

## REPORT ON BOILERS.

No. 4902

Port of **MIDDLESBROUGH-ON-TEES.**Received at London Office **1UES. APL 2 1907**No. in Survey held at  
Reg. Book.

Date, first Survey

4<sup>th</sup> Oct 1906

Last Survey

19

(Number of Visits)

on the *Main boiler for Steam Trawler "Leon"*Tons { Gross  
Net

Master

Built at

*Selby*

By whom built

*Cochrane & Sons*

When built

1907

Engines made at

*Gunnaby*

By whom made

*Great Central Engine Works No 39*

when made

1907.

Boilers made at

*Stockton*

By whom made

*Polin & Co. Ltd*

when made

1907

Registered Horse Power

Owners

*Orient 1762*

Port belonging to

*Gus.*

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.

Manufacturers of Steel

*John Spencer & Son Ltd*(Letter for record *S*)Total Heating Surface of Boilers *1212 ft<sup>2</sup>*

Is forced draft fitted

No. and Description of

Boilers

*One Cyl Multitubular*Working Pressure *200 lb*Tested by hydraulic pressure to *400 lb*Date of test *17-1-07*No. of Certificate *3840*

Can each boiler be worked separately

Area of fire grate in each boiler *31 1/4 ft<sup>2</sup>*

No. and Description of

safety valves to each boiler

*2 Spring Loaded*

Area of each valve

*3.98 ft<sup>2</sup>*

Pressure to which they are adjusted

*20 lbs*

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

*8"*

Extra dia. of boilers

*12-3 3/8*

Length

*10-2*

Material of shell plates

*Steel*

Thickness

*1 3/16*

Range of tensile strength

*27/32*

Are the shell plates welded or flanged

*No*

Descrip. of riveting: cir. seams

*L.D. Riv*

long. seams

*2 Butt Strap*

Diameter of rivet holes in long. seams

*1/4*

Lap of plates on width of butt straps

*1-6 3/8*

Per centages of strength of longitudinal joint

rivets *87.8*

Working pressure of shell by

rules *202 lb*

Size of manhole in shell

*17 x 13*

Size of compensating ring

*31 x 27 x 1 3/16*

No. and Description of Furnaces in each

boiler

*Two plain*

Material

*Steel*

Outside diameter

*3-5*

Length of plain part

top *5-4 1/2*

Thickness of plates

crown *3/4 1/16*

Description of longitudinal joint

*Welded*

No. of strengthening rings

Working pressure of furnace by the rules

*201 lb*

plates: Material

*Steel*

Thickness: Sides

*1 1/16*

Back

*1 1/16*

Top

*5/8 1/32*

Bottom

*1 5/32*Top *9 1/4 x 7 3/4*

If stays are fitted with nuts or riveted heads

*Nuts*

Working pressure by rules

*204 lb*

Material of stays

*Steel*

smallest part

*1 9/16*

Area supported by each stay

*7 1/6 ft<sup>2</sup>*

Working pressure by rules

*240 lb*

End plates in steam space: Material

*Steel*

Thickness

Pitch of stays

*20 x 10*

How are stays secured

*12 x 10*

Working pressure by rules

*204 lb*

Material of stays

*Steel*

Diameter at smallest part

Area supported by each stay

*360 ft<sup>2</sup>*

Working pressure by rules

*230 lb*

Material of Front plates at bottom

*Steel*

Thickness

*1 3/32*

Material of

Lower back plate

*Steel*

Thickness

*1 3/32*

Greatest pitch of stays

*1 7/8 x 8*

Working pressure of plate by rules

*208 lb*

Diameter of tubes

*3 1/4*

Pitch of tubes

*4 1/2 x 4 5/8*

Material of tube plates

*Steel*

Thickness: Front

*1 3/32*

Back

*1 3/32*

Mean pitch of stays

*10 3/16*

water spaces

*14*

Working pressures by rules

*208 lb*

Girders to Chamber tops: Material

*Steel*

Depth and thickness of

girder at centre

*8 7/8 x 2*

Length as per rule

*33*

Distance apart

*9 1/4*

Number and pitch of Stays in each

*Three**7 3/4*

Working pressure by rules

*201 lb*

Superheater or Steam chest: how connected to boiler

*None*

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

*Has stayed*

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

## VERTICAL DONKEY BOILER—

No.

Description

Manufacturers of steel

Made at

By whom made

When made

Where fixed

Working pressure

tested by hydraulic pressure to

Date of test

No. of Certificate

Fire grate area

Description of safety valves

No. of safety valves

Area of each

Pressure to which they are adjusted

If fitted with easing gear

If steam from main boilers can

enter the donkey boiler

Dia. of donkey boiler

Length

Material of shell plates

Thickness

Range of tensile

strength

Descrip. of riveting long. seams

Dia. of rivet holes

Whether punched or drilled

Pitch of rivets

Lap of plating

Per centage of strength of joint

Rivets

Working pressure of shell by rules

Thickness of shell crown plates

Radius of do.

No. of Stays to do.

Dia. of stays

Diameter of furnace Top

Bottom

Length of furnace

Thickness of furnace plates

Description of joint

Working pressure of furnace by rules

Thickness of furnace crown

plates

Radius of do.

Stayed by

Diameter of uptake

Thickness of uptake plates

Thickness of water tubes

The foregoing is a correct description,

*FOR BLAIR & CO., LIMITED.*

Manufacturer

Dates

During progress of

*1906 Oct. 4 Nov 20 Dec 27 1907 Jan. 4. 8. 15. 17*

Survey

work in shops - -

while

During erection on

*1907 Mar. 4. 15. 16.*

building

board vessel - -

Total No. of visits

*11*Is the approved plan of main boiler forwarded herewith *No*

donkey

Lloyd's Register

WAS 4 Foundation



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

This boiler has been constructed under Special Survey the materials and workmanship are good and efficient and when tested with hydraulic pressure was found tight and satisfactory. The boiler has been sent to Grimsby to be fitted on board the vessel.

Fitted at Grimsby.

Certificate (if required) to be sent to  
(The Signatories are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee... £ :  
Special ... £ :  
Donkey Boiler Fee ... £ 4 :  
Travelling Expenses (if any) £ :

When applied for,

19

When received,

23/2/19

*Geo. A. Milner & B. Ritchie*  
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

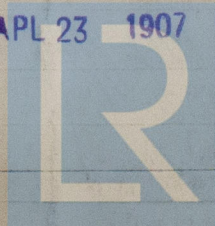
Committee's Minute

WED. APR 3 1907

TUES. APR 23 1907

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Foundation



Assigned