

REPORT ON BOILERS.

No. 18363

Received at London Office

17 DEC 1942

Date of writing Report 16/12/1942

When handed in at Local Office 16/12/1942

Port of W. Hartlepool

No. in Survey held at Hartlepool

Date, First Survey 9th June, 1942

Last Survey 14th December, 1942

Reg. Book.

(Number of Visits 87)

Gross 9811

Tons Net 5779

on the

S/S "EMPIRE COBBETT."

Built at Haverton Hill

By whom built Furness Shipbuilding Co. Ltd.

Yard No. 350 When built 1942

Engines made at Hartlepool

By whom made Richardsons Westgarth Co.

Engine No. 2730 When made "

Boilers made at "

By whom made "

Boiler No. " When made "

Nominal Horse Power 674

Owners Ministry of War Transport.

Port belonging to

(Mtds: Eagle oil, Hudday Co. Ltd.)

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co. of Scotland

(Letter for Record S)

Total Heating Surface of Boilers 10020 Sq. ft.

Is forced draught fitted Yes

Coal or Oil fired oil

No. and Description of Boilers 3 S.E. Multitubular

Working Pressure 220 LB

Tested by hydraulic pressure to 380 LB. Date of test 17/10/42 No. of Certificate 3982 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2-2½" Spring loaded high lift

Area of each set of valves per boiler { per Rule 8.65 sq. in. as fitted 9.8 sq. in. Pressure to which they are adjusted 225 lb. 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 3'-9" Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated

Largest internal dia. of boilers 16'-2 3/32" Length 12'-6" Shell plates: Material Steel Tensile strength 30/34

Thickness 1 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end DRL inter. none

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1½" long. seams 1 9/16" Pitch of rivets { 4" 10½"

Percentage of strength of circ. end seams { plate 62.5 rivets 44.7 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85.1 rivets 86.7 combined 87.5

Thickness of butt straps { outer 1 5/32" inner 1 9/32" No. and Description of Furnaces in each Boiler 3 Deighton (grouse necks)

Material Steel Tensile strength 26/30 Smallest outside diameter 3'-11 23/32"

Length of plain part { top Thickness of plates { crown 4 7/16" bottom Description of longitudinal joint welded

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

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 13/32" Pitch of stays 22 1/4" x 18 1/2"

How are stays secured double nuts

Tube plates: Material { front Steel Tensile strength 26/30 Thickness { 5/16" 7/8"

Mean pitch of stay tubes in nests 9 5/8" Pitch across wide water spaces 14 1/2" x 7 1/4"

Girders to combustion chamber tops: Material Steel Tensile strength 29/33 Depth and thickness of girder

at centre 2-11 3/4" x 1" Length as per Rule 3'-10 1/2" Distance apart 9" No. and pitch of stays

in each 3 @ 11 1/8" Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 13/16" Back 23/32" Top 13/16" Bottom 29/32"

Pitch of stays to ditto: Sides 9" x 11 1/8" Back 9" x 8" Top 9" x 11 1/8" Are stays fitted with nuts or riveted over nuts

Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26/30 Thickness 15/16"

Pitch of stays at wide water space 15 3/8" x 8" Are stays fitted with nuts or riveted over nuts

Main stays: Material Steel Tensile strength 28/32

Diameter { At body of stay 3 1/2" No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26/30

Diameter { At turned off part 2" 13/4" No. of threads per inch 9



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Are the stays drilled at the outer ends No ✓

Margin stays: Diameter { At turned off part, 2", 1 3/4" ✓
Over threads

No. of threads per inch 9

Tubes: Material Steel External diameter { Plain } 2 1/2" ✓
{ Stay }

Thickness { 8/16" ✓
3/8", 5/16", 7/16" } No. of threads per inch 9 ✓

Pitch of tubes 4" x 3 3/8" ✓

Manhole compensation: Size of opening in shell plate 16 1/2" x 20 1/2" ✓

Section of compensating ring 18 3/8" x 1 33/64" ✓

No. of rivets and diameter of rivet holes 34 - 1 9/16" ✓

Outer row rivet pitch at ends 10 1/2" ✓

Depth of flange if manhole flanged 3 1/4" ✓

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 ✓ 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 pitch of rivets in outer row in dome connection to shell ✓

Type of Superheater C.C. Type Supplied by N.E. Marine Ltd. ✓

Manufacturers of { Tubes Stewart & Lloyd ✓
Steel forgings " ✓
Steel castings " ✓ }

Number of elements 36 Material of tubes S.D. Steel ✓

Internal diameter and thickness of tubes 1 27/32" x 7/16" ✓

Material of headers S.D. Steel ✓

Tensile strength 26/28 ✓

Thickness 1" ✓

Can the superheater be shut off and 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 Yes ✓

Area of each safety valve 3.1416 sq" ✓

Are the safety valves fitted with easing gear Yes ✓

Pressure to which the safety valves are adjusted 230 lb/sq" ✓

Hydraulic test pressure: tubes 1500 lb/sq" ✓

Headers 660 lb/sq" ✓

and after assembly in place 660 lb/sq" ✓

Are drain cocks or valves 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 ✓

The foregoing is a correct description,
For RICHARDSON, WESTGARTH & Co. LIMITED.
W.E. Dinning ^{DIRECTOR} Manufacturer.

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 (If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case Yes ✓

If so, state Vessel's name and Report No. 2729

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The boilers have been constructed under Special Survey & in accordance with the Specification & approved plan for a working pressure of 220 lb/sq".

The materials & workmanship have been found good.

Upon completion the boilers were tested with a hydraulic pressure of 380 lb/sq" & found sound & tight.

These boilers have been forwarded to Haverston Hill.

These boilers have now been securely fitted on board, examined under working conditions & found satisfactory. Safety valve adjusted under steam to 225 lb/sq" on completion.

Survey Fee £

Travelling Expenses (if any) £

When applied for, 19

When received, 19

Clive Bell.
Engineer Surveyor, to Lloyd's Register of Shipping.

Committee's Minute 22 JAN 1943

Assigned See Prob. J.E. 14394

