

# REPORT ON BOILERS.

No. 5214

THUR. 19 SEP 1907

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office

No. in Survey held at Darlington & Middlesbrough Date, first Survey May 24 Last Survey 10<sup>th</sup> Sept 1907  
 Reg. Book. Donkey Boiler (No 3061) S.S. Sussex Coast (Number of Visits 14) Tons { Gross 640.35  
 Net 280.27  
 Master Williams Built at Middlesbrough By whom built W. Harker & Son Ltd When built 1907  
 Engines made at Stockton By whom made Polain & Co Ltd when made 1907  
 Boilers made at Stockton By whom made Polain & Co Ltd when made 1907  
 Registered Horse Power \_\_\_\_\_ Owners F. H. Towell & Co Port belonging to Liverpool

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel

(Letter for record) Total Heating Surface of Boilers \_\_\_\_\_ Is forced draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_  
 Working Pressure \_\_\_\_\_ Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_  
 No. of Certificate \_\_\_\_\_ Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of safety valves to each boiler \_\_\_\_\_  
 Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_  
 Are they fitted with easing gear \_\_\_\_\_ In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler \_\_\_\_\_  
 Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_  
 Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_  
 Descrip. of riveting: cir. seams \_\_\_\_\_ long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plates or width of butt straps \_\_\_\_\_ Per centages of strength of longitudinal joint \_\_\_\_\_ rivets \_\_\_\_\_ Working pressure of shell by plate \_\_\_\_\_  
 rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_ Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_  
 Material \_\_\_\_\_ Outside diameter \_\_\_\_\_ Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ bottom \_\_\_\_\_  
 Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_ Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber \_\_\_\_\_  
 plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_ Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_  
 Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_  
 Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: Material \_\_\_\_\_ Thickness \_\_\_\_\_  
 Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_  
 Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_ Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_  
 Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_ Diameter of tubes \_\_\_\_\_  
 Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_ Pitch across wide water spaces \_\_\_\_\_  
 Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and thickness of girder at centre \_\_\_\_\_  
 Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of Stays in each \_\_\_\_\_  
 Working pressure by rules \_\_\_\_\_ 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 \_\_\_\_\_

**VERTICAL DONKEY BOILER**— No. One Description Blake's patent Manufacturers of steel J. Spencer & Son Ltd  
 Made at Darlington By whom made Blake Boiler Wagon Eng Co When made 1907 Where fixed Hohe Hole Working pressure 80 lb  
 tested by hydraulic pressure to 160 lb Date of test 31.7.07 No. of Certificate 3984 Fire grate area 14 1/2 Description of safety valves Spring  
 No. of safety valves One Area of each 9.6 Pressure to which they are adjusted 80 lb If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 5'-6" Length 12'-6" Material of shell plates Steel Thickness 7/16" Range of tensile strength 27/32 Descrip. of riveting long. seams DR L Dia. of rivet holes 13/16" Whether punched or drilled drilled Pitch of rivets 2 5/8"  
 Lap of plating 4 1/4" Rivets 76 Per centage of strength of joint 69 Working pressure of shell by rules 109 Thickness of shell crown plates 7/16"  
 Radius of do. 2'-8 1/8" No. of Stays to do. ✓ Dia. of stays \_\_\_\_\_ Diameter of furnace Top 2'-0" Bottom 4'-5" Length of furnace 4'-6"  
 Thickness of furnace plates 1/2" Description of joint Welded Working pressure of furnace by rules 90 Thickness of furnace crown plates Top 5/8" Radius of do. top 3'-9" Back Stayed by 1/2 Stay 8 1/2 x 7 1/2 Diameter of uptake tubes 2 3/4 Thickness of uptake plates Front 3/4" Back 5/8"  
 Thickness of water tubes 5/16"

The foregoing is a correct description, ENGINEERING CO. LIMITED. Manufacturer.

MANAGING DIRECTOR.

Dates of Survey while building: During progress of work in shops -- 1907 May 24, June 6, 26, 27, July 2, 12, 18, 25, 31  
 During erection on board vessel -- August 9, 13, 14, Sept 3, 10  
 Total No. of visits 14

Is the approved plan of main boiler forwarded herewith

" " " donkey " " " Yes

**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 and efficient.  
 After fitting and securing on board it has been tried  
 under steam and the safety valves adjusted.

Certificate (if required) to be sent to

The amount of Entry Fee...	£	:	:	When applied for.
Special ... ..	£	:	:	8. 8. 1907
Donkey Boiler Fee ...	£	2	: 2	When received.
Travelling Expenses (if any) £	:	:	:	14. 9. 1907 RHD

*R. D. Philston & Geo. R. Milner*  
 Engineers Surveyors to Lloyd's Register of British and Foreign Shipping

Committee's Minute FRI. 20 SEP 1907

Assigned see minute on attached sp.



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