

## REPORT ON MACHINERY.

W605-0197

No. 21984

Port of

Glasgow

Received at London Office

19

No. in Survey held at  
Reg. Book.

Glasgow

Date, first Survey

19<sup>th</sup> May 03

Last Survey

9<sup>th</sup> June 1902

on the

I.S.S. "Port Kingston"

(Number of Visits)

Tons  
Gross  
Net

Master

Built at

Glasgow

By whom built

A. Stephen &amp; Sons Ltd

When built

1904

Engines made at

Glasgow

By whom made

A. Stephen &amp; Sons Ltd

when made

1904

Boilers made at

Glasgow

By whom made

A. Stephen &amp; Sons Ltd

when made

1904

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

1443

Is Refrigerating Machinery fitted

yes

Is Electric Light fitted

yes

ENGINES, &amp;c.

Description of Engines

Twin screw triple expansion

No. of Cylinders

6

No. of Cranks

6

Dia. of Cylinders

30" 60" 80"

Length of Stroke

54"

Revs. per minute

Dia. of Screw shaft

as per rule 15.9  
as fitted 16.34

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 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

5'-7"

Dia. of Tunnel shaft

as per rule 14.88  
as fitted 15.5

Dia. of Crank shaft journals

as per rule 15.66  
as fitted 16.4

Dia. of Crank pin

16.4"

Size of Crank webs

10.5" 30.4"

Dia. of thrust shaft under

collars

16.4"

Dia. of screw

17.3"

Pitch of screw

21' 6"

No. of blades

3'

State whether moveable

yes

Total surface

160 sq ft

No. of Feed pumps

2

Diameter of ditto

5"

Stroke

30"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

4

Diameter of ditto

4.5"

Stroke

30"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

7

Sizes of Pumps

6.4 x 4.6, 6.4 x 4.6, 17 x 12.5, 2.5 x 4.6

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

In Engine Room

from 3.2" stokehold from 3.2"

In Holds, &amp;c. Nos 1, 2 &amp; 3 two 3.2" No 4 hold on 3.2"

No. of bilge injections

2

sizes

9.5"

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room &amp; size

yes

3.2"

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

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock 30/6/04 Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from top platform

BOILERS, &amp;c.

(Letter for record S)

Total Heating Surface of Boilers

35802

Is forced draft fitted

yes

No. and Description of Boilers

Cylindrical 3 double 3 single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360

Date of test

24/12/03 15/3/04

Can each boiler be worked separately

yes

Area of fire grate in each boiler

DE 123.3 SE 6.8

No. and Description of safety valves to

each boiler

Spring loaded

Area of each valve

DE 17.7 SE 9.6

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

2' 6"

Mean dia. of boilers

15.9"

Length

SE 11.9

Material of shell plates

Steel

Thickness

1.32

Range of tensile strength

29.1-32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

double Y butt long. seams

table butt

top

Diameter of rivet holes in long. seams

1.32

Pitch of rivets

9.76"

Lap of plates or width of butt straps

20.8"

Per centages of strength of longitudinal joint

rivets 90.0  
plate 84.4

Working pressure of shell by rules

206 lbs

Size of manhole in shell

16 x 12

Size of compensating ring

6.4 x 1.4"

No. and Description of Furnaces in each boiler

DE 6.8 SE 3

Material

Steel

Outside diameter

48.4"

Length of plain part

top V  
bottom

Thickness of plates

crown 1.9  
bottom .32

Description of longitudinal joint

welded

No. of strengthening rings

DE 8.4 SE 3.2

Working pressure of furnace by the rules

210 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

DE 8.4 SE 3.2

Back

DE 8.4 SE 3.2

Top

DE 8.4 SE 3.2

Bottom

1"

Pitch of stays to ditto: Sides

DE 8.4 SE 3.2

Back

DE 8.4 SE 3.2

Top

SE 8.4 SE 3.2

If stays are fitted with nuts or riveted heads

yes

Working pressure by rules

187 195 lbs

Material of stays

Steel

Diameter at smallest part

1.786"

Area supported by each stay

72.76"

Working pressure by rules

187 lbs

End plates in steam space:

Material of stays

Steel

Material

Steel

Thickness

1.4"

Pitch of stays

17 x 18.4"

How are stays secured

welded

Working pressure by rules

192 lbs

Material of stays

Steel

Material

Steel

Diameter at smallest part

1.413"

Area supported by each stay

326"

Working pressure by rules

195 lbs

Material of Front plates at bottom

Steel

Thickness

1.9"

Material of Lower back plate

Steel

Thickness

1.3"

Greatest pitch of stays

14.2 with 8"

Working pressure of plate by rules

300 lbs

Diameter of tubes

2.5"

Pitch of tubes

33 x 3.7"

Material of tube plates

Steel

Thickness: Front

3"

Back

16"

Mean pitch of stays

7.625"

Pitch across wide water spaces

14.2"

Working pressures by rules

407 lbs 292 lbs

Girders to Chamber tops: Material

Steel

Depth and

Thickness of girder at centre

DE 18.4 SE 8.4

Length as per rule

32"

Distance apart

9"

Number and pitch of Stays in each

DE 18.4 SE 8.4

Working pressure by rules

DE 18.4 SE 195

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

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

How stayed

End plates: Thickness

Are they fitted with easing gear

stiffened with

Distance between rings

Working pressure by rules

Area of safety valves to superheater

Are they fitted with easing gear



**DONKEY BOILER—** No. \_\_\_\_\_ 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:—1 set of coupling bolts, 1 top end bolts nuts & bottom end bolts and nuts. 2 main bearing bolts nuts, 1 set of feed and bilge pump valves, bolts nuts and iron of various sizes, 1 set of piston springs & rings for each cylinder for each engine 1 propeller shaft, 2 blades for each propeller,

The foregoing is a correct description,  
*Ally Scott, Secy.* Manufacturer.

Dates of Survey while building { During progress of work in shops— 1903: May 19 Jan. 25 July 1.7.29 Aug. 18.19.27 Sept. 1.4.10.19.22 Oct. 12 Nov. 3.13.25.30.  
 { During erection on board vessel— Dec. 2.14.16.24.29. 1904 Jan. 15.21.27.29 Feb. 5.11.12.16.23.26 Mar. 9.13.31 Apr. 14.20.22.27.29 May 4.7.9.13.20.23.26.29 June 9  
 Total No. of visits 51

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

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *These engines and boilers have been built under special survey, the materials and workmanship are of good description, they have been well fitted on board and tried under steam. We are of opinion this machinery is eligible to have notification of L.M.C. 6.04 in the Register book.*

It is submitted that this vessel is eligible for THE RECORD. LMC 6.04 F.D. ELECTRIC Ref. *McKend & Arthur L. Jones*

*Sal*  
*10.8.04*  
*10.8.04*

The amount of Entry Fee... £ 3 : : When applied for...  
 Special ... £ 92 : : - 8 AUG 1904  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : : When received... 11.8.04

Committee's Minute *Glasgow 8-AUG1904*

Assigned *L.M.C. 6.04*

*When fee is paid*

FRI. 9 SEP 1904

TUES. 6 SEP 1904

FRI. 14 OCT 1904

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