

REPORT ON BOILERS.

No. 68618

Received at London Office MON. - 3 APR. 1916

Date of writing Report 191 When handed in at Local Office **APR 1 1916** Port of **NEWCASTLE ON TYNE.**

No. in Survey held at **Newcastle on Tyne.** Date, First Survey **16th Feb. 1914** Last Survey **29th Mar 1916**

Reg. Book. on the **TWIN SCREW STEAMER "LORD KELVIN."** (Number of Visits)

Master Built at **Walker on Tyne.** By whom built **Swan Hunter Wigham Richardson** When built **1916.**

Engines made at **Walker on Tyne.** By whom made **Swan Hunter Wigham Richardson** When made **1916.**

Boilers made at **Walker on Tyne.** By whom made **Swan Hunter Wigham Richardson** When made **1916.**

Registered Horse Power Owners **Anglo American Telegraph Co Ltd** Port belonging to **London**

Tons } Gross **2641**
Net **1306**

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY OR~~ DONKEY. — Manufacturers of Steel **Spencer Sons Ltd.**

(Letter for record **S**) Total Heating Surface of Boilers **342 sq. ft.** Is forced draft fitted **no.** No. and Description of Boilers **One: Cylind^r mult. Single** Working Pressure **100 lbs.** Tested by hydraulic pressure to **200 lbs.** Date of test **5/4/15**

No. of Certificate **8792** Can each boiler be worked separately **no.** Area of fire grate in each boiler **Oil fuel.** No. and Description of safety valves to each boiler **2: Spring loaded.** Area of each valve **3.14 sq. in.** Pressure to which they are adjusted **105 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 **9"** Mean dia. of boilers **4' 11"** Length **6' 9"**

Material of shell plates **Steel** Thickness **1/2"** Range of tensile strength **29 1/2 to 33 tons** Are the shell plates welded or flanged **no**

Descrip. of riveting: cir. seams **Lap Single** long. seams **Lap Double Riv** Diameter of rivet holes in long. seams **13/16"** Pitch of rivets **3/4"**

Lap of plates or width of butt straps **5 3/4"** Per centages of strength of longitudinal joint rivets **81.2%** Working pressure of shell by rules **103 lbs.** Size of manhole in shell **16" x 12"** Size of compensating ring **4 1/2" x 1/2"**

No. and Description of Furnaces in each boiler **2: Plain.** Material **Steel.** Outside diameter **28 1/4"** Length of plain part top **52 1/2"** Thickness of plates crown **1/2"** bottom **3/4"**

Desc. of longitudinal joint **Single** No. of strengthening rings **none.** Working pressure of furnace by the rules **149 lbs.** Combustion chamber plates: Material **Steel.** Thickness: Sides **15/32** Back **15/32** Top **15/32** Bottom **5/8"** Pitch of stays to ditto: Sides **6 5/8" x 8 1/2"** Back **9 1/2" x 9"**

Top **6 5/8" x 9 1/4"** If stays are fitted with nuts or riveted heads **nuts.** Working pressure by rules **101 lbs.** Material of stays **Steel** Area at smallest part **1.19 sq. in.** supported by each stay **58.5 sq. in.** Working pressure by rules **135 lbs.** End plates in steam space: Material **Steel** Thickness **3/4"**

Pitch of stays **14" x 14"** How are stays secured **Double nuts and washers.** Working pressure by rules **128 lbs.** Material of stays **Steel** Area at smallest part **2.17 sq. in.**

Area supported by each stay **196 sq. in.** Working pressure by rules **118 lbs.** Material of Front plates at bottom **Steel.** Thickness **3/4"** Material of Lower back plate **Steel** Thickness **3/4"** Greatest pitch of stays **14"** Working pressure of plate by rules **105 lbs.** Diameter of tubes **3"**

Pitch of tubes **4 1/8" x 4 1/4"** Material of tube plates **Steel.** Thickness: Front **3/4"** Back **5/8"** Mean pitch of stays **10 1/2"** Pitch across wide water spaces **14"** Working pressures by rules **102 lbs.** Girders to Chamber tops: Material **Steel.** Depth and thickness of girder at centre **4 1/2" x 1"** Length as per rule **14 5/8"** Distance apart **7 1/4"** Number and pitch of Stays in each **1 - 6 5/8"**

Working pressure by rules **102 lbs.** Superheater or Steam chest: **how connected to boiler none.** 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,
SWAN, HUNTER & WIGHAM RICHARDSON, LTD. Manufacturer.

G. J. Hunt

Is the approved plan of boiler forwarded herewith **Yes.**

Total No. of visits

Dates of Survey } During progress of work in shops - - }
while building } During erection on board vessel - - - }

See Weekly Report

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

This Donkey Boiler was built under special survey and the materials and workmanship are good. On completion it was tested as required by the Rules and found tight. For recommendations see accompanying report.

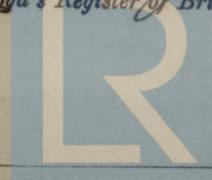
Survey Fee ... £ : : When applied for, 191

Travelling Expenses (if any) £ : : When received, 191

Wm. Austin *Reginald Bain*
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute TUE. - 4 APR. 1916

Assigned *All minute hvc fe. attached*



Lloyd's Register Foundation