

REPORT ON BOILERS.

No. 45290

Received at London Office 14 JAN 1926

Date of writing Report

192

When handed in at Local Office

30.12.1925

Port of

Glasgow

No. in
Reg. Book.

Survey held at

Glasgow

Date, First Survey

1.5.25

Last Survey

29.12.

1925

on the new steel S/S "BENARTY."

(Number of Visits

60.)

Gross

5800

Tons

Net

2684

Master

Built at

Glasgow

By whom built

Chas. Bonnell & Co

Yard No.

405

When built

1925

Engines made at

Glasgow

By whom made

David Rowan & Co. Ld.

Engine No.

822

When made

1925

Donkey

Boilers made at

Glasgow

By whom made

David Rowan & Co

Boiler No.

822

When made

1925

Nominal Horse Power

Owners

Ben Line Steamers Ltd.
(W. Thomson Mgr.)

Port belonging to

Leith.

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Fried Krupp - Essen. and Gutehoffnungshütte - Oberhausen. (Letter for Record (5) ✓)

Total Heating Surface of Boilers 9820 sq. ft. ✓ Is forced draught fitted no ✓ Coal or Oil fired coal ✓

No. and Description of Boilers one single ended ✓ Working Pressure 120 ✓

Tested by hydraulic pressure to 230 ✓ Date of test 28.10.25 No. of Certificate 16966 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 35.40 sq. ft. No. and Description of safety valves to each boiler 2 "High lift" ✓

Area of each set of valves per boiler {per Rule 2.290" as fitted 3.970" Pressure to which they are adjusted 120 (working) Are they fitted with easing gear yes ✓

In case of donkey boilers, state whether steam front main boilers can enter the donkey boiler no

Smallest distance between boilers or uptakes and bunkers or woodwork 10" Is oil fuel carried in the double bottom under boilers no tank ✓

Smallest distance between shell of boiler and tank top plating Boiler on upper deck Is the bottom of the boiler insulated yes ✓

Largest internal dia. of boilers 11'-0" Length 10'-0" Shell plates: Material steel Tensile strength 28-32 tons ✓

Thickness 23/32 Are the shell plates welded or flanged no Description of riveting: circ. seams {end OR inter. ✓

long. seams Lap T.R. ✓ Diameter of rivet holes in {circ. seams 15/16 1" Pitch of rivets {3.207" 4 19/32 ✓

Percentage of strength of circ. end seams {plate 40.7 rivets 49.3 Percentage of strength of circ. intermediate seam {plate 78.2 rivets 78.5 ✓

Percentage of strength of longitudinal joint {plate 78.2 rivets 78.5 combined 76.1 Working pressure of shell by Rules 120

Thickness of butt straps {outer 2 pf. inner 2 pf. No. and Description of Furnaces in each Boiler two plain ✓

Material steel Tensile strength 26-30 tons Smallest outside diameter 41.56" ✓

Length of plain part {top 40" bottom 78" Thickness of plates {crown 25/32 bottom 32/32 Description of longitudinal joint welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 122

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 15/16 Pitch of stays 13 1/2 x 20 5/8 ✓

How are stays secured D.N. ✓ Working pressure by Rules 132

Tube plates: Material {front steel back " Tensile strength {26-30 tons " Thickness {3/4 23/32 ✓

Mean pitch of stay tubes in nests 10 7/8 Pitch across wide water spaces 14" Working pressure {front 142 back 155 ✓

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 2 @ 7" x 3/4" Length as per Rule 28.593 Distance apart 12.75" No. and pitch of stays

in each 2 @ 9 1/4" Working pressure by Rules 124 Combustion chamber plates: Material steel ✓

Tensile strength 26-30 tons Thickness: Sides 21/32 Back 11/16 Top 21/32 Bottom 21/32 ✓

Pitch of stays to ditto: Sides 9 1/4 x 12 3/4 Back 11 5/8 x 11 1/2 Top 9 1/4 x 12 3/4 Are stays fitted with nuts or riveted over nuts ✓

Working pressure by Rules 120 Front plate at bottom: Material steel Tensile strength 26-30 tons ✓

Thickness 3/4 Lower back plate: Material steel Tensile strength 26-30 tons Thickness 23/32 ✓

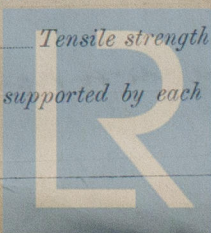
Pitch of stays at wide water space 14 1/2 x 11 7/8 Are stays fitted with nuts or riveted over nuts ✓

Working Pressure 120 Main stays: Material steel Tensile strength 28-32 tons ✓

Diameter {At body of stay, 2 1/4" or Over threads No. of threads per inch 6 Area supported by each stay 2780" ✓

Working pressure by Rules 153 Screw stays: Material steel Tensile strength 26-30 tons ✓

Diameter {At turned off part, 1 5/8" or Over threads No. of threads per inch 9 Area supported by each stay 1180" ✓

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W176-0161

Working pressure by Rules 129 Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, or Over threads 1 3/4" }
 No. of threads per inch 9 Area supported by each stay 1500 Working pressure by Rules 120
 Tubes: Material *Iron* External diameter { Plain 3" Stay 3" } Thickness { 9 wg 1/4" & 9/16" } No. of threads per inch 9
 Pitch of tubes 4 1/2" x 4 1/4" Working pressure by Rules 190 Manhole compensation: Size of opening in shell plate 19" x 15" Section of compensating ring 7 1/4" x 3/4" No. of rivets and diameter of rivet holes 38 @ 1"
 Outer row rivet pitch at ends 5" Depth of flange if manhole flanged 3" Steam Dome: Material *none*
 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 *none* 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

The foregoing is a correct description,
DAVID ROWAN & CO., LIMITED Manufacturer.

Dates of Survey { During progress of work in shops - - } *See accompanying Machinery Report.* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 { During erection on board vessel - - } Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
*The workmanship and materials are good
 The boiler has been constructed under Special Survey in accordance with the Rules and satisfactorily fitted in the vessel.*

Survey Fee ... ~~£ 10 -~~ *£ 4 -* When applied for, 192
 Travelling Expenses (if any) *£ 10 -* *DB fee charged on Machinery Rpt* When received, 192

L. C. Davis
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 12 JAN 1926** **TUE. 19 JAN 1926**

Assigned *See accompanying machinery repat.*