

REPORT ON MACHINERY.

9518

No. 9518

Port of Glasgow

Received at London Office

No. in Survey held at Glasgow

Date, first Survey 29th Oct. 1888 Last Survey 6th Dec. 1889

Reg. Book.

(Number of Visits 52)

3138

on the

S. S. "Mira"

Tons 2039

Master G. Jeffrey Built at Glasgow By whom built Ritten & Mansel When built 1889.

Engines made at Glasgow By whom made John & James Thomson when made 1889.

Boilers made at Glasgow By whom made John & James Thomson when made 1889.

Registered Horse Power 400. Owners J. & J. Harrison Port belonging to Liverpool

ENGINES, &c.—

(Triple expansion)
Description of Engines Triple Expansion (Three Cranks)
Diameter of Cylinders 24" 40" & 66" Length of Stroke 48" No. of Rev. per minute 75. Point of Cut off, High Pressure Var Low Pressure
Diameter of Screw shaft 13 1/2" Diam. of Tunnel shaft 12 1/2" Diam. of Crank shaft journals 13 1/4" Diam. of Crank pin 13 3/4" size of Crank webs built
Diameter of screw 17'-0" Pitch of screw 18'-6" No. of blades 4 state whether moveable yes total surface 82.4 sq. ft.
No. of Feed pumps two diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes.
No. of Bilge pumps two diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes.
Where do they pump from all compartments
No. of Donkey Engines 3. Size of Pumps 7" x 9" x 9 1/2" Where do they pump from Hotwells, Sea, tanks & Bilges
One pair Wier " " 4" x 8" x 21" & one 3" x 6" x 6" for bilge
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 4" Are they connected to condenser, or to circulating pump yes.
How are the pumps worked by hand
Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both
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 cocks fitted 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 sea yes.
Are the pipes, cocks, and valves arranged so as to prevent an accident between the sea and the bilges yes.
When were stern tube, propeller, screw shaft, and all connections examined in dry dock on Stocks before launching
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 Multitubular Whether Steel or Iron Steel
Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 6th September 1889.
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 —
No. of square feet of fire grate surface in each boiler 72.4 Description of safety valves dir. act. 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 15" Diameter of boilers 13'-0"
Length of boilers 16'-0" description of riveting of shell long. seams d. butt str. circum. seams Lap Thickness of shell plates 1 3/16"
Diameter of rivet holes 1 1/4" whether punched or drilled drilled pitch of rivets 8 1/2" x 4 1/4" Lap of plating 18 3/16" butt str.
Per centage of strength of longitudinal joint 85% working pressure of shell by rules 160 lbs. size of manholes in shell 12" x 16"
Size of compensating rings 1" ring d riv. to shell — No. of Furnaces in each boiler 4
Outside diameter 42 1/2" length, top 6'-4 1/2" bottom through thickness of plates 9/16" description of joint Fox patent if rings are fitted —
Greatest length between rings — working pressure of furnace by the rules 164 lbs combustion chamber plating, thickness, sides 9/16" back — top 9/16"
Pitch of stays to ditto, sides 7 1/2" back — top 7 1/2" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 160 lbs
Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 160 lbs end plates in steam space, thickness 7/8" + 11" dbl. pl.
Pitch of stays to ditto 15" x 16" how stays are secured d nuts working pressure by rules 160 lbs diameter of stays at smallest part 2 7/8" working pressure by rules 162 lbs Front plates at bottom, thickness 13/16" Back plates, thickness 1 1/16"
Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 1/2" pitch of tubes 4 7/8" thickness of tube plates, front 7/8" back 7/8" how stayed 3 tubes pitch of stays 9 1/2" width of water space —
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 —

Description of furnaces

9518 gls

DONKEY BOILER—

Description *Multitubular (Steel)*

Made at *Glasgow* by whom made *John & James Thomson* when made *1889* where fixed *on deck*

Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2349* fire grate area *27* descr. of s. t.

valves *direct spring* No. of safety valves *two* area of each *3.14* if fitted with easing gear *yes* if steam from 1 boiler

enter the donkey boiler *no* diameter of donkey boiler *9'-0"* length *8'-6"* description of riveting *lap joint*

Thickness of shell plates *7/16* diameter of rivet holes *7/8* whether punched or drilled *drill* pitch of rivets *3 1/2* lap of plating *5/8*

per centage of strength of joint *75%* thickness of ^{Tube} crown plates *5/8* stayed by *stay tubes*

Diameter of furnace, top *34"* bottom *—* length of furnace *5'-9"* thickness of plates *7/16* description of joint *d. butt*

Thickness of furnace ^{front} crown plates *7/16* stayed by *—* working pressure of shell by rules *80 lbs*

Working pressure of furnace by rules *83 lbs* diameter of uptake ^{tubes} *3 1/4* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied: *1 pair top & bottom connecting rod brasses, 1 air pump bucket & rod, 1 circulating delta set air & circulating pump valves, 2 feed valves and seats, 4 connecting rod bolts & nuts, 2 main bearing bolts, 8 coupling bolts, 15 condenser tubes, 1 complete set of escape valve springs, 12 brass bolts, set of main boiler firebars for 12 plates of iron, 1 patent tube expander, 4 safety valve springs, 12 boiler tubes, 1 hatch brace and 12 drills, 1 anvil, 100 iron bolts & nuts, 1 fitter's vice, 1 copper hammer, 12 files, 1 set of taps and dies, 4 sets block & tackle, 12 gauge glasses, complete set of engineers tools, hammers, chisels etc. 1 piece crank shaft, 1 propeller shaft, 1 screw solid iron propeller.*

The foregoing is a correct description,

Manufacturer.

John & James Thomson

Dist 4th 1889

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

*The above mentioned engines and boilers have been built under special survey and are now completed on board the vessel in a satisfactory manner. This machinery is now in my opinion eligible to the notation: **T.L.M.C. 12.89***

600

The amount of Entry Fee £ *3* : : received of me,

Do £ *40* : : : : *1889*

Cert. (if required) £ : : : : *9/12/89*

To be sent as per margin.

(Traveling Expenses, if any, £)

Committee's Minute

FRIDAY 13 DEC 1889

T.L.M.C. 12/89

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

Glasgow
Lloyd's Register
Foundation