

# REPORT ON MACHINERY.

No. 5395

Received at London Office 28 Jan 1884

No. in Survey held at *Stockton & Whitby* Date, first Survey *26 June 83* Last Survey *9 Jan 84*  
 Reg. Book. *S. S. "Gurich"* (Number of Visits *7*) Tons *1392*

Master *Lutton* Built at *Whitby* By whom built *J. Turnbull & Son* 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*

## 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 1/8"* 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 *None* 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 *From fore hold, engine room, after well & tanks. Aft pumps, after well & engine room.*  
 No. of Donkey Engines *Two* Size of Pumps *1 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 pump*  
 How are the pumps worked *By hand 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 & 10/14*  
 Description of *superheating apparatus* or steam chest *Patent dome contracted at outlet*  
 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. 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 *Shops 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 1/16" 5/8* description of joint *Double straps 8 1/2" x 1 1/2"* If 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 outside part inside* 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 *1/8"*  
 Pitch of stays to ditto *16" x 15"* how stays are secured *Nuts & washers* working pressure by rules *104 lbs* diameter of stays at smallest part *2 3/8* working pressure by rules *110 lbs* Front plates at bottom, thickness *1/8"* Back plates, thickness *1/8"*  
 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 *1/16* description of longitudinal joint *Lap, double* diam. of rivet holes *1 3/16*  
 Pitch of rivets *3 1/8* 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 tubes*  
 Stays *2 1/8" dia* Superheater or steam chest; how connected to boiler *Through the smoke pipe leading to the funnel*

STK909-0298



DONKEY BOILER— Description *Vertical Water tubes in furnace*  
Made at *Stockton* by whom made *Reley Bros* when made *24/12/83* 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 dbb*  
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 and bottom bolts & nuts, two connecting rod bottom end bolts & nuts, two crank bearing bolts, one set coupling bolts, one set bridge & 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,  
*Robert Blair Esq* Manufacturers of Engines & Marine Boilers only

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* : : : received by me,  
Special .. *£ 19* : 10 :  
Donkey Boiler Fee .. *£* : : :  
Certificate (if required) .. *£* : : : *23.1.1884*  
To be sent as per margin.

(Travelling Expenses, if any, £ )

Committee's Minute

TUESDAY 23 JAN 1884

*Submitted This*  
*1.84*  
*28.1.94*  
*James Smith*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.