

REPORT ON BOILERS.

Received at London Office

Date of writing Report

192

When handed in at Local Office

13 JAN 1928

Port of

Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey

5 Jan 1928

42754 on the

S.S. "STONEGATE"

(Number of Visits

Gross

5044

Net

3107

Master

Built at

Sunderland

By whom built

W. M. Doxford & Sons Ltd

Yard No.

585 When built 1928

Engines made at

Sunderland

By whom made

John Dickinson and Sons Ltd

Engine No.

890 When made 1928

Boilers made at

Sunderland

By whom made

John Dickinson and Sons Ltd

D. Boiler No.

1094 When made 1928

Nominal Horse Power

602

Owners

Turnbull & Co Shipping Co. 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

1277 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One - Single ended Marine type - Plain furnaces

Working Pressure

100 lbs sq in

Tested by hydraulic pressure to

200 lbs sq in

Date of test

10-11-27

No. of Certificate

3966

Can each boiler be worked separately

Area of Firegrate in each Boiler

37.5 sq ft

No. and Description of safety valves to each boiler

Two - Direct Spring loaded

Area of each set of valves per boiler

per Rule 13.870

as fitted 14.140

Pressure to which they are adjusted

105 lbs sq in

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 valves fitted

Smallest distance between boilers

or uptakes and bunkers or woodwork

Fitted in Twin Deck

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Fitted in Twin Deck

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

11' 10 3/4"

Length

10' 6" (FULL)

Shell plates: Material

Steel

Tensile strength 28 to 32 tons sq in

Thickness

5/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. Lap

long. seams

D.R. D.B.S.

Diameter of rivet holes in

circ. seams 7/8"

long. seams 7/8"

Pitch of rivets

3"

4 1/2"

Percentage of strength of circ. end seams

plate 70.8

rivets 52.6

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 80.6

rivets 98.6

combined 94

Working pressure of shell by Rules

103.5 lbs sq in

Thickness of butt straps

outer 17/32"

inner 21/32"

No. and Description of Furnaces in each Boiler

Two - Plain furnaces

Material

Steel

Tensile strength

26 to 30 tons sq in

Smallest outside diameter

3' 6"

Length of plain part

top

bottom

Thickness of plates

crown 19/32"

bottom 3/32"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

103.5 lbs sq in

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

3/4"

Pitch of stays 16" x 16 1/2"

How are stays secured

Double Nuts and Washers

Working pressure by Rules

110 lbs sq in

Tube plates: Material

front Steel

back Steel

Tensile strength

26 to 30 tons sq in

Thickness

3/4"

1/16"

Mean pitch of stay tubes in nests

11 1/4"

Pitch across wide water spaces

13 3/4"

Working pressure

front 102 lbs sq in (W/S)

back 132 lbs sq in

Girders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons sq in

Depth and thickness of girder

at centre

5 1/2" x 1 1/2"

Length as per Rule

30 1/8"

Distance apart

8 1/2"

No. and pitch of stays

in each

2 x 10"

Working pressure by Rules

104 lbs sq in

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness: Sides

9/16"

Back

19/32"

Top

9/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

9 1/2" x 11"

Back

11 1/4" x 10 1/4"

Top

8 1/2" x 10"

Are stays fitted with nuts or riveted over

Fitted with nuts

Working pressure by Rules

Sides 102 lbs sq in

Tops 126 lbs sq in

Backs 105 lbs sq in

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

3/4"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

3/4"

Pitch of stays at wide water space

14" x 11 1/4"

Are stays fitted with nuts or riveted over

Fitted with nuts

Working Pressure

141 lbs sq in

Main stays: Material

Steel

Tensile strength

28 to 32 tons sq in

Diameter

At body of stay, 2 1/8"

Over threads

No. of threads per inch

6

Area supported by each stay

264 sq in

Working pressure by Rules

114 lbs sq in

Screw stays: Material

Steel

Tensile strength

26 to 30 tons sq in

Diameter

At turned off part, 1 1/2"

Over threads

No. of threads per inch

9

Area supported by each stay

Sides 104.50 sq in

Tops 85.00 sq in

Backs 15.25 sq in

Registered

Foundation

W443-0283

Working pressure by Rules ^{Sides 120 lbs} ~~147.5 lbs~~ ~~168.5 lbs~~ Are the stays drilled at the outer ends *No* Margin stays: Diameter ^{At turned off part, 1 5/8"} _{or Over threads}

No. of threads per inch *9* Area supported by each stay *136.50"* Working pressure by Rules *112 lbs*

Tubes: Material *Wrought Iron* External diameter ^{Plain 3 1/4"} _{Stay 3 1/4"} Thickness ^{10.W.G.} _{1/4" x 5/16"} No. of threads per inch *9*

Pitch of tubes *4 1/2" x 4 1/2"* Working pressure by Rules ^{Plain 130 lbs} _{Stay 173 + 183 lbs} **Manhole compensation:** Size of opening in shell plate *16" x 12"* Section of compensating ring *7 3/4" x 5 1/8"* No. of rivets and diameter of rivet holes *26 @ 7/8"*

Outer row rivet pitch at ends *4 1/2"* 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 _____ Manufacturers of ^{Tubes} _{Steel castings} _____

Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____

Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately _____

Area of each safety valve _____ Are the safety valves fitted with easing gear _____ Working pressure as per Rules _____

Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: tubes _____ castings _____ and after assembly in place _____ Are drain cocks or valves fitted to free the superheater from water where necessary _____

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

The foregoing is a true and correct description, *J. D. Gibson* 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 Donkey Boiler has been constructed under Special Survey and satisfactorily fitted in the vessel.

For notation see Machinery Report.

Survey Fee £ *Charged on Mech. Rpt.* When applied for, 192

Travelling Expenses (if any) £ _____ When received, 192

A. T. Griffiths,
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 20 JAN 1928**

Assigned *See Mech. rpt. attached*

