

REPORT ON MACHINERY.

No. 25038.

Received at London Office

TUE. OCT. 31. 1911

Date of writing Report 30. 10. 1911. When handed in at Local Office 30. 10. 1911. Port of **SUNDERLAND.**
 No. in Survey held at **SUNDERLAND.** Date, First Survey 25th Nov. 1910. Last Survey 16th Oct. 1911.
 Reg. Book. on the **S/S Paignton** (Number of Visits 46)
 Master Built at **Sunderland** By whom built **E. Paustin & Sons Ltd** Tons { Gross 2009.16
 Engines made at **Sunderland** By whom made **J. Dickinson & Sons Ltd** (C.713) when made 1911
 Boilers made at " By whom made " when made 1911
 Registered Horse Power Owners **Thomas Wilton** Port belonging to **Dartmouth.**
 Nom. Horse Power as per Section 28 **218** Is Refrigerating Machinery fitted for cargo purposes **no.** Is Electric Light fitted **yes**

ENGINES, &c.—Description of Engines **J. C. P. D.** No. of Cylinders **3** No. of Cranks **3**
 Dia. of Cylinders **21 34 56** Length of Stroke **39** Revs. per minute **70** Dia. of Screw shaft as per rule **12.1** Material of **Steel**
 as fitted **12.1/8** screw shaft)
 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 **4 3/4**
 Dia. of Tunnel shaft as per rule **10.4** Dia. of Crank shaft journals as per rule **11.5** Dia. of Crank pin **11 1/8** Size of Crank webs **4x20 1/2** Dia. of thrust shaft under
 collars **11 1/8** Dia. of screw **15 3/8** Pitch of Screw **15 ft** No. of Blades **4** State whether moveable **f** Total surface **694**
 No. of Feed pumps **2** Diameter of ditto **3** Stroke **19 1/2** Can one be overhauled while the other is at work **yes**
 No. of Bilge pumps **2** Diameter of ditto **4** Stroke **19 1/2** Can one be overhauled while the other is at work **yes**
 No. of Donkey Engines **3** Sizes of Pumps **two 10" x 10 feet 3 1/2 x 5** No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room **four of 3"** In Holds, &c. **two 3" in each**
 tunnel **2 1/4"**
 No. of Bilge Injections **1** sizes **4** 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 **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 **yes**
 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 **29. 8. 11** of Stern Tube **29. 8. 11** Screw shaft and Propeller **29. 8. 11**
 Is the Screw Shaft Tunnel watertight **yes** Is it fitted with a watertight door **yes** worked from **top platform**

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **J. Spencer & Sons Ltd**
 Total Heating Surface of Boilers **3446** Is Forced Draft fitted **no** No. and Description of Boilers **2 S.E. Multitubular**
 Working Pressure **180 lbs** Tested by hydraulic pressure to **360 lbs** Date of test **7. 7. 1911** No. of Certificate **2930**
 Can each boiler be worked separately **yes** Area of fire grate in each boiler **49 1/2** No. and Description of Safety Valves to
 each boiler **2 Spring** Area of each valve **5.9** Pressure to which they are adjusted **185** Are they fitted with easing gear **yes**
 Smallest distance between boilers or uptakes and bunkers or woodwork **1' 6"** Mean dia. of boilers **13' 6"** Length **10' 9"** Material of shell plates **S**
 Thickness **1 1/16** Range of tensile strength **28 3/4 - 32** Are the shell plates welded or flanged ends Descrip. of riveting: cir. seams **a. r. lap**
 long. seams **a. butt** Diameter of rivet holes in long. seams **1 3/16** Pitch of rivets **8** Lap of plates or width of butt straps **1 5/8**
 Per centages of strength of longitudinal joint rivets **96.9** Working pressure of shell by rules **181 1/2** Size of manhole in shell **16 x 12**
 plate **85.15**
 Size of compensating ring **8 3/4 x 1 1/2** No. and Description of Furnaces in each boiler **3 plain** Material **S** Outside diameter **3' 3"**
 Length of plain part top **6' 8"** Thickness of plates crown **49** Description of longitudinal joint **Weld.** No. of strengthening rings **yes**
 bottom **7' 3"** bottom **64**
 Working pressure of furnace by the rules **184** Combustion chamber plates: Material **S** Thickness: Sides **1/16** Back **1/16** Top **1/16** Bottom **1 1/16**
 Pitch of stays to ditto: Sides **10 x 9** Back **10 x 9** Top **10 x 8 1/2** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **181 1/2**
 Material of stays **S** Diameter at smallest part **1' 6"** Area supported by each stay **90** Working pressure by rules **182** End plates in steam space:
 Material **S** Thickness **1 1/8** Pitch of stays **18 3/8 x 18** How are stays secured **a nuts** Working pressure by rules **181 1/2** Material of stays **S**
 Diameter at smallest part **2 1/8** Area supported by each stay **331** Working pressure by rules **192** Material of Front plates at bottom **S**
 Thickness **7/8** Material of Lower back plate **S** Thickness **13/16** Greatest pitch of stays **12 1/4 x 9 1/2** Working pressure of plate by rules **187**
 Diameter of tubes **3 1/4** Pitch of tubes **4 1/2 x 4 1/2** Material of tube plates **S** Thickness: Front **7/8** Back **7/8** Mean pitch of stays **9 x 9**
 Pitch across wide water spaces **13 1/4** Working pressures by rules **288 1/2** Girders to Chamber tops: Material **S** Depth and
 thickness of girder at centre **6 1/2 x 2** Length as per rule **2' 5 1/2** Distance apart **8 1/2** Number and pitch of stays in each **2 @ 10"**
 Working pressure by rules **184** Superheater or Steam chest; how connected to boiler **yes** 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
 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

