

REPORT ON BOILERS.

No. 5384

Received at London Office **MON. 24 FEB 1908**

Port of **MIDDLESBROUGH-ON-TEES.**

Date of writing Report **10** When handed in at Local Office **22 2 1908**

No. in Survey held at **Stockton** Date, First Survey **4th Nov 1907** Last Survey **18th Feb 1908**

Reg. Book. **Donkey Boiler No. 3888, for S.S. "Dacre Castle"** (Number of Visits **18**) Gross Tons }
 Net Tons }

Master **B. T. Smith** Built at **Middlesbrough** By whom built **R. Cragg & Sons** When built **1908**

Engines made at **Stockton** By whom made **Polair & Co. Ltd** when made **1908**

Boilers made at **Stockton** By whom made **Riley Bros Ltd** when made **1907**

Registered Horse Power Owners **Chambers & Co** Port belonging to **Liverpool**

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

Letter for record **S.** Total Heating Surface of Boilers **1021 sq ft** Is forced draft fitted **no** No. and Description of Boilers **One cyl. Multi single ended Working Pressure 100 lb** Tested by hydraulic pressure to **200** Date of test **16/12/07**

No. of Certificate **4064** Can each boiler be worked separately Area of fire grate in each boiler **32.5 sq ft** No. and Description of Safety valves to each boiler **Two, spring** Area of each valve **9.62 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 **14"** Mean dia. of boilers **11'-0"** Length **10'-0"**

Material of shell plates **Steel** Thickness **5"** Range of tensile strength **28/32** Are the shell plates welded or flanged **no**

Descrip. of riveting: cir. seams **DR & L** long. seams **DR, DR, S** Diameter of rivet holes in long. seams **5/16** Pitch of rivets **4"**

Top of plates or width of butt straps **9 1/2 x 5"** Per centages of strength of longitudinal joint rivets **82** Working pressure of shell by plate **70.5**

Rules **102** Size of manhole in shell **15 x 20** Size of compensating ring **9" x 1"** No. and Description of Furnaces in each boiler **2 plain** Material **Steel** Outside diameter **3'-4"** Length of plain part **6'-5 1/2"** Thickness of plates **5-1/8"** crown }
bottom } **5-1/8"**

Description of longitudinal joint **welded** No. of strengthening rings Working pressure of furnace by the rules **100** Combustion chamber plates: Material **Steel** Thickness: Sides **1/2"** Back **9/16"** Top **1/2"** Bottom **1/16"** Pitch of stays to ditto: Sides **8 x 9"** Back **9 3/8 x 9 1/2"**

Top **8 x 8 1/2"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **106** Material of stays **Steel** Diameter at smallest part **1 1/8"** Area supported by each stay **72 sq in** Working pressure by rules **110** End plates in steam space: Material **Steel** Thickness **3/4"** double

Pitch of stays **20 x 21** How are stays secured **DR & W** Working pressure by rules **131** Material of stays **Steel** Diameter at smallest part **2 5/8"**

Area supported by each stay **430 sq in** Working pressure by rules **130** Material of Front plates at bottom **Steel** Thickness **3/4"** Material of Lower back plate **Steel** Thickness **3/4"** Greatest pitch of stays **12 x 9 3/8"** Working pressure of plate by rules **168** Diameter of tubes **3 1/4"**

Pitch of tubes **4 1/2 x 4 3/8"** Material of tube plates **Steel** Thickness: Front **3/4"** Back **5/8"** Mean pitch of stays **10 3/32"** Pitch across wide water spaces **13 1/2"** Working pressures by rules **116** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **6 1/2 x 1 1/4"** Length as per rule **2'-4"** Distance apart **8 1/2"** Number and pitch of Stays in each **2 8"**

Working pressure by rules **109** Superheater or Steam chest; how connected to boiler **None** Can the superheater be shut off and the boiler worked separately

Manufacturer: **RILEY BROS. (BOILERMAKERS) LIMITED**

Is the approved plan of boiler forwarded herewith **yes**

Dates of Survey while building: During progress of work in shops - **1907 Nov. 4-15-19-21-28 Dec. 3-10-12-16**
 During erection on board vessel - **1907 Dec. 20-30-1908 Jan. 23-31 Feb. 4-10-13-18** Total No. of visits **18**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under Special Survey. The materials and workmanship are good. After being secured on board vessel & tested under steam was found satisfactory.**

Survey Fee ... £ **2 : 2** : } When applied for, **8 . 1 . 1908**
 Travelling Expenses (if any) £ : : } When received, **22 . 1 . 1908**

R. D. Shilston & Geo. A. Wilmer
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

Assigned

FEB. 25 FEB 1908

