

REPORT ON MACHINERY.

Port of London

FRI 1 SEP 1899

Received at London Office 18

No. in Survey held at London Date, first Survey 4 Nov/98 Last Survey 25 Aug 1899
 Reg. Book. 73 on the New Donkey Boilers for the S.S. "Garth Castle" (Number of Visits 14)
 Master Harvey Built at Glasgow By whom built J. Seider & Co Tons { Gross 3660
 Engines made at H'port By whom made J. Richardson & Son Net 2350
 Boilers made at " " By whom made do When built 1880 12
 Registered Horse Power 585 Owners J. Currie & Co. when made 1888
 Nom. Horse Power as per Section 28 Port belonging to London
 Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

No. of Cylinders

No. of Cranks

Diameter of Cylinders Length of Stroke Revolutions per minute Diameter of Screw shaft as per rule
 Diameter of Tunnel shaft as per rule Diameter of Crank shaft journals Diameter of Crank pin Size of Crank webs
 Diameter of screw Pitch of screw No. of blades State whether moveable Total surface
 No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work
 No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work
 No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room In Holds, &c.

No. of bilge injections sizes Connected to condenser or to circulating pump Is a separate donkey suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight

Is it fitted with a watertight door worked from New Donkey Boilers only

BOILERS, &c.— (Letter for record ☒) Total Heating Surface of Boilers 6800 Is forced draft fitted Yes

No. and Description of Boilers One tubular Donkey Boiler Working Pressure 8 lbs Tested by hydraulic pressure to 160 lbs

Date of test 24/7/99 Can each boiler be worked separately ☒ Area of fire grate in each boiler 33 sq ft No. and Description of safety valves to

each boiler Not seen Area of each valve Not seen Pressure to which they are adjusted Not seen Are they fitted

with easing gear ☒ Smallest distance between boilers or uptakes and bunkers or woodwork Mean diameter of boilers 8-6

Length 10-0 Material of shell plates Steel Thickness 1/2 Description of riveting: circum. seams Laps & joints long. seams Laps & joints

Diameter of rivet holes in long. seams 13/16 Pitch of rivets 3 3/8 Lap of plates or width of butt straps 6

Per centages of strength of longitudinal joint rivets 80 Working pressure of shell by rules 81 lbs Size of manhole in shell 15 1/2 x 11

Size of compensating ring Wheels No. and Description of Furnaces in each boiler Two Plain Material S Outside diameter 2-10

Length of plain part top 6-9 Thickness of plates crown 1/2 Description of longitudinal joint Welded No. of strengthening rings Bottom Stiffening

Working pressure of furnace by the rules 8 lbs Combustion chamber plates: Material S Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 9/16

Pitch of stays to ditto: Sides 8 x 7 Back 9 1/4 x 7 1/8 Top 9 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 101 lbs

Material of stays Iron Diameter at smallest part 1 1/32 Area supported by each stay 65-6 Working pressure by rules 120 lbs End plates in steam space:

Material S Thickness 5/8 Pitch of stays 13 x 12 How are stays secured Welded Working pressure by rules 103 lbs Material of stays Iron

Diameter at smallest part 1 1/16 Area supported by each stay 156-4 Working pressure by rules 100 lbs Material of Front plates at bottom S

Thickness 5/8 Material of Lower back plate S Thickness 5/8 Greatest pitch of stays 14-13 Working pressure of plate by rules 103 lbs

Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 Material of tube plates S Thickness: Front 5/8 Back 5/8 Mean pitch of stays 9

Pitch across wide water spaces 13 1/2 Working pressures by rules 87 lbs Girders to Chamber tops: Material Iron Depth and

thickness of girder at centre 6 x 15 1/2 Length as per rule 23 Distance apart 10 Number and pitch of Stays in each 1 x 10

Working pressure by rules 111 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately ☒ Diameter Not seen Length Not seen Thickness of shell plates Not seen Material Not seen Description of longitudinal joint Not seen Diam. of rivet

holes Not seen Pitch of rivets Not seen Working pressure of shell by rules Not seen Diameter of flue Not seen Material of flue plates Not seen Thickness Not seen

If stiffened with rings ☒ Distance between rings Not seen Working pressure by rules Not seen End plates: Thickness Not seen How stayed Not seen

Working pressure of end plates Not seen Area of safety valves to superheater Not seen Are they fitted with easing gear Not seen

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DONKEY BOILER— Description

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. _____
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: _____

The foregoing is a correct description,

Manufacturer. _____

Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - -
Total No. of visits _____

From 14th November 1898 until 25th August 1899.

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

The New Tubular Donkey Boiler as above for this Steamer has been constructed under special survey. The material and workmanship are good and satisfactory. On completion this Boiler was tested by water pressure and found tight and sound and showed no signs of weakness. The following mark was stamped on this Boiler: -
"395 Lloyd's Test No. 14-7-99"
It is intended that this New Tubular Donkey Boiler will be fitted to the above named vessel on her next arrival in London in October next.

This boiler has been built under survey in accordance with the rules it is proposed to fit in on the S.S. Farth Castle on October next at London.

M. D.
2/9/99

The amount of Entry Fee. £ : : When applied for, 11/9/99
Special £ : :
Donkey Boiler Fee £ 4 : 4 : When received, 18/9/99
Travelling Expenses (if any) £ : :
THUR, 12 APR 1900

Committee's Minute

Assigned

D. Mitchell

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



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For Donkey Survey