

REPORT ON MACHINERY

No. 27421

WED. 17 FEB 1909

Received at London Office

Date of writing Report

19

When handed in at Local Office

13 Feb 1909

Port of

Glasgow

No. in Survey held at
Reg. Book.

Date, First Survey

28 Oct 1908

(Number of Visits)

Last Survey

6-9-1909

22 on the

Master

Built at

By whom built

Tons

When built

Engines made at

By whom made

when made

Boilers made at

By whom made

when made

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders

Length of Stroke

Revs. per minute

Dia. of Screw shaft

as per rule

Material of

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

Is the after end of the liner made water tight

in the propeller boss

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

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

Length of stern bush

Dia. of Tunnel shaft

as per rule

Dia. of Crank shaft journals

as per rule

Dia. of Crank pin

Size of Crank webs

Dia. of thrust shaft under

collars

Dia. of screw

Pitch of Screw

No. of Blades

State whether moveable

Total surface

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

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

In Engine Room

1 @ 7 1/4, 2 @ 2

including donkey special

In Holds, &c.

2 @ 7 1/4 & 1 @ 2 1/2

No. of Bilge Injections

sizes

Connected to condenser, or to circulating pump

C.P. As a separate Donkey Suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

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

Are the Discharge Pipes above or below the deep water line

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

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

What pipes are carried through the bunkers

How are they protected

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

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

Dates of examination of completion of fitting of Sea Connections

12-1-09

of Stern Tube

17-1-09

Screw shaft and Propeller

12-1-09

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

David Beville & Sons.

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

11488

Is Forced Draft fitted

No. and Description of Boilers

One single ended

Working Pressure

135 lbs

Tested by hydraulic pressure to

240 lbs

Date of test

4-1-09

No. of Certificate

9656

Can each boiler be worked separately

Area of fire grate in each boiler

49.4

No. and Description of Safety Valves to

each boiler

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Area of each valve

6.49

Pressure to which they are adjusted

140 lbs

Are they fitted with easing gear

Yes

Thickens

Range of tensile strength

98-37 lbs

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R.

long. seams

T.R.D.B.S

Diameter of rivet holes in long. seams

1"

Pitch of rivets

6 1/4"

Lap of plates or width of butt straps

15 3/4"

Per centages of strength of longitudinal joint

rivets

88.6

Working pressure of shell by rules

135 lbs

Size of manhole in shell

12x16"

Size of compensating ring

No. and Description of Furnaces in each boiler

3 plain

Material

steel

Outside diameter

40 1/2"

Length of plain part

top

Thickness of plates

bottom

Description of longitudinal joint

welded

No. of strengthening rings

One

Working pressure of furnace by the rules

138 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

9 1/16"

Back

9 1/16"

Top

9 1/16"

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

14 lbs

Material of stays

steel

at smallest part

1 1/4"

Area supported by each stay

46 sq"

Working pressure by rules

155 lbs

End plates in steam space:

Material

steel

Thickness

1 1/16"

Pitch of stays

18x16"

How are stays secured

D.N. Wash.

Working pressure by rules

183 lbs

Material of Front plates at bottom

steel

Thickness

3/4"

Greatest pitch of stays

13 1/2x9"

Working pressure of plate by rules

14 1/2 lbs

Diameter of tubes

Pitch of tubes

Material of tube plates

steel

Thickness: Front

3/4"

Back

2 1/2"

Mean pitch of stays

9 3/4"

Pitch across wide water spaces

Working pressures by rules

14 1/2 lbs

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

6 1/2x2"

Length as per rule

28 1/2"

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

How stayed

Yes

Yes

Yes

Yes

Yes

Working pressure of end plates

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Are they fitted with easing gear

Yes

How stayed

Yes

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Yes

How stayed

Yes

Yes

Yes

Yes

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they

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:—

2 long rod top end bolts & nuts, 2 long rod bot end bolts & nuts, 2 main bearing bolts, One set coupling bolts
1 set feed ridge pump valves, 1 set bolts, nuts, & washers,

The foregoing is a correct description,

Ross & Duncan Manufacturer.

Dates of Survey while building _____ During progress of work in shops— _____ During erection on board vessel— _____

1908. Oct 28. Nov 3. 6. 12. 13. 19. 23. 25. 30. Dec 3. 7. 14. 15. 22. 30.

1909. Jan 7. 8. 11. 12. 25. 29. 30. Feb 1. 2. 3. 5. 6.

Total No. of visits _____ 27

Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders _____ Slides _____ Covers _____ Pistons _____ Rods _____

Connecting rods _____ Crank shaft _____ Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____

Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____

Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material of Crank shaft _____ Identification Mark on Do. _____ Material of Thrust shaft _____ Identification Mark on Do. _____

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes _____ Test pressure _____

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

The machinery of this vessel has been built under special survey the materials and workmanship are of good quality, the boiler has been satisfactorily tested under hydraulic pressure and the machinery has been securely fitted on board and satisfactorily tried under steam.

While proceeding down the river to go on official trial a bolt got into the S.P. cylinder which bent the S.P. piston rod slightly this was put right & other parts of the machinery opened up & found satisfactory and all the gear was put back as before (see damage report).

The Machinery of this vessel is in my opinion eligible to be classed and have record **LMC 2-09**

It is submitted that this vessel is eligible for THE RECORD. **LMC 2.09**

The amount of Entry Fee £ 1-0-0 : When applied for, 15. 2. 09

Special £ 11-11-0 : When applied for, 15. 2. 09

Donkey Boiler Fee £ 7-7-7 : When applied for, 15. 2. 09

Travelling Expenses (if any) £ : When applied for, 15. 2. 09

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

Committee's Minute GLASCOW 16 FEB. 1909

Assigned **+ LMC 2.09**

MACHINERY CERTIFICATE
WRITTEN 17. 2. 09



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Foundation