

REPORT ON MACHINERY.

Port of London

W.D. 22 MAR 1893

Received at London Office

18

No. in Survey held at London Date, first Survey Nov 3 1892 Last Survey March 21 1893.
 Reg. Book. 432 on the IRON S.C. SR. GRAPPLER. (Number of Visits 19)
 Master J. B. Parry Built at Sunderland By whom built J. Laing Tons { Gross 868
 Engines made at Newcastle By whom made R. & W. Hawthorn when made 1880
 Boilers made at London By whom made J. Fraser & Son when made 1893
 Registered Horse Power 100 Owners West India & Panama Telegraph Co. Ltd Port belonging to London
 Nom. Horse Power as per Section 28 +100A 100. no 2-88
13d. 1.92 hms 688

ENGINES, &c.— Description of Engines No. of Cylinders
 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

BOILERS, &c.— (Letter for record) Total Heating Surface of Boilers
 No. and Description of Boilers one Single ended Cylindrical Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs
 Date of test Can each boiler be worked separately ☒ Area of fire grate in each boiler 720 No. and Description of safety valves to
 each boiler Pair, Spring Loaded Area of each valve 15.9 Pressure to which they are adjusted 80 lbs Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 14' 0"
 Length 10' 9" Material of shell plates 5.M. Steel Thickness 3/4" Description of riveting: circum. seams Double zig zag long. seams Double butt straps.
 Diameter of rivet holes in long. seams 16/16 Pitch of rivets 3 5/8" Lap of plates & width of butt straps 4 7/8" 9 3/4" outside straps
 Per centages of strength of longitudinal joint rivets 94.3 Working pressure of shell by rules 105 lbs Size of manhole in shell 18" x 12"
 plate 93.6 Size of compensating ring 6" x 7/8" No. and Description of Furnaces in each boiler 4 Plain Material 5.M. Steel Outside diameter 37"
 Length of plain part top 7' 4" Thickness of plates crown 17/32 Description of longitudinal joint Double Butt Straps No. of strengthening rings None
 bottom 7' 4" Working pressure of furnace by the rules 92.8 Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 9/16" Top 1/2" Bottom 1/2"
 Pitch of stays to ditto: Sides 9 x 8 1/2" Back 9 1/2 x 9" Top 8 1/2 x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 94.8
 Material of stays Steel Diameter at smallest part 1.09 Area supported by each stay 63.2507 Working pressure by rules 96.6 End plates in steam space:
 Material Steel Thickness 3/4" Pitch of stays 16 x 15 1/2" How are stays secured Double nuts Working pressure by rules 123.75 Material of stays Steel
 Diameter at smallest part 1.84 Area supported by each stay 248 0" Working pressure by rules 96.5 Material of Front plates at bottom Steel
 Thickness 9/16" Material of Lower back plate Steel Thickness 9/16 Greatest pitch of stays 9 1/2" Working pressure of plate by rules 128
 Diameter of tubes 3 3/4 Pitch of tubes 5" Material of tube plates Steel Thickness: Front 5/8" Back 11/16 Mean pitch of stays 15 x 10
 Pitch across wide water spaces 16 1/2 Working pressures by rules 108 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 6 3/4 x 1 1/2 Length as per rule 27 1/2" Distance apart 8 1/2" Number and pitch of Stays in each Two. 8 1/2"
 Working pressure by rules 101 lbs Superheater or Steam chest; how connected to boiler Steel Pipe Can the superheater be shut off and the boiler worked
 separately No Diameter 4' 0" Length 10' 9" Thickness of shell plates 5/16 x 7/16 Material Steel Description of longitudinal joint Lap and riveted
 holes 11/16 Pitch of rivets 2 1/4" Working pressure of shell by rules 103 lbs 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— 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.

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

The material & workmanship are of good & efficient quality & the boiler was afterwards tested by hydraulic pressure to twice the working pressure, with satisfactory results.

Examined for Special Survey. Cylinders, Pistons, Slide Valves, Pumps and Condenser, Crank, Intermediate, & Propeller shafting, Propeller & sea connections & their fastenings, roses, sluices, & bilge connections.

Examined Donkey boiler internally & externally & Safety valves.

Repairs. The crank shafts were found to slightly flawed, two new shafts were fitted & old shafts taken as spare gear. A new Junk ring was fitted to H.P. Piston & new springs to L.P. Piston, & the stem bush was rewooded. Donkey boiler was afterwards seen under steam & the safety valves adjusted to lift at 40 lbs press: per sq"

This vessel's machinery is now in good condition & in my opinion the vessel is eligible to remain as classed & have notification **L.M.C.3.93.** and **N.B.3.93.** recorded in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD L.M.C.3.93 and N.B.3.93.**

on account of wear & tear a new crank shaft fitted & other repairs of moderate extent have been done.

25/3/93-

Em Salmon.

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

Certificate (if required) to be sent to

SURVEY FEE.

The amount of Entry Fee.. £ 0

Special .. £ 4 : 4

Donkey Boiler Fee .. £ :

Travelling Expenses (if any) £ :

£ 8.4 ✓
TUES. 28 MAR 1893

Committee's Minute

Assigned

L.M.C.3.93 + N.B.3.93



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