

REPORT ON BOILERS.

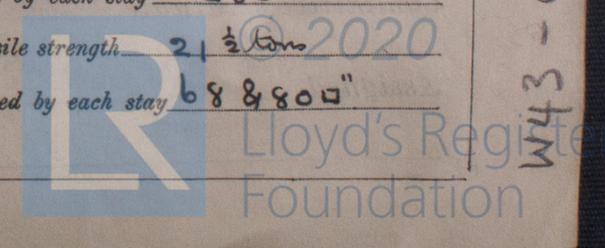
No. 55721

Received at London Office 19 JUN 5

Port of Glasgow
Date, First Survey 29.10.34 Last Survey 30.4.1935
on the new steel S/S "HARPAGON"
Gross Tons 5719
Net Tons 3378
Built at Port Glasgow By whom built Seth Jones Ltd Yard No. 874 When built 1935
By whom made David Rowan & Co Ltd Engine No. 972 When made 1935
Boiler No. 972 When made 1935
Owners J.R. Harrison Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Plates—steel by Scotland Ltd Bain-Buller Ltd (Letter for Record)
Heating Surface of Boilers 1406 sq ft Is forced draught fitted yes Coal or Oil fired both
Description of Boilers one single ended Working Pressure 220
Date of test 22.2.35 No. of Certificate 19516 Can each boiler be worked separately -
No. and Description of safety valves to each boiler 2 Improved High Lift
Pressure to which they are adjusted 2 Are they fitted with easing gear yes
Least distance between boilers or uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers no
Least distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated yes
Shell plates: Material steel Tensile strength 29.33 tons
Description of riveting: circ. seams end DR
inter. F3.21 B3.58
Diameter of rivet holes in circ. seams F 1 1/16 B 1 1/16 Pitch of rivets 9"
long. seams 1 1/16
Percentage of strength of circ. end seams: plate F63 B63.3 rivets F437 B479 Percentage of strength of circ. intermediate seam: plate 85.4 rivets 90.7 combined 88.9
Working pressure of shell by Rules 222
Thickness of butt straps: outer 1 5/16" inner 1 1/16" No. and Description of Furnaces in each Boiler Three Daylight
Material steel Tensile strength 26-30 tons Smallest outside diameter 36.218"
Thickness of plates: crown 3/32" bottom 5/32" Description of longitudinal joint welded
Working pressure of furnace by Rules 245
Plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 7/32" Pitch of stays 18" x 15 1/2"
Working pressure by Rules 220
Front plates: Material steel Tensile strength 26-30 tons Thickness 1 5/16"
Pitch of stay tubes in nests 9 1/2" Pitch across wide water spaces 14" Working pressure: front 229 back 242
Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder
entrance 2 @ 7 7/8" x 7/8" Length as per Rule 31.56" Distance apart 8" No. and pitch of stays
each 2 @ 10" Working pressure by Rules 221 Combustion chamber plates: Material steel
Tensile strength 26-30 tons Thickness: Sides 23/32" Back 21/32" Top 23/32" Bottom 23/32"
Pitch of stays to ditto: Sides 10" x 8" Back 8 1/2" x 8" Top 10" x 8" Are stays fitted with nuts or riveted over nuts
Working pressure by Rules 220 Front plate at bottom: Material steel Tensile strength 26-30 tons
Thickness 1 5/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 1 3/16"
Pitch of stays at wide water space 13 7/16" Are stays fitted with nuts or riveted over nuts
Working Pressure 220 Main stays: Material steel Tensile strength 28-32 tons
Pitch of stays: At body of stay, 2 3/4" No. of threads per inch 6 Area supported by each stay 2800"
Over threads
Working pressure by Rules 233 Screw stays: Material Iron Tensile strength 21 1/2 tons
Pitch of stays: At turned off part, 1 3/4" & 1 7/8" No. of threads per inch 9 Area supported by each stay 68 & 800"
Over threads



W43-0126

Working pressure by Rules 266 lbs 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 83 sq' Working pressure by Rules 257
 Tubes: Material 2 in External diameter ^{Plain} 3" ^{Stay} 3" Thickness 8 W.G. No. of threads per inch 9
 Pitch of tubes 4 3/16" x 4 7/8" Working pressure by Rules 250 Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" Section of compensating ring 9 1/2" x 1 1/4" No. of rivets and diameter of rivet holes 34 @ 1 5/16"
 Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 3" Steam Dome: Material none
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes 5/8" 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 _____
 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 22 inclusive for boilers been complied with yes

The foregoing is a correct description,
 For David Rowland & Co. Ltd Manufacturer.
Arch. N. Grierson

Dates of Survey ^{During progress of work in shops - -} _____
^{while building} ^{During erection on board vessel - - -} _____
 Are the approved plans of boiler and superheater forwarded herewith yes
 (If not state date of approval.)
 Total No. of visits _____

SEE ACCOMPANYING MACHINERY REPORT

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Harburg" Glasgow 53960

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
GLASGOW 30-4-35
The materials and workmanship are good.
The boiler has been constructed under Special Survey and has been placed on board the vessel.
7/5/35

Survey Fee £ _____ When applied for, _____
 Travelling Expenses (if any) £ _____ When received, _____

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 MAY 1935
 Assigned SEE ACCOMPANYING MACHINERY REPORT.

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