

REPORT ON MACHINERY.

No. 27470

Received at London Office

FRI. MAY. 15. 1914

Date of writing Report 13th May 14 When handed in at Local Office 14. 5. 14 Port of Hull
 No. in Survey held at Hull Date, First Survey Feb 6th Last Survey May 12th 1914
 Reg. Book. 23 (Number of Visits 23)
 To supply on the Steam S.S. "PRINCE PALATINE" Gross Tons 256
 Master Sully Built at Sully By whom built Cochran & Sons Ltd. Net Tons 100
 Engines made at Hull By whom made Hull when made 1914
 Boilers made at Hull By whom made Hull when made 1914
 Registered Horse Power 40 Owners Earl of Minto Port belonging to Hull
 Nom. Horse Power as per Section 28 40 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12³/₄ - 22 - 35 Length of Stroke 24 Revs. per minute 238 Dia. of Screw shaft 4¹/₂ Material of screw shaft Iron
 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 Yes 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 31
 Dia. of Tunnel shaft 6¹/₄ Dia. of Crank shaft journals 4¹/₂ Dia. of Crank pin 4¹/₂ Size of Crank webs 4¹/₂ x 13¹/₂ Dia. of thrust shaft under collars 4¹/₂ Dia. of screw 8¹/₂ - 9 Pitch of Screw 10 - 10¹/₂ No. of Blades 4 State whether moveable No Total surface 29¹/₂ sq ft
 No. of Feed pumps 1 Diameter of ditto 2³/₄ Stroke 14¹/₂ Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 1 Diameter of ditto 2³/₄ Stroke 14¹/₂ Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 1 Sizes of Pumps 5" x 2¹/₂ x 5" No. and size of Suctions connected to both Bilge and Donkey pumps 2" 10" for hold, one 2" 10" main hold, one 2" 10" for duck well, one 2" 10" for duck well. Suction from all bilges with duck on duck.
 In Engine Room Two 2" 10" for forward & one aft. In Holds, &c. One 2" 10" for hold, one 2" 10" main hold, one 2" 10" for duck well, one 2" 10" for duck well. Suction from all bilges with duck on duck.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2¹/₂ inch
 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 Below
 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 Hold suction How are they protected Wood casing
 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 24. 2. 14 of Stern Tube 24. 2. 14 Screw shaft and Propeller 24. 2. 14
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Phoenix Iron Works of Hull
 Total Heating Surface of Boilers 1100 sq ft Is Forced Draft fitted No No. and Description of Boilers One of multi angle mild.
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 13. 3. 14 No. of Certificate 2064
 Can each boiler be worked separately Yes Area of fire grate in each boiler 35 sq ft No. and Description of Safety Valves to each boiler Two Spring. Area of each valve 490 Pressure to which they are adjusted 195 lbs. Are they fitted with easing gear Yes
 Smallest distance between boilers on uptakes and bunkers or woodwork 7" Mean dia. of boilers 13'-0" Length 10'-3" Material of shell plates S.
 Thickness 1¹/₈" Range of tensile strength 29 tons. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 20. 9. 2.
 long. seams 20. 9. 2. Diameter of rivet holes in long. seams 1¹/₈" Pitch of rivets 4⁵/₈" Lap of plates or width of butt straps 15¹/₂"
 Per centages of strength of longitudinal joint 84 Working pressure of shell by rules 200 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring 7" x 1¹/₂" No. and Description of Furnaces in each boiler 2 plain Material S. Outside diameter 3'-8"
 Length of plain part top 5'-6" Thickness of plates bottom 1¹/₈" Description of longitudinal joint Weld No. of strengthening rings 0
 Working pressure of furnace by the rules 202 Combustion chamber plates: Material S. Thickness: Sides 1¹/₈" Back 2³/₄" Top 4" Bottom 1¹/₈"
 Pitch of stays to ditto: Sides 8" x 10" Back 9" x 9¹/₂" Top 9" x 10" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 219
 Material of stays S. Diameter at smallest part 2. 0. 7. 0 Area supported by each stay 85. 5. 0 Working pressure by rules 218 End plates in steam space: 20. 7. 5. 25 Working pressure by rules 206 Material of stays S.
 Material S. Thickness 1¹/₈" Pitch of stays 18" x 18" How are stays secured 20. 7. 5. 25 Working pressure by rules 206 Material of stays S.
 Diameter at smallest part 6. 8. 8. 0 Area supported by each stay 324. 0 Working pressure by rules 221 Material of Front plates at bottom S.
 Thickness 1¹/₈" Material of Lower back plate S. Thickness 3¹/₂" Greatest pitch of stays 15" x 9¹/₂" Working pressure of plate by rules 205
 Diameter of tubes 3¹/₂" Pitch of tubes 4³/₈ x 5" Material of tube plates S. Thickness: Front 1¹/₈" Back 1¹/₈" Mean pitch of stays 9. 17. 5"
 Pitch across wide water spaces 4³/₈ x 4³/₈" Working pressures by rules 200 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 9¹/₂ x 1¹/₂" Length as per rule 2'-11¹/₈" Distance apart 9" Number and pitch of stays in each 2-10"
 Working pressure by rules 202 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 Yes

006996-007007-0264

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *Two each Top & bottom and connecting rod bolts & nuts, two main bearing bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & CO. LTD.

Arthur Holmes DIRECTOR.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1914: Feb. 6. 10. 12. 16. 17. 21. 25. 27 Mar 3. 4. 9. 12. 13. 23. 26. 31 Apr 18. 29. 30 May 4
During erection on board vessel - - May 6. 8. 9. 11. 12
Total No. of visits 25

Is the approved plan of main boiler forwarded herewith *yes ✓*

" " " *donkey* " " " *✓*

Dates of Examination of principal parts—Cylinders 16. 2. 14 Slides 26. 3. 14 Covers 26. 3. 14 Pistons 9. 3. 14 Rods 9. 3. 14
Connecting rods 12. 3. 14 Crank shaft 4. 3. 14 Thrust shaft 21. 3. 14 Tunnel shafts ✓ Screw shaft 13. 2. 14 Propeller 13. 2. 14
Stern tube 13. 2. 14 Steam pipes tested 30. 4. 14. Engine and boiler seatings 27. 2. 14. Engines holding down bolts 4. 5. 14.
Completion of pumping arrangements 9. 5. 14. Boilers fixed 4. 5. 14. Engines tried under steam 6. 5. 14.
Main boiler safety valves adjusted 12. 5. 14. Thickness of adjusting washers AV 3/8. FV 7/16.

Material of Crank shaft *I* Identification Mark on Do. 1204. Material of Thrust shaft *I* Identification Mark on Do. 1204.

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *I* Identification Marks on Do. 1204.

Material of Steam Pipes *Copper solid drawn* Test pressure *400 lbs. hyd. press.*

Is an installation fitted for burning oil fuel *✓* Is the flash point of the oil to be used over 150°F. *✓*

Have the requirements of Section 49 of the Rules been complied with *✓*

Is this machinery duplicate of a previous case *No.* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and good. The boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of + LMC 5. 14 in the Register book.*

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 5. 14.

APR

1914

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 10 : 10 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : 8/2 :
When applied for, 29/4/1914
When received, 30/4/1914

Committee's Minute TUE. MAY. 19. 1914

Assigned *+ LMC 5. 14*

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



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Foundation