

REPORT ON MACHINERY.

No. 24382

1910 MAR 22

Received at London Office

Date of writing Report 19 When handed in at Local Office 19 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 15 Sept. 09 Last Survey 11 Mar. 1910
 Reg. Book. on the S/S. Mozart (Number of Visits 23)

Master McLair Built at Slend. By whom built Bartram & Sons Tons } Gross 4427
 Engines made at Slend. By whom made J. Dickinson & Sons when made 1910 } Net 2750
 Boilers made at " By whom made " when made 1910

Registered Horse Power ✓ Owners Arpens Shipping Co. Port belonging to Sunderland

Nom. Horse Power as per Section 28 404 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

ENGINES, &c.—Description of Engines C.P.R. No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 26 1/2 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 14 1/2 Material of screw shaft I.
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes. Is the after end of the liner made water tight in the propeller boss yes. 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 5 ft.

Dia. of Tunnel shaft as per rule 12.9 Dia. of Crank shaft journals as per rule 13.6 Dia. of Crank pin 13 3/4 Size of Crank webs Patent Dia. of thrust shaft under collars 13 3/4 Dia. of screw 17.3 Pitch of Screw 17.3 No. of Blades 4 State whether moveable f Total surface 84 1/2 sq.

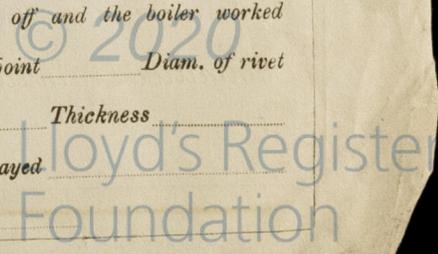
No. of Feed pumps 2 Diameter of ditto 4 Stroke 25 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 25 1/2 Can one be overhauled while the other is at work yes.
 No. of Donkey Engines 2 Sizes of Pumps 9x8x9 - 7 1/2 x 4 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room P. 3 1/2 C. 3 1/2 S. 2 of 3 1/2 In Holds, &c. 2 of 3 1/2 in each
 Tunnel well 3 1/2

No. of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump C.R. Is a separate Donkey Suction fitted in Engine room & size 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 yes.
 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.
 Dates of examination of completion of fitting of Sea Connections 27.1.10 of Stern Tube 6.1.10 Screw shaft and Propeller 6.1.10
 Is the Screw Shaft Tunnel watertight yes. Is it fitted with a watertight door yes. worked from top platform

BOILERS, &c.—(Letter for record R) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 6568 Is Forced Draft fitted no. No. and Description of Boilers 3 S.E.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 Date of test 21.1.10 No. of Certificate 2804
 Can each boiler be worked separately yes. Area of fire grate in each boiler 55 1/2 No. and Description of Safety Valves to each boiler 2 Area of each valve 4.04 Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 3 ft. Mean dia. of boilers 15 ft. Length 10' 6" Material of shell plates B
 Thickness 1 3/16 Range of tensile strength 282 - 32 Are the shell plates welded or flanged EN 75 Descrip. of riveting: cir. seams a-lap long. seams a-butt Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 1' 4 1/4
 Per centages of strength of longitudinal joint rivets 88.6 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12
 Size of compensating ring 8 1/2 x 1 3/16 No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 3' 6"
 Length of plain part top 6.8 3/4 bottom 6.9 Thickness of plates crown 4 1/4 bottom 6 1/4 Description of longitudinal joint weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 183 Combustion chamber plates: Material B Thickness: Sides 1/6 Back 1/6 Top 1/6 Bottom 1 1/16
 Pitch of stays to ditto: Sides 10 x 9" Back 8 1/2 x 9 1/2 Top 10 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 187
 Material of stays W.I. area Diameter at smallest part 2.69 Area supported by each stay 111.9 Working pressure by rules 180 End plates in steam space: Material B Thickness 1 1/4 Pitch of stays 19 x 21 3/8 How are stays secured a-nuts Working pressure by rules 181 Material of stays B
 Diameter at smallest part 8.5 Area supported by each stay 406 Working pressure by rules 218 Material of Front plates at bottom B
 Thickness 1/4 Material of Lower back plate B Thickness 1/4 Greatest pitch of stays 14 Working pressure of plate by rules 183
 Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates B Thickness: Front 1/8 Back 1/8 Mean pitch of stays 9"
 Pitch across wide water spaces 14 3/4 Working pressures by rules 232 Girders to Chamber tops: Material B Depth and thickness of girder at centre 8 x 2 1/2 Length as per rule 34 Distance apart 10 Number and pitch of stays in each 3 @ 9"
 Working pressure by rules 181 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 in superheater Are they fitted with easing gear

002576-002982-0037



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____
 Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 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 _____ Plates _____
 Working pressure of shell by rules _____ 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 _____
 Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 1 set top and bottom bolts & nuts. two main bearing bolts & nuts. one set coupling bolts & nuts. 1 set feed & bilge pump valves. propeller shaft. propeller. Air. Cir. & ballast pump valves. Assorted iron & boiler tubes.

The foregoing is a correct description,
 John Dickenson & Sons, Limited
John Dickenson Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1909 Sept. 15. 27. Oct. 1. 8. Nov. 18. Dec. 26. 7. 15.
 { During erection on board vessel - - } 1910 Jan. 6. 12. 14. 19. 20. 21. 27. Feb. 3. 15. 17. 28. Mar. 4. 9. 11.
 Total No. of visits 23 Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders 27. 9. 09 " " " donkey " " " "
 Connecting rods 6. 12. 09 Crank shaft 2. 12. 09 Thrust shaft 2. 12. 09 Tunnel shafts 2. 12. 09 Screw shaft 2. 12. 09 Propeller Jan. 20/10
 Stern tube Jan. 6/10 Steam pipes tested 28. 2. 10 Engine and boiler seatings 24. 2. 10 Engines holding down bolts 27. 1. 10
 Completion of pumping arrangements 17. 2. 10 Boilers fixed 27. 2. 10 Engines tried under steam 3. 3. 10
 Main boiler safety valves adjusted 3. 3. 10 Thickness of adjusting washers PB 1/2, R 1/2, CB 3/2, S 4 1/2, SB 9/32, 3/32
 Material of Crank shaft S Identification Mark on Do. H. 10. 09 Material of Thrust shaft S Identification Mark on Do. H. 12. 09
 Material of Tunnel shafts B Identification Marks on Do. X. 1. 10 Material of Screw shafts J. Identification Marks on Do. 216 F.C.
 Material of Steam Pipes Copper. JM. 12. 09. 6524. Test pressure 360 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)
 Machinery and boilers built under Special Survey. Materials and workmanship good. Engines examined under steam & found satisfactory. It is submitted that this vessel is eligible for the record of L.M.C. 3/10
 It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3,10

J.M. H.H.D. 22-3-10

The amount of Entry Fee .. £ 3 : : When applied for, 21. 2. 1910
 Special .. £ 40 : :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When received, 24. 3. 1910

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

Committee's Minute THUR. 24 MAR 1910
 Assigned + L.M.C. 3.10



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