

## REPORT ON BOILERS.

No. 29630

Received at London Office

FEB 1928

Date of writing Report

192

When handed in at Local Office

1 FEB. 1928

Port of

Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey

Jan 26 1928

Reg. Book.

40032 on the

S. S. BRIGHTON

(Number of Visits

Gross 5359

Net 3237.

Master

Built at

Sunderland

By whom built

Short Bros Ltd

Yard No. 428

When built 1928

Engines made at

Sunderland

By whom made

John Dickinson and Sons Ltd

Engine No. 886

When made 1928

Boilers made at

Sunderland

By whom made

John Dickinson and Sons Ltd

Boiler No. 886

When made 1928

Nominal Horse Power

Owners

R. Chapman &amp; Son

Port belonging to

Newcastle.

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

Manufacturers of Steel

The Steel Company of Scotland Limited

(Letter for Record (S) ✓)

Total Heating Surface of Boilers

5760 ft<sup>2</sup> ✓

Is forced draught fitted

No ✓

Coal or Oil fired

Coal ✓

No. and Description of Boilers

Two - Single ended. Marine type. Corrugated Furnaces.

Working Pressure

220 lbs ✓

Tested by hydraulic pressure to

380 lbs ✓

Date of test

18.10.27

No. of Certificate

3962

Can each boiler be worked separately

Yes ✓

Area of Firegrate in each Boiler

77.5 ft<sup>2</sup> ✓

No. and Description of safety valves to each boiler

Two. Direct Spring loaded. ✓

Area of each set of valves per boiler

(per Rule 150"

