

# REPORT ON BOILERS.

No. No. 49649  
Sta. No. 22617  
SAL. 17 FEB 1908

Port of Newcastle

Received at London Office

No. in Survey held at Gateshead Date, first Survey July 7 '05 Last Survey Nov 8 1905  
(Number of Visits 6)

Reg. Book: on the Steel screw steamer ATHENIC Tons { Gross 4077.51  
Net 2628.28

Master E. R. Peck Built at Sunderland By whom built Sunderland S.B. Co (No 233) When built 1906

Engines made at Sunderland By whom made North Eastern Mar. Eng. Co. Ltd. when made 1906

Boilers made at Gateshead By whom made Clarke Chapman & Co when made 1905

Registered Horse Power Owners W. H. Cockerline & Co Port belonging to Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel J. Spence & Sons

Letter for record S Total Heating Surface of Boilers 840 sq Is forced draft fitted no No. and Description of Boilers one single-ended Working Pressure 100 lbs Tested by hydraulic pressure to 200 lbs Date of test 8/11/05

No. of Certificate 7117 Can each boiler be worked separately ✓ Area of fire grate in each boiler 33 sq No. and Description of safety valves to each boiler Two direct spring Area of each valve 5.92 sq Pressure to which they are adjusted 100 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 on deck Mean dia. of boilers 9' 11 3/8" Length 10' 0"

Material of shell plates Steel Thickness 5/8" Range of tensile strength 27-32 Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams S. Lap long. seams S. Lap Diameter of rivet holes in long. seams 15/16" Pitch of rivets 4 1/2"

Lap of plates or width of butt straps 6 13/16" Per centages of strength of longitudinal joint rivets 80 Working pressure of shell by plate 80

rules 104 lbs Size of manhole in shell 15" x 12" Size of compensating ring 6" x 5 1/4" No. and Description of Furnaces in each boiler 2- plain Material steel Outside diameter 37 1/8" Length of plain part top 6'-7" Thickness of plates crown 9" bottom 7 1/2"

Description of longitudinal joint S. Lap No. of strengthening rings ✓ Working pressure of furnace by the rules 113 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 19/32" Bottom 9/16" Pitch of stays to ditto: Sides 10" x 9 1/4" Back 10" x 9 1/4"

Top 10 1/2" x 10" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 115 lbs Material of stays Steel Diameter at smallest part 1 1/4" Area supported by each stay 92 sq Working pressure by rules 106 lbs End plates in steam space: Material Steel Thickness 25/32"

Pitch of stays 18" x 15" How are stays secured to h. w Working pressure by rules 105 lbs Material of stays Steel Diameter at smallest part 1 7/8"

Area supported by each stay 270 sq Working pressure by rules 102 lbs Material of Front plates at bottom Steel Thickness 25/32" Material of Lower back plate Steel Thickness 25/32" Greatest pitch of stays 12" Working pressure of plate by rules 183 lbs Diameter of tubes 3"

Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates Steel Thickness: Front 25/32" Back 4/16" Mean pitch of stays 11 1/6" Pitch across wide water spaces 13" Working pressures by rules 124 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7" x 1 1/2" Length as per rule 25' Distance apart 10 1/2" Number and pitch of Stays in each 1-12 1/2"

Working pressure by rules 110 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 ✓

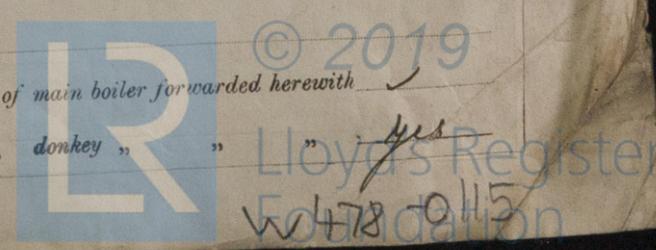
Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

| 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 |                   |
| strength                    | Descrip. of riveting long. seams | Dia. of rivet holes                  | Whether punched or drilled      | Thickness  | Range of tensile  |
| Lap of plating              | Per centage of strength of joint | 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, Manufacturer. Clarke Chapman & Co

Dates of Survey while building { During progress of work in shops -- } 1905 July 7, Aug 31, Sep 19, Oct 26, Nov 28  
{ During erection on board vessel --- }  
Total No. of visits 6

Is the approved plan of main boiler forwarded herewith ✓  
" " " donkey " " yes



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

This donkey boiler has been constructed under special survey & the materials & workmanship are found to be good.

This Donkey Boiler has been securely fixed in place & its mountings examined & the safety valves have been adjusted under steam to their working pressure & raising gear has been fitted.

*sd*

Certificate (if required) to be sent to the Committee's Minute. (The Surveyors are requested not to write on or before the space for Committee's Minute.)

|                                |   |   |   |                  |
|--------------------------------|---|---|---|------------------|
| The amount of Entry Fee...     | £ | : | : | When applied for |
| Special ... ..                 | £ | : | : | 19               |
| Donkey Boiler Fee ...          | £ | 2 | 2 | When received    |
| Travelling Expenses (if any) £ | : | : | : | 19               |

*Monthly account*

*Thomas Field*  
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute  
 Assigned  
 TUES. 20 FEB 1906

