

# REPORT ON BOILERS.

No. 9761

Received at London Office 25 JUN 1927

Date of writing Report 191 When handed in at Local Office *26-27* Port of *Belfast*

No. in Survey held at *Belfast* Date, First Survey *17<sup>th</sup> March* Last Survey *14<sup>th</sup> June* 191

Reg. Book. *89495* on the *STEEL TW. Sc. ICOTEA* (Number of Visits *12*) } Gross *2370*  
Tons } Net *1230*

Master Built at *Belfast* By whom built *Harland & Wolff Ltd. No 793* When built *1927*

Engines made at *Belfast* By whom made *Harland & Wolff Ltd. No. 793* When made *1927*

Boilers made at *Belfast* By whom made *Harland & Wolff Ltd. No. 793* When made *1927*

Registered Horse Power Owners *A. Weir & Co.* Port belonging to *London*

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel *D. Colville & Sons Ltd.*

(Letter for record *S.*) Total Heating Surface of Boilers *3702 sq ft* Is forced draft fitted *No.* No. and Description of Boilers *Two single-ended cylindrical* Working Pressure *180 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *24.5.27*

No. of Certificate *894* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *49 sq ft* No. and Description of safety valves to each boiler *Two Spring-loaded* Area of each valve *9.62 sq in* Pressure to which they are adjusted *180 lbs*

Are they fitted with easing gear *Yes* In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *22"* Mean dia. of boilers *14'-0 1/2"* Length *10'-6"*

Material of shell plates *Steel* Thickness *1 5/32"* Range of tensile strength *28-32 tons* Are the shell plates welded or flanged *No.*

Descrip. of riveting: cir. seams *double* long. seams *keble D.B.S.* Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *8 3/8"*

Top of plates or width of butt straps *18 3/8"* Per centages of strength of longitudinal joint rivets *97.5* Working pressure of shell by rules *180 lbs* Size of manhole in shell *16" x 12"* Size of compensating ring *36" x 32" x 1 1/8" double* No. and Description of Furnaces in each boiler *Three Division* Material *Steel* Rule Outside diameter *40 1/2"* Length of plain part *17'* Thickness of plates crown *1 1/2"* bottom *3/2"*

Description of longitudinal joint *weld* No. of strengthening rings Working pressure of furnace by the rules *19 1/2 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *5/8"* Top *5/8"* Bottom *3/4"* Pitch of stays to ditto: Sides *8 1/2" x 8 1/2"* Back *9 1/2" x 7 1/2"*

Top *8 3/8" x 8"* If stays are fitted with nuts or riveted heads *None* Working pressure by rules *187 lbs* Material of stays *Steel* Diameter at smallest part *7/16"* Area supported by each stay *72.25 sq in* Working pressure by rules *210 lbs* End plates in steam space: Material *Steel* Thickness *1 1/8"*

Pitch of stays *17 1/2" x 20 1/2"* How are stays secured *D.W. r washers* Working pressure by rules *184 lbs* Material of stays *Steel* Diameter at smallest part *2.74"*

Area supported by each stay *295 sq in* Working pressure by rules *242 lbs* Material of Front plates at bottom *Steel* Thickness *7/8"* Material of Lower back plate *Steel* Thickness *1 3/16"* Greatest pitch of stays *13 1/2" x 7 1/2"* Working pressure of plate by rules *225 lbs* Diameter of tubes *3 1/4"*

Pitch of tubes *4 1/2" x 4 3/8"* Material of tube plates *Steel* Thickness: Front *7/8"* Back *1 3/16"* Mean pitch of stays *16.27"* Pitch across wide water spaces *14 1/2"* Working pressures by rules front *188 lbs* back *225 lbs* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *8 1/4" - 1 1/2"* Length as per rule *30 5/8"* Distance apart *8 3/8"* Number and pitch of Stays in each *Three 8"*

Working pressure by rules *215 lbs* Superheater or Steam chest: how connected to boiler *Yes* Can the superheater be shut off and the boiler worked separately *Yes* Diameter *Yes* Length *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivet holes *Yes* Pitch of rivets *Yes* Working pressure of shell by rules *Yes* Diameter of flue *Yes* Material of flue plates *Yes* Thickness *Yes*

If stiffened with rings *Yes* Distance between rings *Yes* Working pressure by rules *Yes* End plates: Thickness *Yes* How stayed *Yes*

Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*

The foregoing is a correct description,  
**FOR HARLAND AND WOLFF, LIMITED.**  
*F. Hebbel* Manufacturer.

Dates of Survey } During progress of work in shops - - - } *1927 Mar 17.24.29 Apr 2.6.8.15* Is the approved plan of boiler forwarded herewith *Yes*  
 while building } During erection on board vessel - - - } *27 May 2.8.24 June 14* Total No. of visits *12*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The Boilers of this vessel have been constructed under special survey and to approved plans. The materials and workmanship are sound and good & they were tested by hydraulic pressure with satisfactory results, efficiently installed and fastened on the vessel and the safety valves adjusted under steam.*

Survey Fee ... £ *See memo Rpt.* : When applied for, ..... 191  
 Travelling Expenses (if any) £ *See memo Rpt.* : When received, ..... 191

*R. Lee Amner*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUES. 28 JUN 1927*  
 Assigned *See Rpt attached*

