

## REPORT ON MACHINERY.

No. 56475

Port of

Newcastle on Tyne

Received at London Office

FRL 16 APR 1909

No. in Survey held at North Shields

Date, first Survey Jan. 6

Last Survey Apr. 5

1909

Reg. Book.

on the Steel Screw

"Chira"

(Number of Vents 15)

Gross 108

Tons Net 46

Master

Built at

North Shields

By whom built

Smiths Dock Co. Ltd (403)

When built 1909

Engines made at

North Shields

By whom made

Shields Engineering &amp; Dry Dock Co. Ltd

when made

1909

Boilers made at

South Shields

By whom made

J. T. Eltingham &amp; Co

when made

1909

Registered Horse Power

Owners

W. Keswick

Port belonging to

London

Nom. Horse Power as per Section 28

38

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

## ENGINES, &amp;c.—Description of Engines

Compound

No. of Cylinders

two

No. of Cranks

two

Dia. of Cylinders

12" 27"

Length of Stroke

16"

Revs. per minute

180

Dia. of Screw shaft

as per rule 5.48

Material of

screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

yes

Is the after end of the liner made water tight

in the propeller boss

yes

If the liner is in more than one length are the joints burned

yes

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush

2'-1"

Dia. of Tunnel shaft

as per rule 5.70

Dia. of Crank shaft journals

as per rule 5.355

Dia. of Crank pin

5 1/2"

Size of Crank webs

3 1/2"

Dia. of thrust shaft under

collars

Dia. of screw

6'-3"

Pitch of Screw

6-0 mean

No. of Blades

4

State whether moveable

no

Total surface

16.5 sq ft

No. of Feed pumps

1

Diameter of ditto

2"

Stroke

8 1/2"

Can one be overhauled while the other is at work

No. of Bilge pumps

1

Diameter of ditto

2"

Stroke

8 1/2"

Can one be overhauled while the other is at work

No. of Donkey Engines

1

Sizes of Pumps

6x4x6 Duplex

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

2 of 2"

In Holds, &amp;c.

1 of 2"

Shafting, &amp;c. as per instructions contained in Secretary's letter of 26 October 1907.

No. of Bilge Injections

1

sizes

2 3/4"

Connected to condenser, or to circulating pump

CP

Is a separate Donkey Suction fitted in Engine room &amp; size

yes 2"

Are all the bilge suction pipes fitted with roses

yes

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

yes

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the Discharge Pipes above or below the deep water line

above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

yes

What pipes are carried through the bunkers

none

How are they protected

yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

yes

Dates of examination of completion of fitting of Sea Connections

24. 3. 09

of Stern Tube

24. 3. 09

Screw shaft and Propeller

24. 3. 09

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

yes

## BOILERS, &amp;c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

745 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

1 S.E. Cyl. multitubular

Working Pressure

140 lb

Tested by hydraulic pressure to

280 lb

Date of test

25. 2. 09

No. of Certificate

7832

Can each boiler be worked separately

yes

Area of fire grate in each boiler

oil fuel

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

3. 976 sq in

Pressure to which they are adjusted

145 lb

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

14"

Mean dia. of boilers

as per rule

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

crown

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Superheater or Steam chest; how connected to boiler

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

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

W1406-0080



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Values \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description \_\_\_\_\_

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 \_\_\_\_\_ Plates \_\_\_\_\_

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 \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *two top end bolts and nuts, two bottom end bolts and nuts two main bearing bolts and nuts, spare coupling bolts and nuts, spare feed & Bilge pump Valves, assorted iron bolts and nuts, spare bottom end, spare top end, spare main bearing.*

The foregoing is a correct description,

Manufacturer.

*J.R. Richardson*

Dates of Survey while building { During progress of work in shops - - - 1909 Jan 6 Feb 11 15 Mar 2 4 8 11 15 17 18 19 20 21 Apr 1 5  
During erection on board vessel - - -  
Total No. of visits 15

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *15.2.09* Slides *11.2.09* Covers *11.2.09* Pistons *15.2.09* Rods *15.2.09*  
Connecting rods *15.2.09* Crank shaft *11.2.09* Thrust shaft *14.3.09* Tunnel shafts *✓* Screw shaft *8.3.09* Propeller *8.3.09*  
Stern tube *8.3.09* Steam pipes tested *18.3.09* Engine and boiler seatings *8.3.09* Engines holding down bolts *14.3.09*  
Completion of pumping arrangements *19.3.09* Boilers fixed *19.3.09* Engines tried under steam *19.3.09 + 1.4.09*  
Main boiler safety valves adjusted *19.3.09* Thickness of adjusting washers *PVR 5/16, SVR 1/4*  
Material of Crank shaft *1.2* Identification Mark on Do. *2202 ATC* Material of Thrust shaft *6.2* Identification Mark on Do. *2202*  
Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *6.2* Identification Marks on Do. *2202*  
Material of Steam Pipes *Seamless Copper* Test pressure *280 lbs. at Belton Graham's works 11.3.09*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The machinery built under Special Survey the material & workmanship found good and efficient—  
The machinery fitted up on board. tested under steam and found satisfactory—  
In our opinion this vessel is eligible for the notification of L.M.C. 4.09 to be made in the Register Book. (Meyer liquid fuel system fitted.) Fitted for liquid fuel, and Electric light,*

*It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.09.*

*Elec. light. Fitted for liquid fuel.*

*J.W.D. J.R.R.  
16/4/09. 16.4.09*

The amount of Entry Fee... £ *1 : 0 : 0* : When applied for, *15 APR 1909*  
Special ... £ *8 : 0 : 0* :  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : When received, *20/4/09*

Committee's Minute

Assigned

TUES. 20 APR 1909

*+ L.M.C. 4.09*

*Fitted for liquid fuel 4.09*

MACHINERY CERTIFICATE WRITTEN.

*Leonard S. Halliwell*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping



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Certificate (if required) to be sent to the Committee's Minute.