

REPORT ON MACHINERY.

No. 67.405

Port of London.

Received at London Office MON. 5 JUN 1905

No. in Survey held at London Date, first Survey Sept Last Survey May 25 1905
 Reg. Book. 66 on the Eugenie No. 776 - for the P.S. "Brunel" (Number of Visits 33) Tons { Gross 125.7
 Master Baker No. 778 Built at London By whom built Thames Iron Works S. & B. Co. When built 1905
 Engines made at London By whom made The Thames Iron Works S. & B. Co. when made 1905
 Boilers made at London By whom made do. when made 1905
 Registered Horse Power _____ Owners London County Council Port belonging to London
 Nom. Horse Power as per Section 28 53 Is Refrigerating Machinery fitted no. Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Diagonal Compound No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 16 x 31 Length of Stroke 36 Revs. per minute _____
 Dia. of ~~Screw~~ shaft as per rule app. 6 3/4 Material of 5
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube _____ Is the after end of the liner made water tight
 in the propeller boss _____ If the liner is in more than one length are the joints burned _____ If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive _____ If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush _____
 Dia. of Tunnel shaft as per rule _____ Dia. of Crank shaft journals as per rule app. 6 3/4 Dia. of Crank pin 6 3/4 Size of Crank webs 4 5/8 x 7/8 Dia. of thrust shaft under
 collars as fitted whed 8-9 Pitch of screw _____ No. of blades 8 State whether moveable feathering Total surface _____
 No. of Feed pumps one Diameter of ditto 3 1/2 Stroke 10 Can one be overhauled while the other is at work _____
 No. of Bilge pumps one Diameter of ditto 3 1/2 Stroke 10 Can one be overhauled while the other is at work _____
 No. of Donkey Engines one Sizes of Pumps 4 1/4 x 3 1/4 x 8 Stroke _____ No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room one 2" engine + one 2" donkey. In Holds, &c. one 2" forward + 2" aft.

No. of bilge injections one sizes 3" Connected to condenser to circulating pump _____ Is a separate donkey suction fitted in Engine room & size yes - 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 _____
 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 _____ Is the screw shaft tunnel watertight _____
 Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.— (Letter for record ✓) Total Heating Surface of Boilers 700 sq. ft. Is forced draft fitted yes
 No. and Description of Boilers one S. E. return tube Working Pressure 115 Tested by hydraulic pressure to 230
 Date of test 28.3.05 Can each boiler be worked separately _____ Area of fire grate in each boiler 250' No. and Description of safety valves to
 each boiler 2 - direct spring Area of each valve 7.07 Pressure to which they are adjusted 115 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 9-0 Length 8-9 Material of shell plates 5
 Thickness 9/16 Range of tensile strength 29-32 Are they welded or flanged no Descrip. of riveting: cir. seams single long. seams hedge butt.
 Diameter of rivet holes in long. seams 3/4 Pitch of rivets 4 5/32 Lap of plates or width of butt straps 12"
 Per centages of strength of longitudinal joint rivets 83.7 Working pressure of shell by rules 119 Size of manhole in shell 16 x 12
 plate 82.0 Size of compensating ring 5 1/2 x 7/8 No. and Description of Furnaces in each boiler 2 plain Material 5 Outside diameter 34 5/8
 Length of plain part top 70 crown 9/16 Description of longitudinal joint welded No. of strengthening rings none
 bottom 62 1/2 Thickness of plates bottom 9/16 Working pressure of furnace by the rules 142 Combustion chamber plates: Material 5 Thickness: Sides 1/2 Back 1/2 Top 9/16 Bottom 1/2
 Pitch of stays to ditto: Sides 8 1/4 x 7 1/4 Back 8 1/2 x 7 1/2 Top 9 1/4 x 8 1/4 If stays are fitted with nuts or riveted heads nub Working pressure by rules 120
 Material of stays 5 area at smallest part .93 Area supported by each stay 640 Working pressure by rules 116 End plates in steam space:
 Material 5 Thickness 1/16 Pitch of stays 17 1/2 x 12 1/2 How are stays secured nut washers Working pressure by rules 115 Material of stays 5
area at smallest part 2.87 Area supported by each stay 2180 Working pressure by rules 133 Material of Front plates at bottom 5
 Thickness 1/16 Material of Lower back plate 5 Thickness 1/16 Greatest pitch of stays 11 3/4 Working pressure of plate by rules 115
 Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 Material of tube plates 5 Thickness: Front 1/16 Back 1/16 Mean pitch of stays 11.4
 Pitch across wide water spaces 12 1/2 Working pressures by rules 116 Girders to Chamber tops: Material 5 Depth and
 thickness of girder at centre 6 1/2 x 5/8 - 2 Length as per rule 25 Distance apart 9 1/4 Number and pitch of Stays in each 2 - 8 1/4
 Working pressure by rules 135 Superheater or Steam chest; how connected to boiler _____ 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 _____

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DONKEY BOILER— No. _____ 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 _____
 Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____
 Descrip. of riveting long. seams _____ Dia. 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:—

For
 THE THAMES IRONWORKS, SHIP-BUILDING
 AND ENGINEERING COMPANY, LIMITED.

The foregoing is a correct description,

Manufacturer.

Alwarne

Manager.

Dates of Survey while building
 During progress of work in shops - 1904 Dec 13 to 30 1905 Jan 10 11 18 25 26 31 Feb 6 8 13 14 17 18 19
 During erection on board vessel - 22 23 Mar 2 7 8 13 15 16 17 19 27 May 3 4 6 9 17 24 25
 Total No. of _____
 Is the approved plan of main boiler forwarded herewith _____
 " " " donkey " " " "

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

The engine and boiler have been built under special survey. The material has been tested in accordance with the rule requirements. The main steam pipes have been tested by water to 290 lbs, and the boiler to 230 lbs, and they were found tight and sound at these pressures respectively. The safety valves have been adjusted under steam and the engine seen working. The workmanship throughout is good.

This vessel's machinery is eligible in my opinion for record of + LMC 5.05.

Builder

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

Boiler stamped:—
 N° 778
 614
 LLOYD'S TEST
 230 LBS
 28.3.05
 F.L.S.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 5.05 F.D. ELEC. LIGHT
J.M.
F.M.S.
 5.6.05

The amount of Entry Fee. . . £ 1 : 0 : 0
 Special £ 8 : 0 : 0
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 31/5/05
 When received, 3.6.05

Charles F.L.S.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 6 JUN 1905
 Assigned + LMC 5.05

MACHINERY CERTIFICATE WRITTEN