as fitted 16.592 ft<sup>2</sup> ✓

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

✓

Smallest distance between boilers on uptakes and bunkers on woodwork

4' 9" ✓

Is oil fuel carried in the double bottom under boilers

No ✓

Smallest distance between shell of boiler and tank top plating

2' 3" ✓

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

16' 8 3/8" ✓

Length

11' 6" (FULL) ✓

Shell plates: Material

Steel ✓

Tensile strength

29 3/4 to 33 3/4 tons ✓

Thickness

1 9/16" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

end D. R. Lap ✓

long. seams

I. R. D. B. S. ✓

Diameter of rivet holes in

circ. seams 1 5/8" ✓

long. seams 1 5/8" ✓

Pitch of rivets

4" ✓

Percentage of strength of circ. end seams

plate 59.38

rivets 51.3

Percentage of strength of circ. intermediate seam

plate

rivets ✓

Percentage of strength of longitudinal joint

plate 85.23

rivets 87.46

combined 87.94

Working pressure of shell by Rules

220.4 lbs ✓

Thickness of butt straps

outer 1 3/16" ✓

inner 1 5/16" ✓

No. and Description of Furnaces in each Boiler

Four. Corrugated. Deighton type. ✓

Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Smallest outside diameter

3' 6 1/16" ✓

Length of plain part

top ✓

bottom ✓

Thickness of plates

crown 2 1/2" ✓

bottom 3 3/2" ✓

Description of longitudinal joint

Welded ✓

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

✓

Working pressure of furnace by Rules

228 lbs ✓

End plates in steam space: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

1 1/4" ✓

Pitch of stays

21" x 17 1/2" ✓

How are stays secured

Double Nuts and Washers. ✓

Working pressure by Rules

224 lbs ✓

Tube plates: Material

front } Steel ✓

back } ✓

Tensile strength

26 to 30 tons ✓

Thickness

1 1/4" x 3 3/32" ✓

Mean pitch of stay tubes in nests

10" ✓

Pitch across wide water spaces

13 1/4" ✓

Working pressure

front 227 lbs (W.W. space) ✓

back 229 lbs ✓

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28 to 32 tons ✓

Depth and thickness of girder

at centre

Wings 8" x 2 1/2" ✓

Length as per Rule

33 13/32" ✓

Distance apart

Centres 10" ✓

No. and pitch of stays

in each

Wings 7" x 2 1/2" ✓

Working pressure by Rules

Centres 225 lbs ✓

Wings 229 lbs ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness: Sides

25" ✓

Back

3" ✓

Top

25" ✓

Bottom

32" ✓

Pitch of stays to ditto: Sides

8 1/2" x 11" ✓

Back

Centres 10 3/4" x 7 5/8" ✓

Top

Wings 8 1/2" x 11" ✓

Are stays fitted with nuts or riveted over

Fitted with Nuts. ✓

Working pressure by Rules

Sides 223 lbs ✓

W. Backs 228 lbs ✓

Top 223 lbs ✓

Front plate at bottom: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

3 1/32" ✓

Lower back plate: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

7/8" ✓

Pitch of stays at wide water space

13" x 10 3/4" ✓

Are stays fitted with nuts or riveted over

Fitted with Nuts. ✓

Working Pressure

220.2 lbs ✓

Main stays: Material

Steel ✓

Tensile strength

28 to 32 tons ✓

Diameter

At body of stay, 3 3/8" ✓

Over threads

No. of threads per inch

6 ✓

Area supported by each stay

367.50" ✓

Working pressure by Rules

238 lbs ✓

Screw stays: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Diameter

At turned off part, 1 3/4" &amp; 1 7/8" ✓

Over threads

No. of threads per inch

9 ✓

Area supported by each stay

Sides 93.50" ✓

W. Backs 82.00" ✓

O. Top 80.00" ✓

W. Top 93.50" ✓

W 459-0150



REPORT ON BOILERS

Backs 221 lbs □  
Sides 228 lbs □  
Working pressure by Rules 228 lbs □ Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 2" ✓  
or Over threads  
No. of threads per inch 9 Area supported by each stay 111 □  
Working pressure by Rules 222 lbs □  
Tubes: Material Wrought Iron External diameter { Plain 3 1/4" ✓  
Stay 3 1/4" ✓ Thickness { 7 W. 4. ✓  
5 1/16 & 3 3/8 ✓ No. of threads per inch 9 ✓  
Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules Plain 280 lbs □  
Stay 231 & 223 lbs □ Manhole compensation: Size of opening in  
shell plate 16" x 12" ✓ Section of compensating ring 1 9/16" x 9 1/4" ✓ No. of rivets and diameter of rivet holes 26 @ 1 5/8" ✓  
Outer row rivet pitch at ends 11" (max) ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material ✓  
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 of  
stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓  
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 Smoketube type made by the ✓ Manufacturers of { Tubes The Superheater Co. Ltd.  
Superheater Co. Ltd. ✓ Steel castings The Superheater Co. Ltd.  
Number of elements 116 Material of tubes Solid Drawn Steel ✓ Internal diameter and thickness of tubes 17 M.M. & 3 M.M. ✓  
Material of headers Wrought Steel ✓ Tensile strength 26 to 30 tons □ Thickness 1" (minimum) Can the superheater be shut off and  
the boiler be worked separately Yes ✓ 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 1.767 □ ✓ Are the safety valves fitted with easing gear Yes ✓ Working pressure as per  
Rules 220 lbs □ Pressure to which the safety valves are adjusted 228 lbs □ Hydraulic test pressure:  
tubes 1,000 lbs □ (at Maker's Works) castings 660 lbs □ (at Maker's Works) and after assembly in place 440 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.

The foregoing is a correct description,

John Dickinson & Sons, Limited.

Manufacturer.

Dates of Survey { During progress of work in shops - - Please see Mech. Rpt.  
while building { During erection on board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits

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

The materials and workmanship are good.  
The Boilers have been constructed under Special Survey, and satisfactorily fitted in the vessel.  
For notation see Machinery Report.

Survey Fee ... £ Charged on Machinery Report  
Travelling Expenses (if any) £ When applied for, 192  
When received, 192

A. T. Griffiths.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 10 FEB 1928

Assigned see minute on Sta Rpt

29630 attached



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