

t. 5a.

REPORT ON BOILERS.

No. 46604

Received at London Office

7 MAR 1936

of writing Report

19

When handed in at Local Office

6 MAR 1936

Port of

in Survey held at

Hull

Date, First Survey

24th Nov. 1935

Last Survey

28th Feb. 1936

(Number of Visits)

Gross

433

Net

166

on the Steam Trawler "Kingston Granite"

Built at

Beverley

By whom built

Cook, Welton & Gemmell

Yard No.

607

When built

1936

Made at

Hull

By whom made

C.D. Holmes & Co Ltd.

Engine No.

1492

When made

1936

Boiler made at

do

By whom made

do

Boiler No.

1492

When made

1936

Horse Power

117

Owners

Kingston Steam Trawling Co Ltd

Port belonging to

Hull.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd.

(Letter for Record)

"S"

Heating Surface of Boilers

1940 sq ft.

Is forced draught fitted

No

Coal or Oil fired

Coal.

and Description of Boilers

One Single-ended.

Working Pressure

215 lbs/sq in.

Tested by hydraulic pressure to

373 lbs/sq in.

Date of test

8/1/36

No. of Certificate

3927

Can each boiler be worked separately

Area of Firegrate in each Boiler

53.7 sq ft.

No. and Description of safety valves to each boiler

Two 2 3/4" dia Spring-loaded.

Pressure of each set of valves per boiler

per Rule 10.55 sq in.

as fitted

11.88 sq in.

Pressure to which they are adjusted

215 lbs/sq in.

Are they fitted with easing gear

Yes.

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

Least distance between boilers or uptakes and bunkers or woodwork

9"

Is oil fuel carried in the double bottom under boilers

Least distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Least internal dia. of boilers

14'-6"

Length

10'-8"

Shell plates: Material

Steel.

Tensile strength

29/33 Tons/sq in.

Thickness

1 3/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end DR.

Seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams 1 3/8"

Pitch of rivets

3 3/4"

Percentage of strength of circ. end seams

plate 63.2

rivets 45.5

Percentage of strength of circ. intermediate seam

plate 3 3/4"

rivets 9 1/4"

Percentage of strength of longitudinal joint

plate 85.1

rivets 86.8

Working pressure of shell by Rules

217 lbs/sq in.

Thickness of butt straps

outer 1 1/6"

inner 1 3/16"

No. and Description of Furnaces in each Boiler

3 Plain type, with Jourlay necks.

Material

Steel.

Tensile strength

26/30 Tons/sq in.

Smallest outside diameter

42 1/2"

Thickness of plain part

top 72"

bottom

Thickness of plates

crown 53/64"

bottom

Description of longitudinal joint

Welded.

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

Working pressure of furnace by Rules

221 lbs/sq in.

Plates in steam space: Material

Steel

Tensile strength

26/30 Tons/sq in.

Thickness

1 7/32"

Pitch of stays

19 3/4" X 18 1/4"

Are stays secured

Double nuts & washers

Working pressure by Rules

221 lbs/sq in.

Plates: Material

front Steel

back

Tensile strength

26/30 Tons/sq in.

Thickness

15/16"

7/8"

Pitch of stay tubes in nests

10.7"

Pitch across wide water spaces

14"

Working pressure

front 228 lbs/sq in.

back 222 lbs/sq in.

Boilers to combustion chamber tops: Material

Steel.

Tensile strength

29/33 Tons/sq in.

Depth and thickness of girder

Centre

10" X 2 @ 7/8"

Length as per Rule

36 7/32"

Distance apart

9 1/2" Centre, 9" Wings

Each

3 @ 8"

Working pressure by Rules

215 lbs/sq in.

Combustion chamber plates: Material

Steel.

Tensile strength

26/30 Tons/sq in.

Thickness: Sides

3/4"

Back

23/32"

Top

23/32"

Bottom

3/4"

Pitch of stays to ditto: Sides

9 1/2" X 8 1/2"

Back

9 3/8" X 8 1/4"

Top

9 1/2" X 8"

Working pressure by Rules

232 lbs/sq in.

Front plate at bottom: Material

Steel.

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30 Tons/sq in.

Thickness

7/8"

Pitch of stays at wide water space

14 1/4" X 8 1/4"

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

230 lbs/sq in.

Main stays: Material

Steel.

Tensile strength

28/32 Tons/sq in.

Pitch of stays

At body of stay, 3 1/4"

Over threads

No. of threads per inch

8

Area supported by each stay

360 sq in.

Working pressure by Rules

223 lbs/sq in.

Screw stays: Material

Steel.

Tensile strength

26/30 Tons/sq in.

