

Rpt. 5a.

REPORT ON BOILERS.

No. 12977

Received at London Office 14 JUL 1927

Date of writing Report

13. 4. 1927

When handed in at Local Office

13. 4. 1927

Port of MIDDLESBROUGH.

No. in Survey held at Reg. Book.

STOCKTON.

Date, First Survey 26th May 1927

Last Survey

13. 4. 1927

(Number of Visits 9)

Gross

Tons

Net

on the S.E. Mar. boiler for Messrs. Crabtree & Co. S.B. "ROBIN"

Master

Built at

Great Yarmouth

By whom built

Crabtree & Co.

Yard No. 185

When built 1928

Engines made at

Great Yarmouth

By whom made

Crabtree & Co.

Engine No. 603

When made 1928

Boilers made at

Stockton

By whom made

Riley Bros. (Boilermakers) Ltd

Boiler No. 5433

When made 1927

Nominal Horse Power

Owners

General Steam Navigation Co. Ltd.

Port belonging to

London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Co. of Scotland

(Letter for Record S.)

Total Heating Surface of Boilers

1050 sq. ft.

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

1 - S.E. Marine

Working Pressure

120 lbs.

Tested by hydraulic pressure to

230 lbs.

Date of test 13. 4. 24

No. of Certificate

6556.

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

32 sq. ft.

No. and Description of safety valves to each boiler

2. Spring loaded.

Area of each set of valves per boiler

per Rule

19.7 sq. ft. (Dia 2 3/4)

Pressure to which they are adjusted

120 lbs.

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

Yes

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

10' 9"

Length

10' 0"

Shell plates: Material

Steel

Tensile strength

28/32

Thickness

21/32

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

3"

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

15/16"

Pitch of rivets

5 3/16"

Percentage of strength of circ. end seams

plate 68.4

rivets 43.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 84.3

rivets 94.2

combined 92.1

Working pressure of shell by Rules

126.

Thickness of butt straps

outer 7/16"

inner 9/16"

No. and Description of Furnaces in each Boiler

2 Plain

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3' 4"

Length of plain part

top 6' 2 3/8"

bottom 6' 9"

Thickness of plates

crown 5/8"

bottom 5/8"

Description of longitudinal joint

weld

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

Yes

Working pressure of furnace by Rules

124 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1/16"

Pitch of stays

14" x 15"

How are stays secured

D & W.

Working pressure by Rules

122 lbs.

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30

Thickness

2/32"

Mean pitch of stay tubes in nests

9 1/16"

Pitch across wide water spaces

13 1/4"

Working pressure

front 128 lbs.

back 153

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

at centre

5 3/4" x 7/8" double

Length as per Rule

2' 4"

Distance apart

4 1/2"

No. and pitch of stays

in each

2 - 9 x 7 1/2"

Working pressure by Rules

122 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: sides

9/16"

Back

9/16"

Top

9/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

10" x 9"

Back

9 3/4" x 9"

Top

7 1/2" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

120 lbs.

Front plate at bottom: Material

S

Tensile strength

26/30

Thickness

1/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

1/16"

Pitch of stays at wide water space

13 1/4" x 9 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

140 lbs.

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay, or Over threads

2"

No. of threads per inch

6

Area supported by each stay

210 sq. in.

Working pressure by Rules

124 lbs.

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part, or Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

90 sq. in.

Working pressure by Rules 139 lb. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8 or Over threads 1 7/8 ✓
 No. of threads per inch 9 ✓ Area supported by each stay 109 ✓ Working pressure by Rules 139 lb.
 Tubes: Material iron ✓ External diameter { Plain 3 1/4 16 3 1/16 ✓ Thickness 10 W.G. ✓ No. of threads per inch 9 ✓
 Pitch of tubes 4 3/8 x 4 1/4 ✓ Working pressure by Rules p. 130 s. 256 lb. Manhole compensation: Size of opening in shell plate 16 x 20 ✓ Section of compensating ring 4 x 13/16 ✓ No. of rivets and diameter of rivet holes 40 - 1 1/16 ✓
 Outer row rivet pitch at ends 6 1/2 ✓ Depth of flange if manhole flanged 3 ✓ 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 _____
 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____
 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 correct description of _____
RILEY BROS. (BOILERMAKERS) LIMITED.

Manufacturer.

Dates of Survey { During progress of work in shops - - - May 26, Jun 2, 14, 17, 22, 28, Jul 5, 7, 13 ✓ Are the approved plans of boiler and superheater forwarded herewith (if not state date of approval.)
 while building { During erection on board vessel - - -
 Total No. of visits 9

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

The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and approved Plan.

Survey Fee ... £ 4.0.0
 Travelling Expenses (if any) £ :

When applied for, **MONTHLY A/c.**
 When received, 192

A. J. Mac

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRL 24 FEB 1928

Assigned

La. Com. rpt. No. 92280



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