

REPORT ON BOILERS.

No.

48129

AUG 23 1937

Received at London Office

Date of writing Report 20.7.37 When handed in at Local Office 20.8.37 Port of HULL.

No. in Survey held at Hull Date, First Survey 18th March 1937 Last Survey 12th July 1937

Reg. Book. 17701. on the Steam Trawler "ITALIA CAESAR" (Number of Visits 1518.10 Tons Net 282.73)

Master Built at Beverley By whom built Back, Melton & Gemmel Ltd Yard No. 625 When built 1937.7.

Engines made at Hull By whom made Arns & Smith Ltd Engine No. 658 When made 1937

Boilers made at Hull By whom made Arns & Smith Ltd Boiler No. 658 When made 1937.

Nominal Horse Power 135 Owners The Earl Steam Towing Co., Ltd Port belonging to Grimsby.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby, Frodingham Steel Co., Ltd (Letter for Record "S")

Total Heating Surface of Boilers 2370 square feet Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One single ended Return Tube Working Pressure 220 lbs/sq

Tested by hydraulic pressure to 380 lbs/sq Date of test 15.6.37. No. of Certificate 3976. Can each boiler be worked separately

Area of Firegrate in each Boiler 66.5 sq ft No. and Description of safety valves to each boiler Two 3" diameter spring loaded

Area of each set of valves per boiler {per Rule 12.6 sq in as fitted 14.187 sq in Pressure to which they are adjusted 220 lbs/sq 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 10" Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-9" Length 11'-0" Shell plates: Material Steel Tensile strength 30-34 Tons/sq Double riveted.

Thickness 1 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end inter. 4 3/8" long. seams 1 1/2" Diameter of rivet holes in circ. seams 1 1/2" Pitch of rivets 10"

Percentage of strength of circ. end seams {plate 65.7 rivets 42.1 Percentage of strength of circ. intermediate seam {plate 85 rivets 86.4

Percentage of strength of longitudinal joint {plate 85 rivets 87.3 Working pressure of shell by Rules 221 lbs/sq

Thickness of butt straps {outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler Three Deighton Corrugated

Material Steel Tensile strength 26-30 Tons/sq Smallest outside diameter 4'-0"

Length of plain part {top Thickness of plates {crown 3/4" bottom 3/4" Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 230 lbs/sq

End plates in steam space: Material Steel Tensile strength 26-30 Tons/sq Thickness 1 1/4" Pitch of stays 18" x 18" Max.

How are stays secured Double nuts & washers. Working pressure by Rules 225 lbs/sq

Tube plates: Material {front Steel back Steel Tensile strength {26-30 Tons/sq Thickness 7/8"

Mean pitch of stay tubes in nests 10.828" Pitch across wide water spaces 1'-2 1/4" Working pressure {front 237 lbs/sq back 236 lbs/sq

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 Tons/sq Depth and thickness of girder at centre 10" Centre 1 1/2" x 1 1/2" Double Length as per Rule 34" Distance apart 11" Centre 9" Wings No. and pitch of stays in each 3 x 8" pitch. Working pressure by Rules 221 lbs/sq Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons/sq Thickness: Sides 3/4" Back 1/6" Top 1/6" Bottom 7/8"

Pitch of stays to ditto: Sides 9" x 8" Back 8 1/2" x 8 1/4" Top 9" x 8" Are stays fitted with nuts or riveted over Auto

Working pressure by Rules 221 lbs/sq Front plate at bottom: Material Steel Tensile strength 26-30 Tons/sq

Thickness 1" Lower back plate: Material Steel Tensile strength 26-30 Tons/sq Thickness 7/8"

Pitch of stays at wide water space 1'-2 1/4" x 8 1/2" Max Are stays fitted with nuts or riveted over Auto

Working Pressure 222 lbs/sq Main stays: Material Steel Tensile strength 28-32 Tons/sq

Diameter {At body of stay, 3 1/4" No. of threads per inch 6 Area supported by each stay 324 square inches

Working pressure by Rules 226 lbs/sq Screw stays: Material Steel Tensile strength 26-30 Tons/sq

Diameter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 74 square inches

Working pressure by Rules 245 lbs/p Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or 1 7/8" Over threads 1 1/2" }
No. of threads per inch 9 Area supported by each stay 93 square inches Working pressure by Rules 229 lbs/p
Tubes: Material Iron External diameter { Plain 3 1/2" Stay 3 1/2" } Thickness { 5/16" 3/8" 1/2" } No. of threads per inch 9
Pitch of tubes 4 1/16" x 4 1/16" Working pressure by Rules 260 lbs/p Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 4' 6 1/2" dia x 1 1/8" thk No. of rivets and diameter of rivet holes 16-1 7/16" diameter
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material Steel
Tensile strength 28.32 Tons/p Thickness of shell 13/16" Description of longitudinal joint Angle riveted lap
Diameter of rivet holes 1 1/32" Pitch of rivets 2 1/8" Percentage of strength of joint { Plate 51.4 Rivets 42.8 }
Internal diameter 3' 0" Working pressure by Rules 242 lbs/p Thickness of crown 1" No. and diameter of stays 2 at 2 1/2" diameter Inner radius of crown ✓ Working pressure by Rules ✓
How connected to shell Single riveted Size of doubling plate under dome 4' 6 1/2" dia x 1 1/8" thk Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 44-1" dia rivets 3' 6 1/2" p.c.d.

Type of Superheater Smoke tube Manufacturers of { Tubes Please see Manchester report No F 6069 Steel forgings Japling & Sons Ltd Steel castings Japling & Sons Ltd }
Number of elements 43 Material of tubes S. D. Steel Internal diameter and thickness of tubes 20 m/p. 2 1/2 m/p.
Material of headers Steel Tensile strength 26.30 Tons/p Thickness 5/8" 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 3.14/6 sq ins Are the safety valves fitted with easing gear Yes Working pressure as per Rules Approved for 220 lbs/p Pressure to which the safety valves are adjusted 220 lbs/p Hydraulic test pressure: tubes 1000 lbs/p forgings and castings 660 lbs/p and after assembly in place 440 lbs/p 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 Yes

The foregoing is a correct description,
FOR AMOS & SMITH LTD.

Manufacturer.

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

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Steam Trawler "FIGHTER" 47886.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boiler has been built under Special Survey and in accordance with the approved plan, the materials & workmanship being sound & good.

Approved boiler & superheater plan forwarded with Steam Trawler "EL CAPITAN."

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

Committee's Minute

Assigned

See F.E. mchey rpt.

J.A. Orde
Engineer Surveyor to Lloyd's Register of Shipping.

FRI 27 AUG 1937



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Foundation