

REPORT ON BOILERS.

No. 81573

Date of writing Report

192

When handed in at Local Office 16. 7. 1927

Received at London Office

21 JUL 1927

No. in Surrey held at
Reg. Book.

19961. on the

S.S. "BEACON STREET"

Jarrow

Date, First Survey

11² January

Last Survey

6² July

1927

NEWCASTLE-ON-TYNE.

(Number of Visits)

Tons

Gross 7400

Net 4500.

Master

Built at

Hebburn

By whom built

Palmer's Co. Ltd

Yard No. 966

When built 1927

Engines made at

Jarrow

By whom made

Palmer's Co. Ltd.

Engine No. 966

When made 1927

Boilers made at

"

By whom made

Palmer's Co. Ltd

Boiler No. 966

When made 1927

Nominal Horse Power

582.

Owners

Beauchamp & Co. of Canada Ltd Port belonging to Montreal

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannesmannrohren werke, Dusseldorf.

(Letter for Record 5)

Total Heating Surface of Boilers

8649⁶

Is forced draught fitted YES

Coal or Oil fired OIL

No. and Description of Boilers 3 S.E. CYLINDRICAL MULTITUBULAR

Working Pressure 180 LBS.

Tested by hydraulic pressure to

320 LBS.

Date of test 16/5/27, 20/5/27, 25/5/27

No. of Certificate 151/2/3

Can each boiler be worked separately YES

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two SPRING LOADED

Area of each set of valves per boiler

per Rule 22.07

as fitted 25.13

Pressure to which they are adjusted

180 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 or uptakes and bunkers or woodwork

2' 0"

Is oil fuel carried in the double bottom under boilers YES

Smallest distance between shell of boiler and tank top plating

2' 1"

Is the bottom of the boiler insulated YES

Largest internal dia. of boilers

15' 9"

Length

12' 0"

Shell plates: Material

STEEL

Tensile strength 28 - 32 TONS

Thickness

1 5/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R.

Long. seams T.R. - D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

long. seams

1 3/8"

Pitch of rivets

4.04"

9 1/2"

Percentage of strength of circ. end seams

plate 62.8%

rivets 54.6%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.53%

rivets 91.74%

combined 89.4%

Working pressure of shell by Rules

184.5 LBS.

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler 3 CORRUGATED (DEIGHTON SECTION)

Material

STEEL

Tensile strength

26 - 30 TONS

Smallest outside diameter

3' 10 7/16"

Length of plain part

top 10"

bottom 10"

Thickness of plates

crown 19"

bottom 19"

Description of longitudinal joint

WELD

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

Working pressure of furnace by Rules

186 LBS.

End plates in steam space: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness

1 1/32"

Pitch of stays 23" x 22 1/2"

How are stays secured

DOUBLE NUTS & WASHERS

Working pressure by Rules

183 LBS.

Tube plates: Material

front STEEL

back STEEL

Tensile strength

26 - 30 TONS

Thickness

15/16"

13/16"

Clean pitch of stay tubes in nests

9.375"

Pitch across wide water spaces

1' 2"

Working pressure

front 191 LBS.

back 184 "

Girders to combustion chamber tops: Material

STEEL

Tensile strength

28 - 32 TONS

Depth and thickness of girder

At centre

9" x 1 1/4"

Length as per Rule

2' 9"

Distance apart

8"

No. and pitch of stays

In each

2 @ 10 3/4"

Working pressure by Rules

205 LBS.

Combustion chamber plates: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

13/16"

Pitch of stays to ditto: Sides

10 1/4" x 8 1/2"

Back

9 1/2" x 8 3/4"

Top

8" x 10 3/4"

Are stays fitted with nuts or riveted over

NUTS

Working pressure by Rules

184 LBS.

Front plate at bottom: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness

15/16"

Lower back plate: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness

29/32"

Pitch of stays at wide water space

16 3/4" x 8 3/4"

Are stays fitted with nuts or riveted over

NUTS

Working Pressure

188 LBS.

Main stays: Material

STEEL

Tensile strength

28 - 32 TONS

Diameter

At body of stay

3 1/2"

No. of threads per inch

6

Area supported by each stay

517.5"

Working pressure by Rules

183 LBS.

Screw stays: Material

STEEL

Tensile strength

26 - 30 TONS

Diameter

At turned off part

1 5/8"

No. of threads per inch

9

Area supported by each stay

83.125"

Working pressure by Rules 183 LBS^a Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, or Over threads 1 3/4", 1 7/8", 2" ✓
No. of threads per inch 9 Area supported by each stay 130.8, 108.06, 100.6 Working pressure by Rules 180.4 LBS^a
Tubes: Material IRON ✓ External diameter { Plain 2 1/2" ✓ Thickness { 9 LBS 9 ✓ No. of threads per inch 9 ✓
Pitch of tubes 3 3/4" x 3 3/4" ✓ Working pressure by Rules 230 LBS^a Manhole compensation: Size of opening in shell plate 20" x 16" ✓ Section of compensating ring 3' 0 5/8" x 2' 8 5/8" x 1 5/16" No. of rivets and diameter of rivet holes 36 @ 1 3/8" ✓
Outer row rivet pitch at ends 9 1/2" ✓ Depth of flange if manhole flanged 4 5/8" ✓ 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,

Palmer Shipbuilding & Iron Co., Ltd. Manufacturer.

Dates { During progress of work in shops - -
of Survey while { During erection on board vessel - -
building

See Index Report.

Are the approved plans of boiler and engine, as shown here, approved? Yes ✓
(If not state date of approval.)

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers were built under Special Survey. the materials and workmanship are sound & good.

Survey Fee £ See Index Report : When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

Thomas Napier
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 26 JUL 1927

Assigned *See spec. 28 up attached*



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