

REPORT ON BOILERS.

Received at London Office

SAT. NOV. 18. 1911

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

No. in Survey held at SUNDERLAND. Date, First Survey 5 Jan'y Last Survey 31. 10. 11 19

Reg. Book. on the Steel S.S. "Canto" (Number of Visits 12) Tons } Gross 3708
Net 2393

Master Richardson Built at Sunderland By whom built J. L. Thompson & Sons, Ltd. When built 1911

Engines made at Sunderland By whom made John Dickinson & Sons, Ltd. when made 1911

Boilers made at do. By whom made do. when made 1911

Registered Horse Power _____ Owners British & Foreign Shipping Co. Ltd. Port belonging to Liverpool

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY OR DONKEY.~~ Manufacturers of Steel J. Spencer & Sons

(Letter for record S) Total Heating Surface of Boilers 634 sq ft Is forced draft fitted No No. and Description of Boilers 1 S.E. cylindrical multiple Working Pressure 100 lb Tested by hydraulic pressure to 200 lb Date of test 29.6.11

No. of Certificate 2925 Can each boiler be worked separately Yes Area of fire grate in each boiler 24 sq ft No. and Description of safety valves to each boiler 2 spring Area of each valve 4.91 sq in Pressure to which they are adjusted 100 lb

Are they fitted with easing gear Yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or woodwork On deck Mean dia. of boilers 9-5 13/32 Length 9-6

Material of shell plates steel Thickness 19/32 Range of tensile strength 28/32 tons Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams d.r. lap long. seams t.r. lap Diameter of rivet holes in long. seams 1" Pitch of rivets 4 1/4"

Lap of plates or width of butt straps 7 1/2" Per centages of strength of longitudinal joint rivets 79.8 Working pressure of shell by rules 102.1 lb plate 76.4

No. and Description of Furnaces in each boiler 2 plain Material steel Outside diameter 36" Length of plain part top 5-10 Thickness of plates crown 33/64 bottom 6-5 1/8 bottom 3/64

Description of longitudinal joint single butt strap No. of strengthening rings 2 ring Working pressure of furnace by the rules 102.9 lb Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 5/8 Pitch of stays to ditto: Sides 11 X 10 Back 12 1/2 X 10 5/8

Top 11 X 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 100 lb Material of stays steel Diameter at smallest part 1.73 Area supported by each stay 132.8 Working pressure by rules 104 lb End plates in steam space: Material steel Thickness 13/16

Pitch of stays 9 1/2 X 16 1/2 How are stays secured nut & washer, 2 centre stay Working pressure by rules 113 lb Material of stays steel Diameter at smallest part 3.25

Area supported by each stay 323.8 Working pressure by rules 100 lb Material of Front plates at bottom steel Thickness 13/16 Material of Lower back plate steel Thickness 13/16 Greatest pitch of stays 12 3/8 X 10 5/8 Working pressure of plate by rules 171 lb Diameter of tubes 3 1/4"

Pitch of tubes 4 1/2 X 4 1/2 Material of tube plates steel Thickness: Front 13/16 Back 9/16 Mean pitch of stays 9" Pitch across wide water spaces 13 1/4" Working pressures by rules 135 lb Girders to Chamber tops: Material steel Depth and thickness of girder at centre 6 X 2 Length as per rule 25 9/16 Distance apart 11" Number and pitch of Stays in each 1-10

Working pressure by rules 109 lb 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 _____

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

Dates of Survey } During progress of work in shops - - } 1911. Jan 5. 9. 23. Feb. 15. Mar. 1. 9. 28. 30 } Is the approved plan of boiler forwarded herewith Yes ✓

while building } During erection on board vessel - - - } Oct 18. 20. 23. 31 } Total No. of visits 12

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This donkey boiler has been built under special survey and tested as per Rules. The workmanship & materials are good. The boiler has been fitted on board and its safety valves adjusted under steam.

Survey Fee ... £ 2 : 2 : } When applied for. 15. 11. 1911

Travelling Expenses (if any) £ : : } When received. 17. 11. 1911

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