

REPORT ON MACHINERY.

No. 25519

Received at London Office

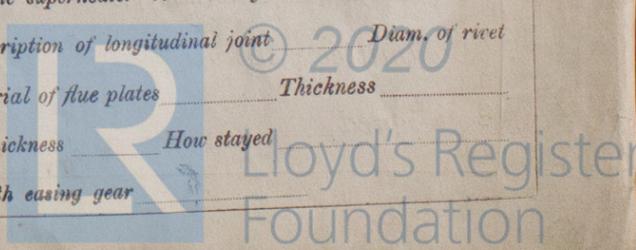
FRI DEC -6. 1912

Date of writing Report 19 When handed in at Local Office 2/12/12 Port of Sunderland
 No. in Survey held at SUNDERLAND. Date, First Survey 19 March Last Survey 27 Nov 1912
 Reg. Book. on the Hel S/S. "Cheriston" (Number of Visits) 35
 Master Bloomfield Built at Sland. By whom built Bartram Sons Tons } Gross 4819
 Engines made at Sland. By whom made J. Dickinson Sons L^d when made 1912 } Net 3135
 Boilers made at " By whom made " when made 1912.
 Registered Horse Power 401 Owners Century Shipping Co. Ltd. Port belonging to London
 Nom. Horse Power as per Section 28 401 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines In C.P.O. No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26" 43" 48" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14.51 Material of W. I.
 as fitted 14.58 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 ✓ 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 5ft
 Dia. of Tunnel shaft as per rule 13.03 Dia. of Crank shaft journals as per rule 13.68 Dia. of Crank pin 13 3/4 Size of Crank webs 8 1/2 x 2.5 Dia. of thrust shaft under
 collars 13 3/4 Dia. of screw 17.6 Pitch of Screw 17 ft. No. of Blades 4 State whether moveable no Total surface 86 1/2 sq ft
 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 three Sizes of Pumps 1 of 9 x 10 1/2 of 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 of 3 1/2 In Holds, &c. two of 3 1/2 in each.
 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 ✓
 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 9. 10. 12. of Stern Tube 9. 2. 12. Screw shaft and Propeller 4. 11. 12
 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 Spencer Sons L^d
 Total Heating Surface of Boilers 6483 sq ft Is Forced Draft fitted no No. and Description of Boilers 3. S. G.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 11. 11. 12 No. of Certificate 3061
 Can each boiler be worked separately yes Area of fire grate in each boiler 90 sq ft No. and Description of Safety Valves to
 each boiler 2 Spring Area of each valve 8.3" Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2' 6" Mean dia. of boilers 14' 10 3/4 Length 11-3' Material of shell plates S
 Thickness 1 1/32 Range of tensile strength 28 1/2 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams A. R. Lap
 long. seams A. R. U. R. Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 8 1/16 Lap of plates or width of butt straps 1' 7 1/2"
 Per centages of strength of longitudinal joint rivets 92.1 Working pressure of shell by rules 188 lbs Size of manhole in shell 16 x 12
 plate 85.3
 Size of compensating ring 8 5/8 x 13 1/2 No. and Description of Furnaces in each boiler 3. Morrison's Material S Outside diameter 3' 10"
 Length of plain part top 35 Thickness of plates crown 35 Description of longitudinal joint weld No. of strengthening rings ✓
 bottom 64
 Working pressure of furnace by the rules 185 Combustion chamber plates: Material S Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 7/8
 Pitch of stays to ditto: Sides 8 x 8 Back 8 x 8 Top 8 x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 212
 Material of stays S Diameter at smallest part 1.35 Area supported by each stay 64 Working pressure by rules 212 End plates in steam space:
 Material S Thickness 1 1/4 Pitch of stays 17 x 20 1/2 How are stays secured 8 nuts Working pressure by rules 209 Material of stays S
 Diameter at smallest part 3.16 Area supported by each stay 34.8 Working pressure by rules 235 Material of Front plates at bottom S
 Thickness 15/16 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 215
 Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 15/16 Back 7/8 Mean pitch of stays 9 x 9
 Pitch across wide water spaces 13 1/2 Working pressures by rules 183 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 1 1/2 x 2 Length as per rule 2' 7 1/2 Distance apart 8" Number and pitch of stays in each 30 8"
 Working pressure by rules 198 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

WS 89-0190



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 _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Propeller & shaft, one set coupling bolts & nuts set top & bottom end bolts & nuts, two main bearing bolts & nuts, set of feed & bilge pump valves, set air & circulating pumps, two donkey feed & ballast pump valves, assorted iron nuts & bolts.*

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

Dates of Survey while building { During progress of work in shops --- } *1912. Mar. 19. 27. Apr. 2. 17. May 8. 14. 22. 24. Jun. 12. 19. 24. 26.*

{ During erection on board vessel --- } *Aug. 2. Sep. 14. Oct. 2. 9. 10. 16. 17. 18. 21. 22. 24. 28. 30. Nov. 4. 6. 8. 11. 13. 14. 15. 19. 21. 27.*

Total No. of visits *(35)* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *2. 10. 12.* Slides *2. 10. 12.* Covers *28. 10. 12.* Pistons *28. 10. 12.* Rods *2. 8. 12.*

Connecting rods *2. 8. 12.* Crank shaft *24. 10. 12.* Thrust shaft *24. 10. 12.* Tunnel shafts *24. 10. 12.* Screw shaft *24. 10. 12.* Propeller *2. 10. 12.*

Stern tube *2. 10. 12.* Steam pipes tested *15. 11. 12.* Engine and boiler seatings *6. 11. 12.* Engines holding down bolts *8. 11. 12.*

Completion of pumping arrangements *20. 11. 12.* Boilers fixed *15. 11. 12.* Engines tried under steam *20/11/1912.*

Main boiler safety valves adjusted *20/11/1912* Thickness of adjusting washers *PTB f. 3/8" 2. 7/16. CBP 3/8. 2 3/8. SB f 3/8 2 3/8*

Material of Crank shaft *S* Identification Mark on Do. *7571.2* Material of Thrust shaft *S* Identification Mark on Do. *7448 H*

Material of Tunnel shafts *S* Identification Marks on Do. *3803 7562. 7571.2. 5850* Material of Screw shafts *W. J.* Identification Marks on Do. *4831 MR*

Material of Steam Pipes *Copper 4 1/2 6 1/2* Test pressure *400*

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. 11-1912.*

It is submitted that this vessel is eligible for THE RECORD: + L.M.C 11.12

E.J.F. 6.12.12. *A.P.R.L.*

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

The amount of Entry Fee .. £ *3* : : : When applied for, _____

Special .. £ *40* : : : *5.12.1912*

Donkey Boiler Fee .. £ : : : When received, _____

Travelling Expenses (if any) £ : : : *7.12.1912*

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

Committee's Minute TUE. DEC. 10. 1912
 Assigned *H.M.C. 11.12*

