

## REPORT ON MACHINERY.

No. 23391

Date of writing Report

19

When handed in at Local Office

8-2-10 11 Port of Hull

Received at London Office

MIN. 13 FEB 1911

No. in Survey held at  
Reg. Book.

Hull

Date, First Survey Aug 8/10

Last Survey 6<sup>th</sup> Feb 1911

on the

Eng No A 140

(Number of Visits 33)

Master

Built at Krimpen a/d Ysel By whom built A. J. Otto + Zonen

Tons

Gross

Net

When built 1910

Engines made at

By whom made

Messrs

when made 1911

Boilers made at

Hull

By whom made

Earle's &amp; Co. Ltd.

when made 1911

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

43

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &amp;c.—Description of Engines

Compound

No. of Cylinders

2

No. of Cranks

2

Dia. of Cylinders

15" - 30"

Length of Stroke

18"

Revs. per minute

130

Dia. of Screw shaft

as per rule 6.74

Material of

S

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

No

Is the after end of the liner made water tight

Is the propeller boss

Yes

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

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

27"

Dia. of Tunnel shaft

as per rule 5.768

Dia. of Crank shaft journals

as per rule 6.05

Dia. of Crank pin

6 1/4"

Size of Crank webs

12" x 4 1/2"

Dia. of thrust shaft under

collars

6 1/4"

Dia. of screw

7" - 6"

Pitch of Screw

8" - 6"

No. of Blades

3

State whether moveable

No

Total surface

24 sq

No. of Feed pumps

1

Diameter of ditto

2 1/2"

Stroke

7 1/2"

Can one be overhauled while the other is at work

No. of Bilge pumps

1

Diameter of ditto

2 1/2"

Stroke

7 1/2"

Can one be overhauled while the other is at work

No. of Donkey Engines

One

Sizes of Pumps

5 1/2" x 3 1/2" x 5"

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

In Engine Room

Two 2 1/2" and one 2"

In Holds, &amp;c.

One 2 1/2" to each side of hold, one

No. of Bilge Injections

1

sizes

3"

Connected to condenser, or to circulating pump

pump

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

Yes 2 1/2"

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

0

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

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

22. 9. 10

of Stern Tube

22. 9. 10

Screw shaft and Propeller

22. 9. 10

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

worked from

OILERS, &amp;c.—(Letter for record 5.)

Manufacturers of Steel

Steel Co. of Scotland.

Total Heating Surface of Boilers

810 sq

Is Forced Draft fitted

No

No. and Description of Boilers

One Cyl. Mult. Single Ended

Working Pressure

130 lbs

Tested by hydraulic pressure to

260 lbs

Date of test

19. 9. 10

No. of Certificate

1771

Can each boiler be worked separately

Area of fire grate in each boiler

35 sq

No. and Description of Safety Valves to

each boiler

Two spring

Area of each valve

49 sq

Pressure to which they are adjusted

130 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

10"

Int.

Mean dia. of boilers

10' 0"

Length

9' 6 3/4"

Material of shell plates

S

Thickness

1 1/2"

Range of tensile strength

28-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.O.

ong. seams

D.B.S.D.R.

Diameter of rivet holes in long. seams

15"

Pitch of rivets

5 3/8"

Lap of plates or width of butt straps

10"

Per centages of strength of longitudinal joint

rivets 83.4

plate 92.5

Working pressure of shell by rules

136 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

5" x 5/8"

No. and Description of Furnaces in each boiler

Two plain

Material

S

Outside diameter

36"

Length of plain part

top 6' 9"

bottom 8' 10 1/2"

Thickness of plates

crown 1 1/2"

bottom 1 1/2"

Description of longitudinal joint

Welded

No. of strengthening rings

0

Working pressure of furnace by the rules

132 lbs

Combustion chamber plates: Material

S

Thickness: Sides

1 1/2"

Back

5/8"

Top

9/16"

Bottom

1 1/2"

Pitch of stays to ditto: Sides

10 1/4" x 6 3/4"

Back

9 3/4" x 9 3/4"

Top

11" x 6 3/4"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

142 lbs

Material of stays

S

Diameter at smallest part

1 1/2"

Area supported by each stay

95 sq

Working pressure by rules

148 lbs

End plates in steam space:

Material

S

Thickness

29/32"

Pitch of stays

15" x 19"

How are stays secured

D. n. w. 6 1/2"

Working pressure by rules

132 lbs

Material of stays

S

Diameter at smallest part

2 5/16"

Area supported by each stay

285 sq

Working pressure by rules

153 lbs

Material of Front plates at bottom

S

Thickness

29/32"

Material of Lower back plate

S

Thickness

29/32"

Greatest pitch of stays

14" x 9 3/4"

Working pressure of plate by rules

195 lbs

Diameter of tubes

3"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

S

Thickness: Front

29/32"

Back

7/16"

Mean pitch of stays

12 3/4" x 8 1/4"

Pitch across wide water spaces

14"

Working pressures by rules

150 lbs

Girders to Chamber tops: Material

S

Depth and

Thickness of girder at centre

6 1/2" x 1 1/2"

Length as per rule

25"

Distance apart

11"

Number and pitch of stays in each

2 - 6 3/4"

Working pressure by rules

134 lbs

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

parately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description				
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	Date of adjustment	
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 each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air circulating feed and bilge pump valves, and a quantity of assorted bolts etc

The foregoing is a correct description,

*J. J. E. Thorpe*

Manufacturer.

Dates of Survey while building: During progress of work in shops— 1910. Aug. 8. 9. 10. 13. 17. 20. 22. 23. 25. 26. 27. 29. 30. 31. Sep. 1. 3. 5. 6. 8.  
During erection on board vessel— Sep. 13. 15. 16. 19. 21. 22. 24. 26. 27. 28. 29. Oct. 6. 1911. Jan. 30. Feb. 6.  
Total No. of visits 33

Is the approved plan of main boiler forwarded herewith Yes ✓

Dates of Examination of principal parts—Cylinders 25. 8. 10 Slides 29. 8. 10 Covers 29. 8. 10 Pistons 15. 9. 10 Rods 19. 9. 10  
Connecting rods 19. 9. 10 Crank shaft 29. 8. 10 Thrust shaft 22. 8. 10 Tunnel shafts 25. 8. 10 Screw shaft 25. 8. 10 Propeller 25. 9. 10  
Stern tube 21. 9. 10 Steam pipes tested 26. 9. 10 Engine and boiler seatings 19. 9. 10 Engines holding down bolts 28. 9. 10  
Completion of pumping arrangements 6. 2. 11 Boilers fixed 28. 9. 10 Engines tried under steam 28. 9. 10  
Main boiler safety valves adjusted 28. 9. 10 Thickness of adjusting washers 3/8 3/8  
Material of Crank shaft S Identification Mark on Do. 440 FC Material of Thrust shaft Identification Mark on Do.  
Material of Tunnel shafts S Identification Marks on Do. 392 AR Material of Screw shafts S Identification Marks on Do. 392 AR  
Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs per sq inch.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey, and in accordance with the Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines secured on board, tested under steam, and found satisfactory, they are now in good order, and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of L.M.C. 2.11 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + LMC 2.11.

*J. W. D. J. R. S.*  
13/2/11

The amount of Entry Fee .. £ 1 : :  
Special .. £ 8 : :  
Donkey Boiler Fee .. £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 11. 2. 1911  
When received, 13/5/11

*James Barclay*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUE. 14 FEB 1911

Assigned

MACHINERY CERTIFICATE  
WRITTEN



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Foundation