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
 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:— two connecting rod top and bottom end bolts nuts
 two main bearing bolts, one set coupling bolts, one set feed and bilge
 pump valves, propeller, one main and one donkey chest valve, piston bolts
 boiler tubes and pump valves. Assorted iron nuts & bolts

The foregoing is a correct description,

John D. & Sons, Limited,

Manufacturer.

Dates During progress of work in shops— 1910. Nov. 25. Dec. 8. 21. 1911 Jan. 19. Feb. 6. 15. Mar. 9. 16. 28 Apr. 10. 11. 21. 27 May 9. 12. 17. 19
 while building During erection on board vessel— 25. 26. 29. Jun. 8. 10. 12. 14. 29 Jul. 4. 7. 13. Aug. 22. 29. 30 Sep. 11. 12. 14. 16. 18. 21. 22. 23. 26. Oct. 2. 3. 11. 16. 18. 21
 Total No. of visits 46 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 17. 5. 11 Slides 17. 5. 11 Covers 17. 5. 11 Pistons 29. 5. 11 Rods 29. 5. 11
 Connecting rods 19. 5. 11 Crank shaft 26. 5. 11 Thrust shaft 26. 5. 11 Tunnel shafts 25. 5. 11 Screw shaft 18. 9. 11 Propeller 18. 9. 11
 Stern tube 16. 9. 11 Steam pipes tested 21. 9. 11 Engine and boiler seatings 8. 6. 11 Engines holding down bolts 8. 6. 11
 Completion of pumping arrangements 18. 10. 11 Boilers fixed 18. 9. 11 Engines tried under steam 23. 9. 11
 Main boiler safety valves adjusted 23. 9. 11 Thickness of adjusting washers PB 16. A 2. 5 f 76 A 2

Material of Crank shaft S Identification Mark on Do. R J T F Material of Thrust shaft S Identification Mark on Do. R J T F
 Material of Tunnel shafts S Identification Marks on Do. R J T F Material of Screw shafts S Identification Marks on Do. R J T F
 Material of Steam Pipes Copper Test pressure 360 lb.

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers built under Special Survey in accordance with approved plans.

Engines and boilers examined under steam and working conditions. I found satisfactory

It is submitted that this vessel has the record of L. M. C. in the register book. 10/1911

It is submitted that this vessel is eligible for THE RECORD. + LMC 10. VI.

The amount of Entry Fee .. £ 2 : : When applied for, 30. 11. 19. 11
 Special .. £ 30. 18 : :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : : When received, 1. 11. 11. 11

Committee's Minute FRI. NOV. 3—1911

Assigned + LMC 10. VI.

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