

## REPORT ON BOILERS.

No. 81329

12 MAY 1927

Received at London Office

Date of writing Report

When handed in at Local Office

11/5/1927 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Date, First Survey

11 March 1926

Last Survey

3 May 1927

on the

New Steel S.S. "Anglo-Australian"

(Number of Visits)

Gross Tons

Net

Faster

Built at

Sunderland

By whom built

Shaw Bros Ltd

Yard No. 424

When built 1924

Engines made at

Wallsend

By whom made

North Eastern Marine &amp; Co Ltd

Engine No. 222

When made 1924

Boilers made at

do

By whom made

do

Boiler No. 222

When made 1924

Nominal Horse Power

453

Owners

Lawther Patten &amp; Co

Port belonging to London

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Coy of Scotland &amp; Co Ltd &amp; Sons Ltd

(Letter for Record 5)

Total Heating Surface of Boilers

6216

Is forced draught fitted

yes

Coal or Oil fired

Coal

No. and Description of Boilers

Three single ended

Working Pressure

220 lbs

Tested by hydraulic pressure to

380 lbs

Date of test

12-4-26

No. of Certificate

114

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

46.9 sq ft

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

per Rule 11.07 sq ft

as fitted 11.86 sq ft

Pressure to which they are adjusted

225 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

16 1/2"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

12"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

13' 9 1/4"

Length

12' 0"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

1 3/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end Double

Type of seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams 1 1/16"

Pitch of rivets

4"

9 1/8"

Percentage of strength of circ. end seams

plate 64

rivets 48.4

Percentage of strength of circ. intermediate seam

plate 85.4

rivets 99

Percentage of strength of longitudinal joint

plate 85.4

rivets 99

Working pressure of shell by Rules

221 lbs.

Thickness of butt straps

outer 1 1/16"

inner 1 3/16"

No. and Description of Furnaces in each Boiler

Three (Dighton) corrugated

Material

Steel

Tensile strength

26 &amp; 30 tons

Smallest outside diameter

38 9/16"

Length of plain part

top 21"

bottom 33"

Thickness of plates

crown 21"

bottom 33"

Description of longitudinal joint

weld

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

249 lbs.

End plates in steam space: Material

Steel

Tensile strength

26 &amp; 30 tons

Thickness

1 3/8"

Pitch of stays

25 x 19 1/2"

How are stays secured

8 nuts

End plates: Material

front Steel

back Steel

Tensile strength

26 &amp; 30 tons

Thickness

3/4"

Span pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

14 1/4"

Working pressure

front 220 lbs

back 218 lbs

Orders to combustion chamber tops: Material

Steel

Tensile strength

28 &amp; 32 tons

Depth and thickness of girder

Centre

9 1/4" - 1 1/2"

Length as per Rule

33"

Distance apart

9"

No. and pitch of stays

Each

Two 9 1/8"

Working pressure by Rules

222 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

1"

Pitch of stays to ditto: Sides

9" x 9 1/8"

Back

10" x 8 1/8"

Top

9" x 9 1/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

221 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26 &amp; 30 tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26 &amp; 30 tons

Thickness

15/16"

Pitch of stays at wide water space

14 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

232 lbs

Main stays: Material

Steel

Tensile strength

28 &amp; 32 tons

Diameter

At body of stay, 3 1/2"

Over threads, 3 3/4"

No. of threads per inch

six

Area supported by each stay

25 x 19 1/2"

Working pressure by Rules

221 lbs

Screw stays: Material

Steel

Tensile strength

26 &amp; 30 tons

Diameter

At turned off part, 2"

Over threads, 2"

No. of threads per inch

nine

Area supported by each stay

88.8 x 15"

MS28-0323



Working pressure by Rules 245 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 2 1/4" (At turned off part. or Over threads) 245 lbs

No. of threads per inch nine Area supported by each stay 115.625 sq" Working pressure by Rules 245 lbs

Tubes: Material Iron External diameter 3" Thickness 1/4" x 3/8" - 7/16" No. of threads per inch nine

Pitch of tubes 4 1/4" Working pressure by Rules 245 lbs Manhole compensation: Size of opening none

Shell plate 16" x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 1/2" Steam Dome: Material none

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint Plate Rivets

Internal diameter Working pressure by Rules Thickness of crown No. and diameter Boiler made at

stays Inner radius of crown Working pressure by Rules Nominal Horse P

How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch

of rivets in outer row in dome connection to shell

## Type of Superheater

North Eastern "Schmidt type" Manufacturers of ✓ Tubes none

Number of elements 141 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4" 2.5 mm

Material of headers high steel Tensile strength 26 & 30 tons Thickness 1 1/8" Can the superheater be shut off and the boiler be worked separately no Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes

Area of each safety valve 3.14 sq" Are the safety valves fitted with easing gear yes Working pressure as per Rules 220 lbs Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure 550 lbs

tubes 1500 lbs sq" headers 660 lbs and after assembly in place 550 lbs Are drain cocks or valves fitted to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

For the foregoing is a correct description,

G. A. Stephenson

Manufacturer

Dates of Survey During progress of work in shops - -

while building During erection on board vessel - -

See main ReportAre the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes

Total No. of visits

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

These Boilers have been built under Special Survey. Materials & Workmanship good. Hydraulic tests satisfactory. They are securely fixed in the hold & their safety valves have been adjusted under steam.

Survey Fee ... £ : ✓ : When applied for, 192

Travelling Expenses (if any) £ : ✓ : When received, 192

William R. B. B.

Engineer Surveyor to Lloyd's Register of Shipping

TUES. 17 MAY 1927

Committee's Minute

Assigned

See P. 6 of 1 attached  
(Sd. 29431)



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