

# REPORT ON BOILERS.

No. 29682

Received at London Office 26 MAR 1928

Date of writing Report

192

When handed in at Local Office

24 MAR. 1928

Port of Sunderland

No. in Survey held at  
Reg. Book.

Sunderland

Date, First Survey

Last Survey

Mar. 17 1928

0044 on the

S. S. "BOSNIA"

(Number of Visits

Gross 2396

Net 1247

Master

Built at Sunderland

By whom built J.L. Thompson & Sons Ltd

Yard No. 560

When built 1928

Engines made at

Sunderland

By whom made John Dickinson & Sons Ltd

Engine No. 891

When made 1928

Boilers made at

Sunderland

By whom made John Dickinson & Sons Ltd

D.Boiler No. 1095

When made 1928

Nominal Horse Power

403

Owners America - Servant Line Ltd

Port belonging to London

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

Manufacturers of Steel

The Steel Company of Scotland Limited

(Letter for Record (S) )

Total Heating Surface of Boilers

1071

Is forced draught fitted No

Coal or Oil fired coal

No. and Description of Boilers

One. Single ended Marine type - Plain furnaces

Working Pressure 180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test 21-1-28

No. of Certificate 3976

Can each boiler be worked separately ✓

Area of Firegrate in each Boiler

31.9

No. and Description of safety valves to each boiler

Two - Direct Spring loaded.

Area of each set of valves per boiler

per Rule

6.86

as fitted

9.82

Pressure to which they are adjusted

185 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. (Non-return valve fitted.)

Smallest distance between boilers or uptakes and bunkers or woodwork

Fitted in Twin Deck

oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating

Fitted in Twin Deck

Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers

10' 10 3/16"

Length

10' 6" (FULL)

Shell plates: Material

Steel

Tensile strength 28 to 32 tons

Thickness

29/32"

Are the shell plates welded or flanged No

Description of riveting: circ. seams

D.R. Lap

long. seams

T. R. D. B. S.

Diameter of rivet holes in

circ. seams

1"

long. seams

1"

Pitch of rivets

2 3/8"

7 1/16"

Percentage of strength of circ. end seams

plate

65.2

rivets

49.6

Percentage of strength of circ. intermediate seam

plate

✓

rivets

✓

Percentage of strength of longitudinal joint

plate

35.8

rivets

94.7

Working pressure of shell by Rules

181.2 lbs

Thickness of butt straps

outer

1 1/16"

inner

13/16"

No. and Description of Furnaces in each Boiler

Two - Plain furnaces.

Material

Steel

Tensile strength

26 to 32 tons

Smallest outside diameter

3' 2"

Length of plain part

top

✓

bottom

✓

Thickness of plates

crowd

3/4"

bottom

✓

Description of longitudinal joint

Welded

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

✓

Working pressure of furnace by Rules

191.3 lbs

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

3/8"

Pitch of stays

15" x 14 1/2"

How are stays secured

Double Nuts & Washers

Working pressure by Rules

181 lbs

Tube plates: Material

front

Steel

back

✓

Tensile strength

26 to 30 tons

Thickness

3/8"

3/8"

Mean pitch of stay tubes in nests

11 1/4" 9"

Pitch across wide water spaces

13 3/4"

Working pressure

front

182.5 lbs (W.W. spec)

back

219 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

at centre

6 1/4" x 1 3/4"

Length as per Rule

29 3/8"

29 15/16"

Distance apart

7 1/2"

No. and pitch of stays

in each

2 x 10"

Working pressure by Rules

181.5 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

1/16"

Back

1/16"

Top

1/16"

Bottom

1/16"

1/16"

1/16"

1/16"

Pitch of stays to ditto: Sides

10" x 9"

Back

9 1/8" x 10"

Top

10" x 7 1/2"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working pressure by Rules

Sides 182.5 lbs

Back

180.2 lbs

Top

211.7 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

3/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

3/8"

Pitch of stays at wide water space

14" x 10"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working Pressure

212 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay,

2 3/8"

Over threads

✓

No. of threads per inch

6

Area supported by each stay

217.5

Working pressure by Rules

180.5 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part,

1 3/4"

Over threads

✓

No. of threads per inch

9

Area supported by each stay

Sides 90

Back

91.25

Top

75

W560-0110



Sides 201.8 lbs 0  
Backs 198.8 lbs 0  
Total 399.6 lbs 0

Working pressure by Rules 105.2 lbs 0  
No. of threads per inch 9  
Tubes: Material Wrought Iron  
Pitch of tubes 4 1/2" x 4 1/2"  
shell plate 16" x 12"  
Outer row rivet pitch at ends 7 1/6" (max)  
Tensile strength  
Diameter of rivet holes  
Internal diameter  
stays  
How connected to shell  
of rivets in outer row in dome connection to shell

Area supported by each stay 1150"  
External diameter 3 1/4"  
Working pressure by Rules 185.5 lbs 0  
Section of compensating ring 8" x 29/32"  
Thickness of shell  
Pitch of rivets  
Working pressure by Rules  
Inner radius of crown  
Size of doubling plate under dome

Margin stays: Diameter 1 7/8"  
At turned off part or Over threads  
Working pressure by Rules 185.5 lbs 0  
No. of threads per inch 9  
Manhole compensation: Size of opening in  
No. of rivets and diameter of rivet holes 30 @ 1" Dia.  
Steam Dome: Material  
Description of longitudinal joint  
Percentage of strength of joint  
Thickness of crown  
Working pressure by Rules  
Diameter of rivet holes and pitch

Type of Superheater  
Number of elements  
Material of headers  
the boiler be worked separately  
Area of each safety valve  
Rules  
tubes  
to free the superheater from water where necessary

Manufacturers of Tubes  
Steel castings  
Internal diameter and thickness of tubes  
Thickness  
Can the superheater be shut off and  
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  
Are the safety valves fitted with easing gear  
Working pressure as per  
Hydraulic test pressure:  
Are drain cocks or valves fitted

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

Yes. For  
John Dickinson & Sons, Limited.  
The foregoing is a correct description,  
Manufacturer.

Dates of Survey { During progress of work in shops - - -  
while building { During erection on board vessel - - -  
Please see Mech. Rpt:  
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 Donkey Boiler has been constructed under Special Survey, and satisfactorily fitted in the vessel.  
For notation see Machinery Report.

Survey Fee ... £  
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  
Assigned  
FRI. 30 MAR 1928  
See J. E. Report