Pitch of stays

At turned off part, 1 3/4", 1 7/8", 2" & 2 1/2"

Over threads

No. of threads per inch

10

Area supported by each stay

77 sq in.

002970-002977-0104

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Foundation

Working pressure by Rules $232 \frac{1}{2} \text{ lbs } ^\circ$ Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads $1 \frac{1}{8}, 2 \frac{1}{2}, 2 \frac{1}{8}$ }
No. of threads per inch 10 Area supported by each stay 89 sq ins Working pressure by Rules $240 \frac{1}{2} \text{ lbs } ^\circ$
Tubes: Material Iron External diameter { Plain $3 \frac{1}{2}$ Stay $3 \frac{1}{2}$ } Thickness { 8 W.G. $5 \frac{1}{16}, 3 \frac{1}{8}, 7 \frac{1}{16}$ } No. of threads per inch 9
Pitch of tubes $4 \frac{3}{4} \times 4 \frac{3}{4}$ Working pressure by Rules $215 \frac{1}{2} \text{ lbs } ^\circ$ Manhole compensation: Size of opening in shell plate 16×12 Section of compensating ring $57 \frac{1}{2} \text{ dia} \times 1 \frac{3}{8}$ No. of rivets and diameter of rivet holes $59 @ 1 \frac{3}{8}$
Outer row rivet pitch at ends 10.4 Depth of flange if manhole flanged - Steam Dome: Material Steel
Tensile strength $26/30 \text{ Tons } ^\circ$ Thickness of shell $3/4$ Description of longitudinal joint S.R. Lap
Diameter of rivet holes $1 \frac{1}{2}$ Pitch of rivets $2 \frac{1}{4}$ Percentage of strength of joint { Plate 54 Rivets 43.8 }
Internal diameter 33 Working pressure by Rules $229 \frac{1}{2} \text{ lbs } ^\circ$ Thickness of crown $7/8$ No. and diameter of stays 2 @ $2 \frac{1}{4}$ dia Inner radius of crown - Working pressure by Rules Ample
How connected to shell D.R. Lap Size of doubling plate under dome $57 \frac{1}{2} \times 1 \frac{3}{8}$ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell $1 \frac{3}{8} \times 10.4$

Type of Superheater Smoke-tube type Manufacturers of { Tubes The Superheater Co Ltd Middlesbrough Steel castings Blackett, Hutton & Co Ltd Guisborough }
Number of elements 41 Material of tubes S.D. Steel Internal diameter and thickness of tubes $17 \text{ mm} \times 3 \text{ mm}$
Material of headers Forged Steel Tensile strength $26/30 \text{ Tons } ^\circ$ Thickness $3/4$ 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 1.77 sq ins Are the safety valves fitted with easing gear Yes Working pressure as per Rules $396 \frac{1}{2} \text{ lbs } ^\circ$ Pressure to which the safety valves are adjusted $215 \frac{1}{2} \text{ lbs } ^\circ$ Hydraulic test pressure: tubes $1000 \frac{1}{2} \text{ lbs } ^\circ$, castings $645 \frac{1}{2} \text{ lbs } ^\circ$ and after assembly in place $645 \frac{1}{2} \text{ lbs } ^\circ$ 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 CHARLES D. HOLMES & CO., LTD. Manufacturer

Dates { During progress of work in shops - - } See machinery report Are the approved plans of boiler and superheater forwarded herewith No
while { During erection on board vessel - - } Herewith (If not state date of approval.) Boiler plan 13/11/35
building { } Superheater 24/11/35
Total No. of visits -

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "Kington Chrysoleryl"
(Plus Superheater) (Hul Rpt No 457/62)

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

This boiler has been constructed under special Survey and in accordance with the approved plans. It has been satisfactorily fitted on board, examined under steam, and found satisfactory, and the safety valves adjusted as above.

Survey Fee Charged on Engine Rpt When applied for, 19
Travelling Expenses (if any) £ - When received, 19

W.B. Edwards
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 10 MAR 1936

Assigned

See other sub. J.E. Rpt.



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Rpt. 13.

Date of writing

No. in Su
Reg. Book.

18/15 on

Built at F

Owners King

Electric Lig

Is the Vessel

System of D

Pressure of su

Direct or Alt

If alternating

Has the Autom

Generators, d

are they over co

Where more tha

series with each

approved

Are all terminal

short circuited, o

Position of G

in way of the g

woodwork or oth

are the generato

Earthing, are

in metallic conta

a fuse on each in

Switchboards,

injury and dama

horizontally from

materials Yes

is it of an approve

non-hygroscopic in

type Yes

omnibus bars

"off" position

switches

Generator

Are turbine driven

fire-resisting mater

voltmeter

do these comply wi