

REPORT ON BOILERS.

No. 30200

Received at London Office 21 NOV 1929

Date of writing Report

192

When handed in at Local Office

20 NOV 1929

Port of *Sunderland*No. in
Reg. Book

Survey held at

Sunderland

Date, First Survey

Last Survey

11 Nov 1929

on the

S. S. "TORCHBEARER"

(Number of Visits

Tons

Gross

1267

Net

684

Master

Built at

Sunderland

By whom built

*J. Frank & Co. Ltd*Yard No. *182*When built *1929*

Engines made at

Sunderland

By whom made

*George Hark Ltd.*Engine No. *1174*When made *1929*

Boilers made at

Sunderland

By whom made

*Do*Boiler No. *1174*When made *1929*

Nominal Horse Power

156

Owners

Gas Light & Coal Co

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Verenigte Stahlwerke & Stahl Walzwerk Thunen & Mulheim

(Letter for Record

S

Total Heating Surface of Boilers

2490 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

*One S.E. of Mulheim**158*

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

26/7/29

No. of Certificate

4046

Can each boiler be worked separately

No

Area of Firegrate in each Boiler

75 sq ft

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

15.8 sq ft

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

Smallest distance between boilers or uptakes and bunkers or woodwork

8'-6"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

2'-1 1/2"

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

16'-6"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

28 to 32 tons

Thickness

1 3/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end DRL

long. seams

T.R. DBS

Diameter of rivet holes in

1 1/4" & 1 3/8"

Pitch of rivets

3 1/2" & 4 1/2"

Percentage of strength of circ. end seams

42.3%

Percentage of strength of circ. intermediate seam

42.3%

Percentage of strength of longitudinal joint

85.6%

Working pressure of shell by Rules

180 lbs

Thickness of butt straps

1 1/8"

No. and Description of Furnaces in each Boiler

*4 bn (Jeigstang)**4 cf*

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-3 1/4"

Length of plain part

1'-6"

Thickness of plates

3 1/2"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

181 lbs

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 3/8"

Pitch of stays

19 1/4" x 2 1/2"

How are stays secured

DNW

Working pressure by Rules

183 lbs

Tube plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 3/4"

Working pressure

226 lbs

Mean pitch of stay tubes in nests

10 1/4"

Pitch across wide water spaces

14 1/4"

Working pressure

191

Girders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

at centre

7 1/8" & 1 3/4"

Length as per Rule

32"

Distance apart

10"

No. and pitch of stays

in each

2 @ 10"

Working pressure by Rules

182 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

2 3/32"

Back

1 1/8"

Top

2 3/32"

Bottom

2 3/32"

Pitch of stays to ditto: Sides

10" x 10"

Back

10 1/8" x 8 7/8"

Top

10" x 10"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

180 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 3/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 5/8"

Pitch of stays at wide water space

16" x 8 7/8"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

216 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

3 1/2" & 3"

No. of threads per inch

6

Area supported by each stay

441 sq in

Working pressure by Rules

192 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

1 3/4"

No. of threads per inch

9

Area supported by each stay

100 sq in

W433-0129

Working pressure by Rules *181* ^{*1850*} Are the stays drilled at the outer ends *No* Margin stays: Diameter *At turned off part, 1 1/8"* or *Over threads 1 1/8"*

No. of threads per inch *9* Area supported by each stay *116"* Working pressure by Rules *185-1850*

Tubes: Material *Steel* External diameter *Plain 3 1/2"* Stay *3 1/4"* Thickness *8 W.G. 5/16 9/16* No. of threads per inch *9*

Pitch of tubes *4 1/2 x 4 3/8* Working pressure by Rules *191-1850* Manhole compensation: Size of opening in *No. in*
END shell plate *12 x 16* Section of compensating ring *FLANGED* No. of rivets and diameter of rivet holes *Reg. Book.*

Outer row rivet pitch at ends *-* Depth of flange if manhole flanged *4 1/8* Steam Dome: Material *-* Master

Tensile strength *-* Thickness of shell *-* Description of longitudinal joint *-* Boilers ma

Diameter of rivet holes *-* Pitch of rivets *-* Percentage of strength of joint *Plate - Rivets -* Owners

Internal diameter *-* Working pressure by Rules *-* Thickness of crown *-* No. and diameter of *VERTI*
 stays *-* Inner radius of crown *-* Working pressure by Rules *-* Made at *-*

How connected to shell *-* Size of doubling plate under dome *-* Diameter of rivet holes and pitch *-* tested by *-*

of rivets in outer row in dome connection to shell *-* No. of safe

Type of Superheater *-* Manufacturers of *-* Tubes *-* Steel castings *-* enter the d

Number of elements *-* Material of tubes *-* Internal diameter and thickness of tubes *-* Range of t

Material of headers *-* Tensile strength *-* Thickness *-* Can the superheater be shut off and drilled *a*

the boiler be worked separately *-* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *-* rules

Area of each safety valve *-* Are the safety valves fitted with easing gear *-* Working pressure as per *furnace-T*

Rules *-* Pressure to which the safety valves are adjusted *-* Hydraulic test pressure: *pressure of*

tubes *-* castings *-* and after assembly in place *-* Are drain cocks or valves fitted *crown plat*

to free the superheater from water where necessary *-* plates *-*

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *Yes* Diameter o

The foregoing is a correct description,
 FOR GEORGE CLARK LIMITED.

W. S. Spence Manufacturer. External a

Dates of Survey *-* During progress of work in shops *-* *Please see Machinery Rpt.* Are the approved plans of boiler and superheater forwarded herewith *-* Working p
 while building *-* During erection on board vessel *-* (If not state date of approval.) *-* ring *6*

Total No. of visits *-*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under Special Survey & the materials & workmanship are good. The boiler has been satisfactorily fitted in the vessel & the safety valves adjusted under steam. For recommendation regarding notation see machinery report.*

Survey Fee *...* £ *...* When applied for, *192*

Travelling Expenses (if any) £ *...* When received, *192*

Harbottle
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 26 NOV '29*

Assigned *See M.C. rpt. attached*