

REPORT ON MACHINERY.

No. 6384

Received at London Office TUESDAY 8 JAN 1884

No. in Survey held at Glasgow & Belfast Date, first Survey 1.5.83. Last Survey 4th Jan. 1884.
 Reg. Book. S. S. River Garry. (Number of Visits 23) 1288.63
 on the S. S. River Garry. Tons 860.12
 Master J. P. Knight Built at Belfast By whom built Workman Clark When built 1883.
 Engines made at Glasgow By whom made Muir & Houston when made 1883
 Boilers made at do By whom made do when made do
 Registered Horse Power 98. Owners J. Little & Co. Port belonging to Glasgow.

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting.
 Diameter of Cylinders 26" 8.52" Length of Stroke 42" No. of Rev. per minute 70. Point of Cut off, High Pressure Four Low Pressure
 Diameter of Screw shaft 9 1/2" Diam. of Tunnel shaft 9" Diam. of Crank shaft journals 9 1/2" Diam. of Crank pin 9 1/2" size of Crank webs 6 1/4" x 12 1/2"
 Diameter of screw 13'-0" Pitch of screw 16'-6" No. of blades 4 state whether moveable yes total surface 4309 sq. ft.
 No. of Feed pumps Two diameter of ditto 3 1/2" Stroke 27" Can one be overhauled while the other is at work yes.
 No. of Bilge pumps Two diameter of ditto 3 1/2" Stroke 27" Can one be overhauled while the other is at work yes.
 Where do they pump from All Compartments.
 No. of Donkey Engines Two Size of Pumps 5" x 5" x 8" Cyl Where do they pump from Sea, Tanks, Bilges
Holds and Hotwater.
 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 13" Are they connected to condenser, or to circulating pump Cir. pump.
 How are the pumps worked by levers.
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both valves and 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 above
 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 Two Bilge Suctions How are they protected wood flooring
 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 by launching DR
 Is the screw shaft tunnel watertight yes. and fitted with a sluice door yes worked from Upper platform

BOILERS, &c.—

Number of Boilers Two. Description Round Single Ended Whether Steel or Iron Steel.
 Working Pressure 80 lbs. Tested by hydraulic pressure to 160 lbs. Date of test 4th Decr 1883.
 Description of superheating apparatus or steam chest None
 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 33. Description of safety valves direct spring No. to each boiler Two.
 Area of each valve 8.3" 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 24" Diameter of boilers 11'-10 5/8"
 Length of boilers 9'-9" description of riveting of shell long. seams Sub. Lap. circum. seams double Lap. Thickness of shell plates 1 1/16"
 Diameter of rivet holes 1 3/16" whether punched or drilled rim. pitch of rivets 5 1/4" Lap of plating 9"
 Percentage of strength of longitudinal joint 77. working pressure of shell by rules 85 lbs. size of manholes in shell 11" x 16"
 Size of compensating rings 3/4" ring 5" broad. No. of Furnaces in each boiler Two
 Outside diameter 3'-5 1/2" length, top 16'-0" bottom 9'-3" thickness of plates 3/8" description of joint welded if rings are fitted corrugate
 Greatest length between rings — working pressure of furnace by the rules 96 lbs. combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"
 Pitch of stays to ditto, sides 8" x 8" back 8" x 8" top 7 1/2" x 8" If stays are fitted with nuts or riveted heads Nuts. working pressure of plating by rules 84 lbs. Diameter of stays at smallest part 1.06" working pressure of ditto by rules 85 lbs. end plates in steam space, thickness 3/4"
 Pitch of stays to ditto 15 1/2" x 14 1/2" how stays are secured d. nuts working pressure by rules 88 lbs. diameter of stays at smallest part 2" working pressure by rules 83 lbs. Front plates at bottom, thickness 9/16" Back plates, thickness 9/16"
 Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 1/2" pitch of tubes 4 1/2" thickness of tube plates, front 1/16" back 1/16" how stayed stayed pitch of stays 14 1/4" x 9 1/2" width of water spaces 4"
 Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —
 Pitch of rivets — working pressure of shell by rules — 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 — how stayed —
 Superheater or steam chest; how connected to boiler —

DONKEY BOILER— Description *Horizontal Single Ended Multitubular (Steel)*
Made at *Glasgow* by whom made *Muir & Houston* when made *1883* where fixed *deckhouse*
Working pressure *180 lbs.* tested by hydraulic pressure to *160 lbs.* No. of Certificate *1216* fire grate area *16 sq. ft.* description of safety valves *direct spring* No. of safety valves *One* area of each *8"* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *6'-9"* length *8'-0"* description of riveting *Single double stretch*
Thickness of shell plates *1/2"* diameter of rivet holes *15/16"* whether punched or drilled *punch* pitch of rivets *4"* lap of plating *6"*
per centage of strength of joint *76.72* thickness of ~~plates~~ ^{End} *9/16"* stayed by *1 7/8" stays 11" x 12" pitch*
Diameter of furnace, ^{top} *2'-3"* ~~bottom~~ length of furnace *5'-0"* thickness of plates *3/8"* description of joint *double butt strap*
Thickness of ~~furnace crown~~ ^{Tube} plates *9/16"* stayed by *stay tubes 8 1/2" pitch* working pressure of shell by rules *95 lbs.*
Working pressure of furnace by rules *93 lbs.* diameter of ~~uptake~~ ^{Tube} *3"* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *Top and Bottom End Bolts & Nuts. Bottom End Braces. One set Main Bearing & Coupling bolts & Nuts. Feed, Bilge & donkey Suction & discharge Valves. Bolts & Nuts of various sizes.*
The foregoing is a correct description,
Muir & Houston Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned*)
Engines and Boilers are now completed on board.
The workmanship is good and the machinery is now in my opinion in a safe and good working condition and eligible to be noted in the port's Register Book: L.M.C. 1.84.

It is submitted that this vessel is eligible to have the registration + L.M.C. 1.84 recorded

10/11/84

The amount of Entry Fee £ *1 : 0 : 0* received by me, *(Signature)*
Special .. £ *14 : 14 : 0*
Donkey Boiler Fee .. £ *0 : 0 : 0*
Certificate (if required) .. £ *0 : 0 : 0* *8/11/1884*
To be sent as per margin.
Glasgow Expenses 8/-
(Travelling Expenses, if any, £1-1-0)
To be remitted to Bureau.
Committee's Minute

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