DEPT. Manufacturers.

General Remarks (State quality of workmanship, opinions as to class, &c.)

Main Engines, with Piston Valves and gear complete, fitted in place, New high-pressure piston, low-pressure piston overhauled.
 New Special Circulating pumps, tubes removed from Condensers, same cleaned and examined and tubes re-placed and Condensers tested, Air Bilge and Feed Pumps examined, Condition of same satisfactory, Crank Shaft examined and found free from appearance of any defects, new metal in main bearings and Crank Shaft-bedded, new metal in Collar rings of Thrust Carriage.
 Four additional Main boilers and one Superheater with Mountings complete, fitted on board, original boilers taken out of vessel, Steam drums removed and holes closed by riveted patches, boilers re-grouped in vessel, all boilers fitted with Cockburn's Safety Valves.
 See Liverpool report number 3466.
 The Machinery and Boilers of this vessel are, in my opinion, capable to have the registration ~~May 29th~~ ~~5-83~~ assigned, provided the Safety Valves are adjusted, the Propeller, Stern hook and fastenings of Sea Connections examined by the Society's Engineer Surveyors at Glasgow, to which port the vessel has been taken.

The amount of Entry Fee £1 : 10 : received by me,

Special .. £31 : 10 :

Certificates (if required) .. £ :

To be sent as per margin.

(Providing Expenses, if any, be ..)

Committee's Minute

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Duncan Ritchie

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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