

REPORT ON MACHINERY.

5395

No. 5395

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No. in Survey held at Stockton & Whitby Date, first Survey 26 June 1883 Last Survey 9 Jan 1884
Reg. Book. on the S.S. "Gurich" (Number of Visits 7) Tons 1392

Master Lutton Built at Whitby By whom built J. Turnbull & Sons When built 1883

Engines made at Stockton By whom made Blair & Co. (Lm.) when made 1883

Boilers made at Do By whom made Do when made Do

Registered Horse Power 130 Owners Turner & Brightman & Co Port belonging to London
Makers H.P. 130

ENGINES, &c.—

Description of Engines Compound Inverted Surface Condensing
 Diameter of Cylinders 31" & 58" Length of Stroke 36" No. of Rev. per min 465 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
 Diameter of Screw shaft 11" Diam. of Tunnel shaft 10 3/8" Diam. of Crank shaft journals 10 3/4" Diam. of Crank pin 1 1/4" size of Crank webs 14 1/2" x 1 1/4"
 Diameter of screw 14.6" Pitch of screw 16.16.0" No. of blades Two state whether moveable No total surface Not ascertained
 No. of Feed pump Two diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pump Two diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes
 Where do they pump from fore hold, engine room, after well & tanks. aft pumps, after well & engine room
 No. of Donkey Engines Two Size of Pumps 1/2 dia x 9 stroke Where do they pump from Large donkey from fore hold engine room & aft well & tanks. Small donkey from sea, hot well & tanks.
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 No. of bilge injections One and sizes 6" Are they connected to condenser, or to circulating pump Circulating pumps
 How are the pumps worked By levers worked from crosshead on low pressure piston rod.
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Stop valves & cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the discharge pipes above or below the deep water line Below
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes
 What pipes are carried through the bunkers None How are they protected ✓
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Now
 Is the screw shaft tunnel watertight Said to be and fitted with a sluice door Yes worked from Top platform in engine room

BOILERS, &c.—

Number of Boilers Two Description Cylindrical multitubular Whether Steel or Iron Partly of steel
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 14.12.83. 7th 10/11
 Description of superheating apparatus or steam chest Vertical dome contracted at neck
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately No superheated
 No. of square feet of fire grate surface in each boiler 33 Description of safety valves Spring No. to each boiler Two
 Area of each valve 11.04 Are they fitted with easing gear Yes No. of safety valves to superheater ✓ area of each valve ✓
 Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork at 6" Diameter of boilers 12.5"
 Length of boilers 9.6" description of riveting of shell long. sea held 2 rows seams in circum. seams Double Thickness of shell plates 1 1/16
 Diameter of rivet holes 1 1/8 whether punched or drilled Drilled pitch of rivets 4 1/8 Lap of plating Staps 10 1/2 broad
 Percentage of strength of longitudinal joint 41.4 working pressure of shell by rules 101.8 lbs size of manholes in shell 16" x 12"
 Size of compensating rings Rectangular plates 28" x 24" x 1 1/8 No. of Furnaces in each boiler Two
 Outside diameter 3.9 1/8 length, top 5.9 bottom 8.4" thickness of plates 9/16 & 7/8 description of joint Double straps & 2 rings are fitted No
 Greatest length between rings ✓ working pressure of furnace by the rules 100 lbs combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"
 Pitch of stays to ditto, sides 8 x 8 back 8 x 8 top Curved If stays are fitted with nuts or riveted heads Part nuts part riveted working pressure of plating by rules 100 lbs Diameter of stays at smallest part 1 5/16 working pressure of ditto by rules 126 lbs plates in steam space, thickness 7/8"
 Pitch of stays to ditto 16 x 15 how stays are secured Nuts & washers working pressure by rules 107 lbs diameter of stays at smallest part 2 3/8 working pressure by rules 110 lbs Front plates at bottom, thickness 7/8" Back plates, thickness 7/8"
 Greatest pitch of stays 13 1/4 x 8 working pressure by rules 141 lbs Diameter of tubes 3 1/4" pitch of tubes 4 1/2 x 4 5/8 thickness of tube plates, front 1 1/16 back 1 1/8 how stayed Stay tubes pitch of stays 13 1/2 x 9 1/4 width of water spaces 1 1/4"
 Diameter of Superheater or Steam chest 3.4 length 5.0" thickness of plates 7/16 description of longitudinal joint Lap, able. diam. of rivet holes 13/16
 Pitch of rivets 3/8 working pressure of shell by rules 126 lbs diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓
 Distance between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness 1/16 how stayed Stay
 Stays 2 1/8 dia Superheater or steam chest; how connected to boiler Malleable neck pipe leading to boiler

DONKEY BOILER— Description *Vertical Water tubes in furnace*
 Made at *Stockton* by whom made *Riley Bros* when made *2/12 83* where fixed *Stockhole*
 Working pressure *40 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *1080* fire grate area *25.96 sq ft* description of safety valves *Spring* No. of safety valves *Two* area of each *7.0 sq ft* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *6.6* length *12.6* description of riveting *Long seams Lap db to*
 Thickness of shell plates *1/32* diameter of rivet holes *13/16* whether punched or drilled *Punched* pitch of rivets *2 3/4* lap of plating *2 1/4*
 per centage of strength of joint *40.4* thickness of crown plates *1/32* stayed by *Six stays 1 1/2 dia*
 Diameter of furnace, top *5.4* bottom *5.11* length of furnace *5.2* thickness of plates *5/8* description of joint *Lap Single st*
 Thickness of furnace crown plates *1/32* stayed by *Six stays 1 1/2 dia* working pressure of shell by rules *48.9 lbs*
 Working pressure of furnace by rules *40 lbs* diameter of uptake *16* thickness of plates *1/16* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied: *Propeller, two connecting rod top end bolts & nuts, two connecting rod bottom end bolts & nuts, two main bearing bolts, one set coupling bolts, one set bilge & feed pump valves, one set piston springs, a quantity of bolts & nuts assorted, pieces of iron of various sizes & other spare gear*
 The foregoing is a correct description,
Robt Blair & Co Ltd Manufacturers of Engines & Machinery only
R. Blair

General Remarks (State quality of workmanship, opinions as to class, &c.)
Material & workmanship good
Furnace crown plates, back tube plates, combustion chamber plating & all joints in main boilers are of Steel manufactured by D. & W. Beardmore Glasgow.
*The Machinery & Boilers have been constructed in special survey and are in good order & safe working condition & in my opinion eligible for the Notification * L.M.C 1.84 in the Register Book.*

The amount of Entry Fee £ 2: 0: 0 received by me,
 Special .. £ 19: 10: 0
 Donkey Boiler Fee .. £ .. : .. :
 Certificate (if required) .. £ .. : .. : 23.1.1884
 To be sent as per margin.
 (Travelling Expenses, if any, £ .. : .. :)

Submitted for decision to Law. This vessel is licensed by the N.P.
1.84
28.1.94
James Smith
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUESDAY 23 JAN 1884
[Signature]

