

REPORT ON MACHINERY.

WED 9 DEC 1896

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office.....18

No. in Survey held at Stockton on Tees. Date, first Survey 11th Aug Last Survey 13th Nov 1896
g. Book. " Troja " (Number of Visits 32)
on the Screw Steamer Troja. Tons { Gross 2730
Net 2039
Master Auguste Rubarth. Built at Hornaby By whom built Richardson Duck & Co. When built 1896.
Engines made at Stockton on Tees By whom made Blair & Co. Ltd. when made 1896.
Boilers made at Stockton on Tees By whom made Blair & Co. Ltd. when made 1896.
Registered Horse Power 245. Owners A. C. de Freitas & Co. Port belonging to Hamburg.

om. Horse Power as per Section 28 246[✓]
 manufacturers HP 200

No. of Cylinders Three

Description of Engines Triples expansion No. of Cylinders Three
 as per rule 10.8"
 as fitted 12.5"
 Diameter of Cylinders 22 1/2" - 34" - 61" Length of Stroke 42" Revolutions per minute 58 Diameter of Screw shaft
 Diameter of Tunnel shaft 10.3" Diameter of Crank shaft journals 12" Diameter of Crank pin 12 1/2" Size of Crank webs 19 1/2" x 8 1/2" true
 as fitted 11 3/4"
 Diameter of screw 16' 0" Pitch of screw 14' 0" No. of blades 4 State whether moveable No Total surface 73 sq. ft.
 To. of Feed pumps 2 Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work Yes.
 To. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work Yes.
 To. of Donkey Engines Two. Sizes of Pumps (4" x 8") (3 1/2" x 9") No. and size of Suctions connected to both Bilge and Donkey pumps
 In Holds, &c. Forehold: Two - 3" dia. Main Hold: Two
3" dia. After Hold: Two - 3" dia. After peak & Tunnel well: One - 2 1/2" dia.
 No. of bilge injections 2 sizes 4 1/2" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes: 4"
 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
 How are they protected ✓
 What pipes are carried through the bunkers None.
 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 New Vessel Is the screw shaft tunnel watertight Yes.
 Is it fitted with a watertight door Yes worked from Top platform in Engine room.
 Surface of Boilers 3455 sq. ft.

BOILERS, &c.— (Letter for record P.) Total Heating Surface of Boilers 160th Tested by hydraulic pressure to 320th
 No. and Description of Boilers Two: Export Multi Single Ended Working Pressure 160th No. and Description of safety valves to
 Date of test 15/10/96 Can each boiler be worked separately Yes Area of fire grate in each boiler 56²/₄ # No. and Description of safety valves to
 each boiler Two: Direct Spring Area of each valve 11.04 # Pressure to which they are adjusted 163th Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork About 18" Mean diameter of boilers 14' 9 1/4"
 Length 10' 0" Material of shell plates Steel Thickness 1 5/8" Description of riveting: circum. seams Lap Double long. seams D. Butt Shape
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 3/8" 4 3/16" one on two rows "middle" Free Top of plates or width of butt straps 1' 4 3/8"
 Per centages of strength of longitudinal joint rivets 95.6 plate 85.5 Working pressure of shell by rules 184th Size of manhole in shell 14" x 13"
 Size of compensating ring 31" x 27" x 1 3/8" No. and Description of Furnaces in each boiler 3: Corrugated Material Steel Outside diameter 3' 8"
 Length of plain part 36' 5" Thickness of plates crown } 1 1/8" Description of longitudinal joint Welded No. of strengthening rings 4
 bottom } 3/32" Working pressure of furnace by the rules 185th Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 7/8"
 Pitch of stays to ditto: Sides 7 5/8" x 7 1/2" Back 7 5/8" x 7 1/2" Top 7 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182th
 Material of stays Iron Diameter at smallest part 1 1/2" Area supported by each stay 56 # Working pressure by rules 173th End plates in steam space:
 Material Steel Thickness 1" Pitch of stays 16' x 15' How are stays secured Double nuts Working pressure by rules 185th Material of stays Steel
 Diameter at smallest part 2 1/2" Area supported by each stay 248 # Working pressure by rules 144th Material of Front plates at bottom Steel
 Thickness 1 3/2" Material of Lower back plate Steel Thickness 1 3/2" Greatest pitch of stays 13 1/4" Working pressure of plate by rules 236th
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 5/8" Material of tube plates Steel Thickness: Front 1 1/2" Back 1 3/16" Mean pitch of stays 9 1/8"
 Pitch across wide water spaces 15 3/4" Working pressures by rules 160th 284th Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7" x 1 1/2" Length as per rule 27 1/2" Distance apart 7 3/4" Number and pitch of Stays in each 3: 7 1/4"
 Working pressure by rules 168th Superheater or Steam chest; ~~how connected to boiler~~ None Can the superheater be shut off and the boiler worked
 separately Yes 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
 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

SPARE GEAR. State the articles supplied:— Propeller and shaft; Two Slide Spindles, one pair each, top & bottom end brasses; Air & circulating pump rods and links 24 Boiler Tubes, 24 Condenser Tubes, 1 Safety valve spring, 6 Joint Bolts, one set air pump valves, and spare gear required by the Rules.

Walter Bonnie
SECRETARY

Dates of Survey while building	During progress of work in shops -	1896 Aug 11. 13. 24 24. 31 Sep 3. 8. 9. 14. 16. 18. 22. 30 Oct 15. 18. 14. 15. 15. 14. 19
	During erection on board vessel -	1896 Oct 20. 21. 23. 29. 30 Nov 4. 5. 4. 9. 10. 25
	Total No. of visits	thirty two

The machinery throughout is now in good and efficient condition and eligible in my opinion to have record of ✠ L.M.C. 11.96 inserted in the Society's Register Book.

A. E.

9.12-96 9/12/96

The amount of Entry Fee..	£ 2 : " : "	} When applied for,
Special	£ 32 : 6 : "	
Donkey Boiler Fee	£	} When received,
Travelling Expenses (if any) £		

Assigned

FRI 11 DEC 1896

+ 2 m c 11, 96

Engineer Surveyor to Lloyd's Register of British & Foreign S