

REPORT ON MACHINERY.

No. 6001

THUR. 14 DEC 1905

Port of

Belfast

Received at London Office

19

No. in Survey held at
Book.

Date, first Survey

Feb. 21st

Last Survey

Dec. 8th 1905

(Number of Visits 86)

on the

Turbine Steamship Ringera

Gross 2091

Net 790

ster

Belfast

By whom built

Workman Clark & Co. Ltd.

gines made at

Belfast

By whom made

Workman Clark & Co. Ltd.

when made

1905

ilers made at

Belfast

By whom made

Workman Clark & Co. Ltd.

when made

1905

gistered Horse Power

583

Owners

Australasian S. Nav. Co. Ltd.

Port belonging to

Glasgow

m. Horse Power as per Section 28

583

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

GINES, &c.—Description of Engines

Triple Low Pressure Turbines

No. of Cylinders

3

No. of Cranks

3

a. of Cylinders

4-4-4

Length of Stroke

19-6

Revs. per minute

600

Dia. of Screw shaft

6-3/4

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

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

Yes

the propeller boss

Yes

If the liner does not fit tightly at the part

Yes

If the liner does not fit tightly at the part

Yes

If the liner does not fit tightly at the part

Yes

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

Yes

If the liner does not fit tightly at the part

Yes

If the liner does not fit tightly at the part

Yes

If the liner does not fit tightly at the part

Yes

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

Yes

Length of stern bush

8-6

Dia. of Tunnel shaft

10-6

Dia. of Crank shaft journals

10-6

Dia. of Crank pin

10-6

Size of Crank webs

10-6

Dia. of thrust shaft under

10-6

Collars

10-6

Dia. of screws

58

Pitch of screw

48

No. of blades

3

State whether moveable

No

Total surface

1400 sq. ft.

No. of Feed pumps

2

No. of Bilge pumps

1

No. of Donkey Engines

1

In Engine Room

2-2 1/2 x 1-2 1/2

In Holds, &c.

3-2 1/2 x 1-2 1/2

No. of bilge injections

2

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

3-2 1/2 x 1-2 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

Yes

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

Yes

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

Both

Are the blow off cocks fitted with a spigot and brass covering plate

Yes

What pipes are carried through the bunkers

One Cold Suction

How are they protected

Wood casings

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Before launching

Is it fitted with a watertight door

Yes

worked from

Main Deck

Double End

Single End

Auxiliary Boiler

Is forced draft fitted

BOILERS, &c.—

(Letter for record)

Total Heating Surface of Boilers

6540

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

No. and Description of Boilers

2-2 End Cylinders

Date of test

7-4-05

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

107 sq. ft.

each boiler

3-2 End Cylinders

Area of each valve

12 sq. ft.

Pressure to which they are adjusted

160 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

14 in.

Mean dia. of boilers

14-3

Length

19-6

Material of shell plates

Steel

Thickness

1/2 in.

Range of tensile strength

28-32

Are they welded or flanged

No

Descrip. of riveting: cir. seams

Lap & V

Diameter of rivet holes in long. seams

1/2 in.

Pitch of rivets

8-8

Length of plates or width of butt straps

18 in.

Per centages of strength of longitudinal joint

85.6

Size of compensating ring

No. 1

No. and Description of Furnaces in each boiler

6-2

Material

Steel

Outside diameter

45 in.

Length of plain part

4 in.

Thickness of plates

3/32 in.

Description of longitudinal joint

Weld

No. of strengthening rings

1

Working pressure of furnace by the rules

180 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

5 in.

Back

5 in.

Pitch of stays to ditto: Sides

9-4 x 8-6

Back

9-4 x 8-6

Stays are fitted with nuts or riveted heads

Nuts inside

Working pressure by rules

171 lbs

Material of stays

Iron

Diameter at smallest part

1/5 in.

Area supported by each stay

78 sq. in.

Working pressure by rules

196 lbs

Material

Steel

Thickness

1/32 in.

Pitch of stays

22 x 17

How are stays secured

Nuts & washers

Diameter at smallest part

2 1/2 in.

Area supported by each stay

340 sq. in.

Working pressure by rules

161 lbs

Material of Front plates at bottom

Steel

Thickness

5/8 in.

Material of Lower back plate

Steel

Thickness

5/8 in.

Greatest pitch of stays

1/4 x 1/4

Diameter of tubes

2 1/2 in.

Pitch of tubes

3 1/2 x 3 1/2

Material of tube plates

Steel

Thickness: Front

5/8 in.

Pitch across wide water spaces

13 1/2 in.

Working pressures by rules

161 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

Working pressure by rules

161 lbs

Superheater or Steam chest; how connected to boiler

V

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

Yes

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DONKEY BOILER— No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ 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 _____ 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 _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— 2 Propellers; 2 Propeller shafts; 18 Cast lug bolts; 2 pair bearings; 2 washes for Turbine Spindles; Escapement & pump for Turbines; Impeller Shaft Cent. Engine; Thrust rings; Pushing pins; Blades set for Turbines; Spare gear for all auxiliaries. Bailey 1182

The foregoing is a correct description,
FOR WORKMAN, CLARK & CO., LIMITED.

Manufacturer.

Dates of Survey while building { During progress of work in shops - } Feb. 21, 24, 28 Mar. 16, 21, 23, 24, 28 April 3, 5, 12, 13, 18, 20, 24 May 1, 3, 5, 8, 11, 15, 24, 27, 29 June 1, 4, 13, 16, 17, 24, 26, 28 July 5 Aug. 2, 4, 7, 9, 11, 15, 17, 18, 23, 25, 29, 30 Sep. 1, 1, 4, 5, 7, 7, 12, 14, 15, 19, 20, 21, 22, 25, 27, 29, 30

Total No. of visits 86

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

" " " donkey " " " *Yes*

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

The machinery of this vessel, has been constructed under Special Survey, and in accordance with the instructions of the Committee.

The installation consists of one central High Pressure and two wing Low Pressure Turbines, of the Parsons Type, made by Messrs. Workman Clark & Co. Ltd., along with a number of auxiliaries of the dimensions given on the other side.

The workmanship, and the materials used in construction, are of good description, and on the official trial trip, in Belfast Lough, the machinery worked satisfactorily.

In my opinion, this installation merits the approval of the Committee, and record **L.M.C. 12.05**

The Secretary's Letters referring to this installation are dated 22nd April & January & 3rd April.

It is submitted that
this vessel is eligible for
THE RECORD L.M.C. 12.05. F.D. ELEC. LIGHT.

REF. MCHY.

3 STEAM. TURBINES.

The amount of Entry Fee. £ 3
Special " " £ 49.13.0
Donkey Boiler Fee " " £ 4.10.0
Travelling Expenses (if any) £ : :
When applied for, 19/12/05
When received, 19/12/05

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

Committee's Minute

FRI. 15 DEC 1905

Assigned

+ L.M.C. 12.05
F.D. Elec. Light

MACHINERY CERTIFICATE
WRITTEN.



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