

REPORT ON MACHINERY.

Greenock
No. 9380

Port of *Glasgow*

Received at London 25th AUGUST 1887

No. in Survey held at *Glasgow*

Date, first Survey *11th Feb 1887* Last Survey *Apr 20th 1887*

Reg. Book Suppl.

(Number of Visits *35*) Tons *2945* *2989*
2273 *2348*

1 on the *Screw Steamer "Tasso"*

Master *Diller* Built at *Greenock* By whom built *Russell & Co.* When built *1887*

Engines made at *Glasgow* By whom made *Jas. Howden & Co.* when made *1887*

Boilers made at *Glasgow* By whom made *Jas. Howden & Co.* when made *1887*

Registered Horse Power *250* Owners *R. McAndrew & Co.* Port belonging to *Glasgow*

ENGINES, &c.—

Description of Engines *Triple Expansion*

Diameter of Cylinders *23.39 & 64* Length of Stroke *42* No. of Rev. per minute *80* Point of Cut off, High Pressure *Var.* Low Pressure *Var.*

Diameter of Screw shaft *12 1/2* Diam. of Tunnel shaft *12* Diam. of Crank shaft journals *12* Diam. of Crank pin *12* size of Crank webs *Dickinson's Patent*

Diameter of screw *15.3* Pitch of screw *17 to 19 feet* No. of blades *4* state whether moveable *sol.* total surface *65 sq ft*

No. of Feed pumps *2* diameter of ditto *3* Stroke *21* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* diameter of ditto *4 1/2* Stroke *21* 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 *10" x 12" x 9"* Where do they pump from *Holwell, Sea tanks & bilges.*

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 *5/4* Are they connected to condenser, or to circulating pump *Circulating 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*

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 *bilge & tank suction.* How are they protected *wood covering*

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 *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 *Round Multitubular* Whether Steel or Iron *Steel.*

Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs.* Date of test *24th June 1887.*

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 *45* Description of safety valves *direct spring* No. to each boiler *two*

Area of each valve *9.62* 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 *on woodwork 14"* Diameter of boilers *14'-4"*

Length of boilers *9'-4 1/2* description of riveting of shell long. seams *treb. riv. d. butt circum. seams* *doub. riv. lap* Thickness of shell plates *1 1/2"*

Diameter of rivet holes *1 9/32* whether punched or drilled *drilled* pitch of rivets *9 3/32 & half.* Lap of plating *18 3/4" strap.*

Per centage of strength of longitudinal joint *86%* working pressure of shell by rules *162 lbs* size of manholes in shell *12 x 16"*

Size of compensating rings *wrought iron doubling plate* No. of Furnaces in each boiler *three*

Outside diameter *3'-6"* length, top *6'-4 1/2* bottom *8'-11"* thickness of plates *9/16* description of joint *welded* if rings are fitted *fox*

Greatest length between rings *—* working pressure of furnace by the rules *160 lbs* combustion chamber plating, thickness, sides *5/8* back *5/8* top *5/8*

Pitch of stays to ditto, sides *8 7/8 x 8 7/8* back *8 7/8 x 8 7/8* top *7 3/4 x 8 7/8* 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 1/2* working pressure of ditto by rules *160 lbs* end plates in steam space, thickness *1"*

Pitch of stays to ditto *16" x 16"* how stays are secured *d. nuts wash.* working pressure by rules *—* diameter of stays at smallest part *2 7/8" screw* working pressure by rules *160 lbs* Front plates at bottom, thickness *3/4* Back plates, thickness *25/32*

Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *2 1/2"* pitch of tubes *3 3/4 x 3 3/16* thickness of tube plates, front *12/16* back *12/16* how stayed *S. tubes* pitch of stays *2" tube* width of water spaces *6"*

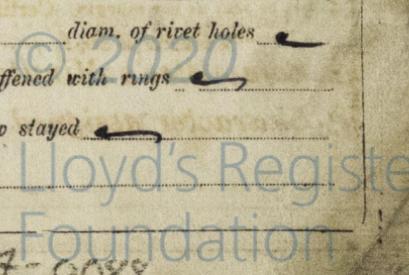
Diameter of Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*

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 *—*

Form No. 5-900-17/8 6-P. a



GRK 307-6088

DONKEY BOILER— Description *Multitubular*
 Made at *Glasgow* by whom made *J. Howden & Co* when made *1887* where fixed *on deck*.
 Working pressure *70 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *1829* fire grate area *16 sq ft* description of safety valves *direct spring* No. of safety valves *two* area of each *4"* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *7'-6"* length *7'-6"* description of riveting *double riv. lap*.
 Thickness of shell plates *7/16* diameter of rivet holes *3/4"* whether punched or drilled *drill* pitch of rivets *2 1/2"* lap of plating *3 3/4"*
 per centage of strength of joint *40%* thickness of ~~end~~ ^{end} plates *5/8* stayed by *stays 2.2"* area
 Diameter of furnace, top *3'-6"* bottom *—* length of furnace *5'-4"* thickness of plates *1/2"* description of joint *welded*
 Thickness of furnace ~~end~~ ^{c. ch.} ~~end~~ ^{end} plates *1/2"* stayed by *stays 8 1/2" x 8"* pitch working pressure of shell by rules *72 lbs*
 Working pressure of furnace by rules *70 lbs* diameter of ~~uptake~~ ^{tubes} *3"* thickness of ~~plates~~ ^{front tubes} *9/16* thickness of ~~plates~~ ^{back tubes} *5/8*

SPARE GEAR. State the articles supplied:— *Spare web & pin and part of crank shaft. Valve spindles. Feed & bilge pump valves & seats. Top and bottom end bolts. Main bearing & coupling bolts. Bolts nuts. iron & assorted.*

The foregoing is a correct description,
James Howden & Co Manufacturers
Glasgow

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned Engines and Boilers are now completed onboard in a satisfactory manner and the machinery is in our opinion eligible to be noted in the Society's Register Book: + L.M.C. 8. 87.*)

Howden's system of forced draught is fitted in this boiler and was tried when running the measured mile at Helmslie on the 20th inst. with the following results,

Average speed of four runs was 13.12 knots. Steam 60 lbs. Revolution 78 to 80.

One run only was made with natural draught when the steam pressure fell to 146 lbs. Revolution 73 and speed 12.24 knots. an indicated horse power of 1459 was obtained

Procuring of 2 Boilers & Steel & parts retained for future use.
This is submitted that this vessel is eligible to have the information + L.M.C. 8. 87 recorded
DF 25/8/87

Accepted

The amount of Entry Fee .. £ 2 : - : - received by me,
 Special .. £ 32 : 10 : -
 Donkey Boiler Fee .. £ - : - : -
 Certificate (if required) .. £ - : - : - *23/8/1887*
 (Travelling Expenses, if any, \$ *4/6* ..)

John Anderson or *James Morrison*
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRIDAY 26 AUGUST 1887*
+ L.M.C. 8. 87

Glasgow Lloyd's Register Foundation