

REPORT ON MACHINERY.

TUES 29 DEC 1896

Port of Glasgow

Received at London Office 18

No. in Survey held at Glasgow Date, first Survey 25th May Last Survey 25th Dec. 1896
 Reg. Book. S.S. "Pisa" (Number of Visits 53)
 on the S.S. "Pisa" Tons { Gross 4443 Net 2896
 Master J. Fendt Built at Glasgow By whom built A. Stephen & Son When built 1896
 Engines made at Glasgow By whom made A. Stephen & Son when made 1896
 Boilers made at Glasgow By whom made A. Stephen & Son when made 1896
 Registered Horse Power 538 Owners R. M. Sloman & Co. Port belonging to Hamburg
 Nom. Horse Power as per Section 28 538 Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks three
 Diameter of Cylinders 28", 47", 79" Length of Stroke 51" Revolutions per minute 65 Diameter of Screw shaft as per rule 14.03"
 Diameter of Tunnel shaft as per rule 13.35" Diameter of Crank shaft journals 14.2" Diameter of Crank pin 14.3/4" Size of Crank webs 9 1/2 x 18"
 Diameter of screw 18.0" Pitch of screw 20.0" No. of blades 4 State whether moveable yes Total surface 92 sq ft
 No. of Feed pumps automatic Diameter of ditto — Stroke — Can one be overhauled while the other is at work —
 No. of Bilge pumps 2 Diameter of ditto 4.2" Stroke 30" Can one be overhauled while the other is at work yes
 No. of Donkey Engines three Sizes of Pumps 3 ballast 10" x 10" x 12" duplex daisy 5" x 6" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room one 3 1/2" in well, 2 3/2" in gutter and 1, 3 1/2" in holds, &c. in the usual ballast tank under engines
 In holds. 4, 3 1/2" in forward holds, 3, 3 1/2" and 2, 2 3/4" in aft holds.
 No. of bilge injections 1 sizes 7" Connected to condenser, or to circulating pump circ. Is a separate donkey suction fitted in Engine room & size yes. 3 1/2"
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none
 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 none How are they protected —
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launching Is the screw shaft tunnel watertight apparently
 Is it fitted with a watertight door yes worked from main deck

BOILERS, &c.— (Letter for record 5.) Total Heating Surface of Boilers 9008 sq ft Is forced draft fitted no
 No. and Description of Boilers 2 Double ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test 26. 11. 96 Can each boiler be worked separately yes Area of fire grate in each boiler 123.5 No. and Description of safety valves to each boiler three spring loaded. Area of each valve 14.2 sq in. Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 183"
 Length 18.6" Material of shell plates Steel Thickness 1 1/32" Description of riveting: circum. seams lap 2 x 3 Knist long. seams Double butt 4 lines
 Diameter of rivet holes in long. seams 2 - 1 7/32" Pitch of rivets 9.96" Lap of plates or width of butt straps 22"
 Percentages of strength of longitudinal joint 75.1 Working pressure of shell by rules 184 lbs. Size of manhole shell 12 x 16"
 Size of compensating ring flanged end plate and Description of Furnaces in each boiler see Morrison Material Steel Outside diameter 47"
 Length of plain part 7.7 1/2" Thickness of plates 19/32" Description of longitudinal joint weld No. of strengthening rings curved
 Working pressure of furnace by the rules 201 lbs combustion chamber plates: Material Steel Thickness: Sides 7/8" Back none Top 7/8" Bottom 15/16"
 Pitch of stays to ditto: Sides 7 1/8" Back none Top 7 1/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 218 lbs
 Material of stays Steel Diameter at smallest part 1.79 sq in. Area supported by each stay 62 sq in. Working pressure by rules 250 lbs End plates in steam space: Material Steel Thickness 15/32" Pitch of stays 16" x 17 1/4" How are stays secured Double nut Working pressure by rules 190 lbs Material of stays Steel
 Diameter at smallest part 6.41 Area supported by each stay 284 lbs sq in. Working pressure by rules 203 lbs Material of Front plates at bottom Steel
 Thickness 13/16" Material of Lower back plate none Thickness — Greatest pitch of stays — Working pressure of plate by rules —
 Diameter of tubes 3 1/2" Pitch of tubes 4 5/8" Material of tube plates Steel Thickness: Front 13/16" Back 7/8" Mean pitch of stays 9 1/4"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 215 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 1/4" x 2 x 7/8" Length as per rule 36 1/2" Distance apart 7 1/8" Number and pitch of Stays in each 3 x 7 1/8"
 Working pressure by rules 218 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately —
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

If not, state whether, and when, one will be sent? Is it reported also sent on the hull of the ship?

14892 gls.

REPORT ON MACHINERY

DONKEY BOILER— Description *See attached report*

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____

Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____

Plates _____

Dia. of stays. _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *As required by the rules, also 1 tail shaft, 2 propeller blades, 1 slide valve spindle, 1 set of connecting rod brasses, 1 air pump bucket and other parts.*

The foregoing is a correct description,
 Manufacturer. *Alca Stephen Sons.*

Dates of Survey while building

During progress of work in shops—	1896: May 25, 27, June 4, 11, 15, 23, 25, 29, July 2, 6, 8, 9, 16, 30, Aug 5, 7, 13, 21, 24, Sept 2, 4, 7, 8, 14, 23, 25, 29.
	During erection on board vessel—
	Oct 1, 6, 9, 12, 15, 19, 26, Nov 4, 9, 9, 10, 13, 16, 18, 23, 25, 26, 30, Dec 4, 8, 9, 11, 15, 14, 21, 26.
Total No. of visits	53

General Remarks (State quality of workmanship, opinions as to class, &c.) *These engines and boilers have been built in accordance with the conditions of Special Survey, they have been securely fitted on board and satisfactorily tested under steam. The material and workmanship is good. It is submitted that this vessel is eligible for the record + L.M.C. 12.96.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12.96.

[Signature]
 29.12.96

The amount of Entry Fee.. £ 3 : " :
 Special £ 46 : 18 :
 Donkey Boiler Fee £
 Travelling Expenses (if any) £

When applied for, 24/12/96
 When received, 26/12/96

[Signature]
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI 1 JAN 1897

Committee's Minute
 Assigned

+ L.M.C. 12, 96



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Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)