

NEWCASTLE-ON-TYNE No. 100885

Rpt. 5b.

REPORT ON BOILERS.

No. 17297.

Received at London Office ~~1942~~ 1- DEC 1942

Date of writing Report 26/7/42 When handed in at Local Office 27/9/42 Port of MIDDLESBROUGH.

No. in Survey held at Stockton Date, First Survey 23rd Dec. 1941 Last Survey 17th July, 1942

on the M.Y. "EMPIRE CAVALIER" (Number of Visits 14) Tons } Gross Net

Built at Sunderland By whom built Sir J. Laing & Sons Ltd Yard No. 743 When built 1942

Engines made at Newcastle By whom made Hawthorn Leslie & Co Ltd Engine No. 3982 When made 1942

Boilers made at Stockton By whom made Stockton Chem. Engin. & Rivet Boilers Ltd Boiler No. 6608 When made 1942

Owners Ministry of War Transport Port belonging to Sunderland

VERTICAL DONKEY BOILER. [MELVIN THIMBLE TUBE]

Made at Stockton By whom made Stockton Chem. Engin. & Rivet Boilers Ltd Boiler No. 6608 When made 1942 Where fixed

Manufacturers of Steel Appley - Nottingham Steel Co Ltd

Total Heating Surface of Boiler 478 sq ft Is forced draught fitted no. Exh. CASK no. Oil fired no.

No. and Description of Boilers 1 - "MELVIN" Thimble Tube Working pressure 180 lbs/sq in

Tested by hydraulic pressure to 320 lbs/sq in Date of test 17/7/42 No. of Certificate 7052

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 1 Double 1 3/4" dia

Area of each set of valves per boiler } per rule 3.52 3.07 } as fitted 4.8 Pressure to which they are adjusted 185 Are they fitted with easing gear yes

State whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler or uptake and bunkers or woodwork ✓

Is oil fuel carried in the double bottom under boiler no Smallest distance between base of boiler and tank top plating ✓

Is the base of the boiler insulated ✓ Largest internal dia. of boiler 6' 7 1/4" Height 16' 9"

Shell plates: Material Steel Tensile strength 29/33 Thickness 5/8"

Are the shell plates welded or flanged no. Description of riveting: circ. seams } end DR. } inter DR. } long. seams DR-DBS } Bot. DR. } Top. C+Bot. T. Bot

Dia. of rivet holes in } circ. seams 1 1/16" } Pitch of rivets } Bot. 3.224 3.276 } Percentage of strength of circ. seams } plate 67.4 67.57 } rivets 69.76 69.67 } of Longitudinal joint } rivets 93.18 95.6 } combined ✓

Working pressure of shell by rules 180.5 Thickness of butt straps } outer 5/8" } inner 5/8"

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished Material Steel

Tensile strength 26/30 Thickness 17/32" Radius 6' 0" Working pressure by rules 184

Description of Furnace: Plain, spherical, or dished crown Plain Material Steel Tensile strength 26/30

Thickness 15/8" External diameter } top 4' 0" } Length as per rule 7' 4 1/2" Working pressure by rules

Pitch of support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Radius of spherical or dished furnace crown ✓ Working pressure by rule ✓

Thickness of Ogee Ring 1 11/32" Diameter as per rule } D 78" } Working pressure by rule

Combustion Chamber: Material ✓ Tensile strength ✓ Thickness of top plate ✓

Radius if dished ✓ Working pressure by rule ✓ Thickness of back plate ✓ Diameter if circular ✓

Length as per rule ✓ Pitch of stays ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Working pressure of back plate by rules ✓

Tube Plates: Material } front ✓ } Tensile strength } Thickness } Mean pitch of stay tubes in nests

If comprising shell, Dia. as per rule } front ✓ } Pitch in outer vertical rows } Dia. of tube holes FRONT } stay ✓ } BACK } stay ✓ } plain ✓ } plain ✓

Is each alternate tube in outer vertical rows a stay tube ✓ Working pressure by rules } front ✓ } back ✓

Girders to combustion chamber tops: Material ✓ Tensile strength ✓

Depth and thickness of girder at centre ✓ Length as per rule ✓

Distance apart ✓ No. and pitch of stays in each ✓ Working pressure by rule ✓



