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## REPORT ON BOILERS.

No. S-85

Received at London Office

1-8 MAY 1942

Writing Report August 20 1941 When handed in at London Office 19 Port of New York

Survey held at Schenectady, N. Y. Date, First Survey July 16th Last Survey August 19th 1941

on the British Government Freighters S/S "Ocean Liberty" (Number of Visits 30) Tons { Gross - Net -

at S. Portland, Maine By whom built Todd-Bath Iron Shipbuilding Corporation Yard No. - When built 1941

es made at Hamilton, Ohio By whom made General Machinery Corporation Engine No. - When made 1941

s made at Schenectady, N. Y. By whom made American Locomotive Co. Boiler No. S-85 When made 1941

nal Horse Power 505 Owners British Government Port belonging to -

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Worth Steel Co. (Letter for Record S)

Heating Surface of Boiler 7140 sq. ft. Is forced draught fitted Yes Coal or Oil fired Coal

Description of Boilers One (1) Scotch Type Working Pressure 220

by hydraulic pressure to 380 lbs. Date of test Aug. 19, 1941 No. of Certificate S-85 Can each boiler be worked separately Yes

of Firegrate in each boiler 43 sq. ft. No. and Description of Safety valves to each boiler 2 spring load high lift

of each set of valves per boiler { per Rule 12.67 for ordinary valves as fitted 5.52 sq. in. approved Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes

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

distance between boilers or uptakes and bunkers or woodwork See Installation Report Is oil fuel carried in the double bottom under boilers -

distance between shell of boiler and tank top plating See Installation Report Is the bottom of the boiler insulated -

internal diameter of boilers 14' 6-3/16" Length 11' 8-1/32" Shell plates: Material Steel Tensile strength 65000 to 75000 lbs.

1-13/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double lap inter. 10" Pitch of rivets { 4.25"

seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 1/2" long. seams 1 1/2"

age of strength of circ. end seams { plate 64.6 rivets 47.0 Percentage of strength of circ. intermediate seam { plate None rivets

age of strength of longitudinal joint { plate 85.0 rivets 93.5 combined 88.7

of butt straps { outer 1-3/32 inner 1-7/32 No. and Description of Furnaces in each Boiler 3 Morrison

Steel Tensile strength 58200 to 68200 lbs. Smallest outside diameter 41 1/2"

of plain part { top 9-3/16" bottom 9-3/16" Thickness of plates { crown 21/32" bottom 21/32" Description of longitudinal joint Welded

ions of stiffening rings on furnace or c.c. bottom None

lates in steam space: Material Steel Tensile strength 58240 to 68240 lbs Thickness 1-7/16" Pitch of stays 21 1/4" x 21"

re stays secured Double Nuts

plates: Material { front Steel back Steel Tensile strength { 58240 to 68240 lbs Thickness { 31/32" 13/16"

itch of stay tubes in nests 9.45" Pitch across wide water spaces 14 1/2" x 8 1/4"

s to combustion chamber tops: Material Steel Tensile strength 64960 to 74960 lbs. Depth and Thickness of girder

10 1/4" x 1-3/4" Length as per Rule 2' 10" Distance apart 11" No. and pitch of stays

3 - 7-5/8" Combustion chamber plates: Material Steel

strength 58240 to 68240 lbs. Thickness: Sides 25/32 Back 23/32 Top 25/32 Bottom 25/32

stays to ditto: Sides 9" x 10-3/16" Back 9" x 9" Top 11" x 7-5/8" Are stays fitted with nuts or riveted over Nuts

plate at bottom: Material Steel Tensile strength 58240 to 68240 lbs.

31/32" Lower back plate: Material Steel Tensile strength 58240 to 68240 lbs Thickness 29/32

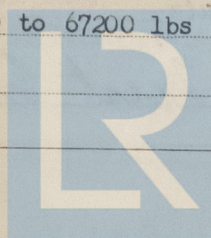
stays at wide water space 14 1/2" x 9" Are stays fitted with nuts or riveted over Nuts

stays: Material Steel Tensile strength 62720 to 71680 lbs.

{ At body of stay 3 1/2" No. of threads per inch Six (6) Over threads 3-3/4"

stays: Material Steel Tensile strength 58240 to 67200 lbs

{ At turned off part 1-3/4" No. of threads per inch Nine (9) Over threads 1-3/4" 1-7/8" 2" 2-1/8"



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Are the stays drilled at the outer ends No Margin stays: Diameter 2" x 2-1/8"  
 No. of threads per inch Nine (9)  
 Tubes: Material Seamless Steel External diameter 3" Thickness 3/8" x 5/16" No. of threads per inch Nine (9)  
 Pitch of tubes 4-1/4" x 4-1/8" Manhole compensation: Size of opening -  
 shell plate - Section of compensating ring - No. of rivets and diameter of rivet holes -  
 Outer row rivet pitch at ends - Depth of flange if manhole flanged - 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 -  
 Internal diameter - Thickness of crown - No. and diameter of stays -  
 Inner radius of crown -  
 How connected to shell - Size of doubling plate under dome - Diameter of rivet holes and of rivets in outer row in dome connection to shell -  
 Type of Superheater N.E. Marine Engine Co. Manufacturers of Combustion Engineering Co.  
 Number of elements 58 Material of tubes Seamless Carbon Steel Tubing Stay 2-5/8" ID 3/8" Wall 2-11/16" ID 5/8"  
 A.S.T.M. A-106-40 Class B Internal diameter and thickness of tubes Plain 2.68 ID- #8 L.S.G.  
 Material of headers 25-30 Carbon for Welding Tensile strength 62000 lbs Thickness 1-1/8" Can the superheater be shut the boiler be worked separately Yes 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 -  
 Pressure to which the safety valves are adjusted - Hydraulic test pressure -  
 tubes - forgings and castings - and after assembly in place - Are drains fitted to free the superheater from water where necessary Yes  
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

*R. J. Finch*

The foregoing is a correct description,  
 Mechanical Engineer for American Locomotive Co. Manufactured

Dates of Survey During progress of work in shops - - July 16, 1941 to August 19, 1941 Are the approved plans of boiler and superheater forwarded herewith Approved  
 while building During erection on board vessel - - - Continuous Attendance of March 1941  
 Total No. of visits Thirty days.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Vessel not named. New York Register

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The boiler has been built under special supervision in accordance with the Rules and approved plans, and the workmanship and material is good. It has been satisfactorily tested to 380 lbs. by hydraulic pressure in presence of the undersigned. It has been forwarded to S. Portland, Maine, to be fitted on board, and when this has been done in accordance with the rules, the vessel will be eligible in my opinion to receive the notation + L.M.C. with date, and 220 lbs and FD in the Register Book.

Survey Fee ... £ See Machinery When applied for, 10  
 Travelling Expenses (if any) £ Report : When received, 10

*Thomas Clark*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute NEW YORK APR 15 1942

Assigned See First Entry Report.



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