

# REPORT ON BOILERS.

THUR. 21 DEC 1905

Made No. 4351  
Hpl. No. 12793

Port of MIDDLESBROUGH-ON-TEES

Received at London Office 10

No. in Survey held at Stockton Date, first Survey Sept. 28 Last Survey Nov. 23 1905  
Reg. Book. 1299 on the Donkey Boiler No 2044 for S.S. "Venus" (Number of Visits 10)  
Master J. L. Edmunds Built at W. Hartlepool By whom built W. Gray & Co. Ltd. Tons { Gross 1182.22  
Engines made at Stockton By whom made Polin & Co. Ltd. when made 1905 Net 2017.18  
Boilers made at Stockton By whom made Polin & Co. Ltd. when made 1905  
Registered Horse Power 100 Owners Harris & Green Ltd. Port belonging to London

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel John Pinner & Son

(Letter for record a) Total Heating Surface of Boilers 770 sq ft Is forced draft fitted No No. and Description of Boilers One Cyl Multitubular Working Pressure 90 lb Tested by hydraulic pressure to 180 lb Date of test 10-11-05  
No. of Certificate 3549 Can each boiler be worked separately ✓ Area of fire grate in each boiler 32 sq ft No. and Description of safety valves to each boiler 2 Spring loaded Area of each valve 8.29 sq in Pressure to which they are adjusted 92 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 12 in Dia. of boilers 10-0 Length 9-6  
Material of shell plates Steel Thickness 19/32 Range of tensile strength 28/32 Are the shell plates welded or flanged No  
Descrip. of riveting: cir. seams 2 Riv long. seams 2 Riv Diameter of rivet holes in long. seams 15/16 Pitch of rivets 3 1/2  
Lap of plates or width of butt straps 6 1/2 Per centages of strength of longitudinal joint rivets 80.13 Working pressure of shell by rules 95 lb Size of manhole in shell 12 x 16 Size of compensating ring 5 1/2 x 1 1/16 No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 3-0 Length of plain part top 6-0 1/2 Thickness of plates crown 9/16 bottom 8-2 1/2 bottom 9/16  
Description of longitudinal joint Welded No. of strengthening rings 1 Working pressure of furnace by the rules 96 lb Combustion chamber plates: Material Steel Thickness: Sides 17/32 Back 1/2 Top 17/32 Bottom 21/32 Pitch of stays to ditto: Sides 9 3/4 x 8 3/8 Back 9 1/2 x 8 1/8 Top 9 3/4 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 90 lb Material of stays Iron Diameter at smallest part 1-4 1/2 Area supported by each stay 84.5 Working pressure by rules 99 lb End plates in steam space: Material Steel Thickness 13/16 Pitch of stays 17 1/2 x 19 How are stays secured 2 x 16 Working pressure by rules 102 lb Material of stays Iron Diameter at smallest part 4-3 1/2 Area supported by each stay 312.5 Working pressure by rules 97 lb Material of Front plates at bottom Steel Thickness 13/16 Material of Lower back plate Steel Thickness 13/16 Greatest pitch of stays 13 x 9 Working pressure of plate by rules 182 lb Diameter of tubes 3 3/4 Pitch of tubes 4 3/4 x 4 3/8 Material of tube plates Steel Thickness: Front 13/16 Back 11/16 Mean pitch of stays 13-68 Pitch across wide water spaces 1 1/4 Working pressures by rules 90.6 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 6 1/4 x 1 1/4 Length as per rule 25 3/4 Distance apart 9 Number and pitch of Stays in each One 9 1/4  
Working pressure by rules 91.4 lb 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

## VERTICAL DONKEY BOILER—No. Description Manufacturers of steel

Made at By whom made When made Where fixed  
Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves  
No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear If steam from main boilers can enter the donkey boiler  
Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength  
Descrip. of riveting long. seams Dia. of rivet holes Whether punched or drilled Pitch of rivets  
Lap of plating Per centage of strength of joint Rivets Working pressure of shell by rules Thickness of shell crown plates  
Radius of do. No. of Stays to do. Dia. of stays Diameter of furnace Top Bottom Length of furnace  
Thickness of furnace plates Description of joint Working pressure of furnace by rules Thickness of furnace crown plates  
Stayed by Diameter of uptake Thickness of uptake plates Thickness of water tubes

The foregoing is a correct description,  
THOMAS SUDRON & CO. LTD. Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1905 Sept. 28. Oct. 10. 16. 25. 30 Nov. 8. 10  
During erection on board vessel -- Nov. 16. 22. 23  
Total No. of visits 10

Is the approved plan of main boiler forwarded herewith

" " " donkey " No. 12793 of the Register

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

This boiler has been constructed under special survey the materials and workmanship are good & efficient and when tested with hydraulic pressure was tight and satisfactory.

Previous to this trip examined slight flaw at bottom of Donkey Boiler furnace which was found to extend for about 2 1/2"

Recommended the flaw to be chain <sup>which was done</sup> pinned as a temporary repair & furnace bottom to be re-examined & efficiently repaired on the vessel's return

W. D. Thornton

Certificate (if required) to be sent to

The amount of Entry Fee...	£	:	:	When applied for,
Special ... ..	£	:	:	4.12.1905
Donkey Boiler Fee ...	£	2	2	When received,
Travelling Expenses (if any) £	:	:	:	For Jan. 1906

Geo A. Wilmet & A. J. Graham  
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

FRI. 22 DEC 1905

Assigned



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Foundation