

REPORT ON BOILERS.

No. 6974

Received at London Office **TUE. AUG. 15. 1911**
 Date of writing Report **3rd Sept. 1911** When handed in at Local Office **4th Aug. 1911** Port of **Belfast** **12th Aug.**
 No. in Survey held at **Belfast** Date, First Survey **1st Aug. 1910** Last Survey **31st Aug. 1911**
 Reg. Book. **S.P.S. - "Cara"** (Number of Visits **1**) Gross **5108**
 on the **S.P.S. - "Cara"** Tons Net **2345**
 Master **Belfast** Built at **Belfast** By whom built **Workman Clark & Co. Ltd.** When built **1911**
 Engines made at **Belfast** By whom made **"** when made **"**
 Boilers made at **"** By whom made **"** when made **"**
 Registered Horse Power **"** Own **British India Steam Navigation Co. Ltd.** belonging to **Glasgow**

MULTITUBULAR BOILERS - MAIN, AUXILIARY OR DONKEY. - Manufacturers of Steel **Benmore & Co. Ltd.**

(Letter for record **S**) Total Heating Surface of Boilers **1327 1/2 sq ft** Is forced draft fitted **No** No. and Description of Boilers **1 Single End Cylindrical** Working Pressure **100 lbs** Tested by hydraulic pressure to **200 lbs** Date of test **28-2-11**
 No. of Certificate **442** Can each boiler be worked separately **✓** Area of fire grate in each boiler **36 1/2 sq ft** No. and Description of safety valves to each boiler **1 - 1 1/2 inch Spring** Area of each valve **8.29 sq in** Pressure to which they are adjusted **100 lbs**
 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 **30 in** Mean dia. of boilers **12-0** Length **10-0**
 Material of shell plates **Steel** Thickness **4 3/4** Range of tensile strength **28-52 tons** the shell plates welded or flanged **No**
 Descrip. of riveting: cir. seams **Lap, Single Rivets** Rivets **Butt Double Rivets** Diameter of rivet holes in long. seams **3 1/2** Pitch of rivets **4 1/2**
 Lap of plates or width of butt straps **9 in** Per centages of strength of longitudinal joint rivets **82.6** Working pressure of shell by rules **100 lbs** Size of manhole in shell **16" x 12"** Size of compensating ring **2 1/2 in** No. and Description of Furnaces in each boiler **2 - Plain** Material **Steel** Outside diameter **43 1/2** Length of plain part **80** Thickness of plates **3 3/4**
 Description of longitudinal joint **Weld** No. of strengthening rings **1** Working pressure of furnace by the rules **115 lbs** Combustion chamber plates: Material **Steel** Thickness: Sides **1/2** Back **1/2** Top **1/2** Bottom **5/8** Pitch of stays to ditto: Sides **8 1/2 x 9** Back **8 1/2 x 9**
 Top **8 1/2 x 8 1/2** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **100 lbs** Material of stays **Steel** Diameter at smallest part **1 1/2** Area supported by each stay **76 1/2 sq in** Working pressure by rules **127 lbs** Material of plates in steam space: Material **Steel** Thickness **3 1/2**
 Pitch of stays **17 x 6 1/2** How are stays secured **Welded** Working pressure by rules **100 lbs** Material of stay **Steel** Diameter at smallest part **3 1/4**
 Area supported by each stay **280 1/2 sq in** Working pressure by rules **127 lbs** Material of Front plates at bottom **Steel** Thickness **3/4** Material of Loiber back plate **Steel** Thickness **1/6** Greatest pitch of stays **13 1/2 x 9** Working pressure of plate by rules **26 lbs** Diameter of tubes **3**
 Pitch of tubes **4 1/2 x 4 1/2** Material of tube plates **Steel** Thickness: Front **3 1/2** Back **1/6** Mean pitch of stays **10 1/2** Pitch across wide water spaces **14** Working pressures by rules **111 lbs** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **6" x (5 1/2 x 2)** Length as per rule **27 1/2** Distance apart **8 1/2** Number and pitch of Stays in each **2 @ 8 1/2**
 Working pressure by rules **100 lbs** 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,
FOR WORKMAN, CLARK & CO., LIMITED Manufacturer.

Dates of Survey: During progress of work in shops - - - **✓**
 while building: During erection on board vessel - - - **✓**
 Is the approved plan of boiler forwarded herewith **Yes**
 Total No. of visits **1**

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

Survey Fee ... £ : : } When applied for, 19
 Travelling Expenses (if any) £ : : } When received, 19

A. J. Thomas Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute **FRI. AUG. 18. 1911**

Assigned **See Minute on Ref. R/P 6974 attached**

