

REPORT ON MACHINERY.

No. 31910.
WED. OCT. - 9. 1912

Date of writing Report

19

When handed in at Local Office

4-10-12 Port of

Received at London Office

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

12-2-12

Last Survey

2-10-1912

on the

S/S "Diplomat"

(Number of Visits)

49

Gross Tons

7615

Net Tons

4873

When built

1912

Master

Built at

Glasgow

By whom built

C. Coumell & Co. Ltd.

Engines made at

Glasgow

By whom made

Dunsmuir, Jackson & Co. (Ld.)

when made

1912

Boilers made at

ditto

By whom made

ditto

when made

1912

Registered Horse Power

Owners

J. F. Harrison

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

618

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines Quadruple Expansion

No. of Cylinders

4

No. of Cranks

4

Dia. of Cylinders 25 1/2, 36 1/2, 52, 74 Length of Stroke 54

Revs. per minute

72

Dia. of Screw shaft

as per rule 15 1/4

Material of

screw shaft

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

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

6'-0"

Dia. of Tunnel shaft

as per rule 14-06

Dia. of Crank shaft journals

as per rule 14-76

Dia. of Crank pin

15 1/4

Size of Crank webs

29 1/2 x 10

Dia. of thrust shaft under

collars

15 1/4

Dia. of screw

18-6

Pitch of Screw

18-9

No. of Blades

4

State whether moveable

Yes

Total surface

107 ft

No. of Feed pumps

2

Diameter of ditto

4 1/2

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 3/4

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

5

Sizes of Pumps

10 1/2 x 8

Bal (2)

10 x 10

10 x 6

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

10-2

10-6

10-10

In Engine Room

2-3 1/2

Stokehold

2-3 1/2

In Holds, &c.

2-3 1/2

in each Hold

No. of Bilge Injections

1

sizes

8

Connected to condenser to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes

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

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

Yes

Are they Valves or Cocks

Rocks

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 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

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

29. 7. 12

of Stern Tube

29. 7. 12

Screw shaft and Propeller

29. 7. 12

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Upper Engine Room Platform

BOILERS &c.—(Letter for record)

S

Manufacturers of Steel

Steel

C of Scotland

Calville

Spencer

Total Heating Surface of Boilers

11361

Is Forced Draft fitted

No

No. and Description of Boilers

2

Double ended

Working Pressure

215

Tested by hydraulic pressure to

430

Date of test

30. 7. 12

No. of Certificate

11402

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

126-5

No. and Description of Safety Valves to

each boiler

2 Direct Spring

Area of each valve

12-56

Smallest distance between boilers or uptakes and bunkers or woodwork

12

Mean dia. of boilers

15-9

Length

14-6

Material of shell plates

S

Thickness

15/8

Range of tensile strength

30/32

Are the shell plates welded or flanged

Yes

Descrip. of riveting: cir. seams

TR

long. seams

TR DBS

Diameter of rivet holes in long. seams

15/8

Pitch of rivets

10 3/8

Length of plates

2-0

width of butt straps

2-0

Per centages of strength of longitudinal joint

rivets 85-7%

plate 84-3%

Working pressure of shell by rules

235

Size of manhole in shell

16-12

Size of compensating ring

M. N. H.

No. and Description of Furnaces in each boiler

6 Corrugated

Material

S

Outside diameter

4-0

Length of plain part

top

Thickness of plates

crown

bottom

23/32

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

245

Combustion chamber plates: Material

S

Thickness: Sides

23/32

Pitch of stays to ditto: Sides

9 3/8 x 8 1/2

Back

Top

8 1/2 x 9

If stays are fitted with nuts or riveted heads

Hub

Working pressure by rules

219

Material of stays

S

Diameter at smallest part

1-98

Area supported by each stay

77-6

Working pressure by rules

250

End plates in steam space:

Material

S

Thickness

1 1/4

Pitch of stays

16 x 19 1/4

How are stays secured

DN

Working pressure by rules

228

Material of stays

S

Diameter at smallest part

7-49

Area supported by each stay

307-9

Working pressure by rules

249

Material of Front plates at bottom

S

Thickness

15/32

Material of Lower back plate

S

Thickness

15/32

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

3

Pitch of tubes

4 1/4 x 4 3/8

Material of tube plates

S

Thickness: Front

16/32

Back

15/16

Mean pitch of stays

11 1/4

Pitch across wide water spaces

14

Working pressures by rules

237

Girders to Chamber tops: Material

Iron

Depth and

thickness of girder at centre

12 x 1 (2)

Length as per rule

3-6

Distance apart

9

Number and pitch of stays in each

4 at 8 1/2

Working pressure by rules

253

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

How stayed

Working pressure of end plates

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
 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 Radius of do. Stayed by
 Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied:—

2 Connecting Rod bolts & nuts for top end, ditto for bottom end. 2 Main
 Bearing bolts. 1 Set of Coupling bolts 1 Set of Feed & Pelge Pump
 Valves 1 Set of Piston Ring, a quantity of assorted bolts & nuts. Iron

The foregoing is a correct description,

James Fletcher Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 1912. Feby. 12-15-20-22-27. March 7-12-18-27-29. April 3-4-12-15-19-24-25
 During erection on board vessel -- May 6-9-14-20-21-22-28. June 10-17-19-26. July 1-8-24-25-29-30. Aug. 1-6-21-22-28-29. Sep. 2-3-5-9-11-13
 Total No. of visits 49

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 25-7-12 Slides 25-7-12 Covers 10-6-12 Pistons 26-6-12 Rods 10-6-12
 Connecting rods 10-6-12 Crank shaft 26-6-12 Thrust shaft 1-7-12 Tunnel shafts 26-6-12 Screw shaft 8-7-12 Propeller 25-7-12
 Stern tube 8-7-12 Steam pipes tested 11-9-12 Engine and boiler seatings 29-7-12 Engines holding down bolts 19-9-12
 Completion of pumping arrangements 23-9-12 Boilers fixed 29-8-12 Engines tried under steam 2-10-12
 Main boiler safety valves adjusted 23-9-12 Thickness of adjusting washers SV 15/32 PV 13/32 SV 11/32 PV 1/2 FV 7/16 AV 15/32
 Material of Crank shaft S Identification Mark on Do. LLOYDS WGM HII Material of Thrust shaft S Identification Mark on Do. LLOYDS WGM HII
 Material of Tunnel shafts S Identification Marks on Do. ditto Material of Screw shafts S Identification Marks on Do. ditto
 Material of Steam Pipes Iron Test pressure 645.

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines & Boilers have been built under Special Survey in accordance with the approved plans, & the workmanship & material are of good quality. The Machinery is eligible in my opinion for the record of. LMC 10-12

It is submitted that this vessel is eligible for THE RECORD + LMC 10-12.

JWR. 10/10/12

JWR.

The amount of Entry Fee .. £ 3 : - :
 Special .. £ 50 : 18 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 4/10/12
 When received, 7-10-12

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

Committee's Minute GLASGOW 9-OCT.1912

Assigned - + LMC 10-12.



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