

REPORT ON MACHINERY. UES. 21 OCT 1902Port of Glasgow

Received at London Office

19

No. in Survey held at

Glasgow

Date, first Survey

16 Oct 1901

Last Survey

10 October 1902

Reg. Book

1148 on the

T. S. S. "Commonwealth"

(Number of Visits)

12

Gross

6611.05

Net

4172.16

Master

J. E. Elbery

Built at

Glasgow

By whom built

Barclay Curle & Co. Ltd

When built

1902

Engines made at

Glasgow

By whom made

Barclay Curle & Co. Ltd

when made

1902

Boilers made at

do

By whom made

do

when made

1902

Registered Horse Power

Owners

W. Lund

Port belonging to

London

Nom. Horse Power as per Section 28

843

Is Refrigerating Machinery fitted

Yes

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Twin Screw Triple Expansion

No. of Cylinders

6

No. of Cranks

6

Dia. of Cylinders

24-40-64

Length of Stroke

48

Revs. per minute

40

Dia. of Screw shaft

13 1/2

Lgth. of stern bush

4-8

Dia. of Tunnel shaft

12 3/8

Dia. of Crank shaft journals

12 3/8

Dia. of Crank pin

13 1/2

Size of Crank webs

8 1/2

Dia. of thrust shaft under

collars

13 1/2

Dia. of screw

16-3

Pitch of screw

18.0 S. 18.4 P

No. of blades

3

State whether moveable

Yes

Total surface

74

No. of Feed pumps

Wain

Diameter of ditto

2-9

Stroke

26

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 7/8

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

4

Sizes of Pumps

(12x8x26) 2, (10x7x10) 2

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

In Engine Room 2-3 1/2, In Holds, &c. 2-1 1/2In Engine Room 2-3 1/2, In Holds, &c. 2-1 1/2Tunnel 1-32-3-1-4, 2-4-2-3 1/2, 2-5-1-3 1/2

No. of bilge injections

2

sizes

7 1/2

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room & size

1-3 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

none

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

For bilge & ballast

How are they protected

Wood casing

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 launch

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Upper deck

BOILERS, &c.—

(Letter for record)

(S)

Total Heating Surface of Boilers

12913 1/2

Is forced draft fitted

Handblows

No. and Description of Boilers

2 D.E. & 2 S.E. Mull

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

31.6.02

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

56.875 DE

No. and Description of safety valves to

each boilerSpring 2-66 DEDE 110

Area of each valve

S.E. 6.24

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

width of stokehold

Mean dia. of boilers

14-3

Length

SE 14.0

Thickness

17/16

Range of tensile strength

28/32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

Don't lap

long. seams

DBS. 5 rivs

Diameter of rivet holes in long. seams

1 3/8

Pitch of rivets

9

Lap of plates or width of butt straps

1-7 3/4

Per centages of strength of longitudinal joint

93

Working pressure of shell by rules

204 lbs

Size of manhole in shell

16x12

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

DE 6. S.E. 3

Material

steel

Outside diameter

3-8 1/2

Length of plain part

top

Thickness of plates

9/16

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

199

Combustion chamber plates: Material

steel

Thickness: Sides

19/32

Back

9/16 (S.E.)

Top

SE 1/2

Pitch of stays to ditto: Sides

9x7

Back

8x7 1/2

Top

SE 9x8

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

DE 187

Material of stays

steel

Diameter at smallest part

1-4 1/2

Area supported by each stay

64

Working pressure by rules

180

End plates in steam space:

Material steel

Material

steel

Thickness

17/32

Pitch of stays

15 1/4 x 16

How are stays secured

Double nut

Working pressure by rules

254

Diameter at smallest part

5-5 1/2

Area supported by each stay

256

Working pressure by rules

216

Material of Front plates at bottom

steel

Thickness

13/16

Material of Lower back plate

steel (S.E.)

Thickness

11/16

Greatest pitch of stays

13 1/2

Working pressure of plate by rules

200 (S.E.)

Diameter of tubes

2 1/2

Pitch of tubes

3 3/4

Material of tube plates

steel

Thickness: Front

13/16

Back

SE 2 1/2

Pitch across wide water spaces

13 1/2

Working pressures by rules

180 lbs

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centreSE (11 3/4 x 11) 2

Length as per rule

SE 30 1/2

Distance apart

SE 8

Number and pitch of Stays in each

SE 3-8

Working pressure by rules

SE 187

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 rivetholesPitch 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

DONKEY BOILER— No. None Description None

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:— Propeller shaft, $\frac{3}{4}$ part crank shaft, 1 head valve casting with valves complete for air pump, set piston springs each H.P. 70 p. & L.P., valve spindle, 2 c.i. propeller blades, spindle & impeller for centrifugal pump, main & aux. check valve spindles, condenser tubes & ferrules etc & the bolts & nuts, iron etc required by the Rules.

The foregoing is a correct description,

Barclay Curle & Co. Limited Manufacturer.
per James Gilchrist Director

Dates of Survey while building

| | |
|-----------------------------------|---|
| During progress of work in shops— | 1901: Oct. 16, 25, 29, Nov. 1, 4, 19, 20, 24, 25, 26, 29, 30, Dec. 7, 9, 12, 19, 1902: Jan. 7, 8, 10, 13, 14, 16, 17, 21, 24 |
| During erection on board vessel— | 29, 30, Feb. 8, 11, 12, 15, 17, 24, 27, Mar. 10, 11, 12, 20, 22, Apr. 2, 11, 14, 18, 21, 29, May 7, 16, 20, Jun. 2, 5, 21, 27, Sep. 1, 4, 5 |
| Total No. of visits | 12 |

Is the approved plan of main boiler forwarded herewith Yes (2)

11, 19, Aug. 11, 16, 17, 22, Sep. 1, 5, 8, 11, 10, 11, 24, Oct. 6, 8, 10

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

Also Forging Report

Material of screw shaft Iron 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 one length

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 —

The machinery & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in our opinion eligible for notation * L.M.C. 10.02 in the Register-Book.

It is submitted that this vessel is eligible for THE RECORD:— L.M.C. 10.02 F.D. Etc: Light. Ref. Ind. &c.

The amount of Entry Fee. . . £ 3 : : When applied for, 16/10/02

Special . . . £ 62 : : When received, 18/10/02

Donkey Boiler Fee . . . £ : :

Travelling Expenses (if any) £ : :

Committee's Minute Glasgow. 20 OCT 1902

Assigned

Hardner Smith James Morrison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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MACHINERY CERTIFICATE
WRITTEN 22-10-02