

## REPORT ON MACHINERY.

No. 33284

Date of writing Report

10

When handed in at Local Office

31/10/13. Port of Glasgow

Received at London Office

WED. NOV. 5-1913

No. in Survey held at  
Reg. Book.

Glasgow

Date, First Survey

3<sup>rd</sup> April 1912 Last Survey 29<sup>th</sup> Oct. 1913.

57 Sup. on the

J. J. "Strabo"

(Number of Visits 23)

Master

Built at Dumbarton

By whom built

A. G. McMillan &amp; Sons

Tons

Gross 4910

Net 3071.

When built 1913.

Engines made at

Glasgow

By whom made

David Rowan &amp; Co.

when made 1913

Boilers made at

d.

By whom made

d.

when made 1913

Registered Horse Power

Owners

Lampert & Holt 2<sup>d</sup>

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

458 Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

27-44-73

Length of Stroke

48

Revs. per minute

75

Dia. of Screw shaft

as per rule 14.86

Material of

as fitted 15.36 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 5'-0"

Dia. of Tunnel shaft

as per rule 13.325

Dia. of Crank shaft journals

as per rule 13.44

Dia. of Crank pin

14.5

Size of Crank webs

9

Dia. of thrust shaft under

collars

14.5

Dia. of screw

18-0

Pitch of Screw

18-6

No. of Blades

4

State whether moveable

Total surface 100

No. of Feed pumps

2

Diameter of ditto

4

Stroke

24

Can one be overhauled while the other is at work

No. of Bilge pumps

2

Diameter of ditto

4.5

Stroke

24

Can one be overhauled while the other is at work

No. of Donkey Engines

3

Sizes of Pumps

9x2 1/2, 6x4 1/2, 8x5 1/2

No. and size of

Suctions connected to both Bilge and Donkey pumps

In Engine Room

4-3 1/2

In Holds, &amp;c.

2-3 1/2 each hold

No. of Bilge Injections

1 sizes 6"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room &amp; 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

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 suction

How are they protected

Wood covering

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

of Stern Tube

Screw shaft and Propeller 4/9/13

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top of mainmast

## BOILERS, &amp;c.—(Letter for record (5)) Manufacturers of Steel

James Dunlop &amp; Co. Ltd

Total Heating Surface of Boilers

7860

Is Forced Draft fitted

no

No. and Description of Boilers

Three Single Ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

28/4/13

No. of Certificate

12281

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

600.3

No. and Description of Safety Valves to

each boiler

Cochran Double

Area of each valve

5.9

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

15" at

Mean dia. of boilers

16-6

Length

11-6

Material of shell plates

slut

Thickness

1 1/4"

Range of tensile strength

28532

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams D. R. L.

long. seams

D. B. S.

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

9"

Lap of plates or width of butt straps

19 1/2"

Per centages of strength of longitudinal joint

rivets 89.25

plate 85.41

Working pressure of shell by rules

180

Size of manhole in shell

16x12

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3 Single Ended

Material

slut

Length of plain part

top

Thickness of plates

crown 9/16"

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

slut

Thickness: Sides

9/32"

Back

9/32"

Pitch of stays to ditto: Sides

7/8x8 3/4"

Back

7/8x8 3/4"

Top

7/8x8 3/4"

Are stays are fitted with nuts or riveted heads

no

Working pressure by rules

180

Material of stays

slut

Diameter at smallest part

1.28

Area supported by each stay

66

Working pressure by rules

180

End plates in steam space:

Material

slut

Thickness

17/32"

Pitch of stays

17 3/4x20 1/2"

How are stays secured

D. R. L.

Diameter at smallest part

7.06

Area supported by each stay

365

Working pressure by rules

200

Material of Front plates at bottom

slut

Thickness

5/16"

Material of Lower back plate

slut

Thickness

25/32"

Greatest pitch of stays

12 1/2"

Working pressure of plate by rules

180

Diameter of tubes

3"

Pitch of tubes

4 1/4x4 1/2"

Material of tube plates

slut

Thickness: Front

5/16"

Back

3/4"

Mean pitch of stays

10 1/2"

Pitch across wide water spaces

13"

Working pressures by rules

180

Girders to Chamber tops: Material

slut

Depth and

thickness of girder at centre

9 1/4x18x21

Length as per rule

37 8

Distance apart

8 3/4"

Number and pitch of stays in each

4 at 7"

Working pressure by rules

180

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 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

W1322-0011



# Cylindrical Multitubular

## VERTICAL DONKEY BOILER

Manufacturers of Steel

James Dunlop & Co Glasgow 2, 5, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000

No. 1 Description Cylindrical Multitubular.  
Made at Glasgow By whom made David Rowan & Co When made 1913 Where fixed In storehouse  
Working pressure 120 Tested by hydraulic pressure to 220 Date of test 28/8/13 No. of Certificate 12282 Fire grate area 40.5 Description of Safety  
Valves Double Spring No. of Safety Valves 2 Area of each 5.9 Pressure to which they are adjusted 123 Date of adjustment 20/10/13  
If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 12' 6" Length 10' 6"  
Material of shell plates Steel Thickness 1/2" Range of tensile strength 25-30 Descrip. of riveting long. seams 1/2"  
Dia. of rivet holes 1/2" Whether punched or drilled Pitch of rivets 1/2" Lap of plating 1/2" Per centage of strength of joint 100  
Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays 1/2"  
Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint 1/2"  
Working pressure of furnace by rules Thickness of furnace crown plates Radius of do. Stayed by 1/2"  
Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey 1/2"

SPARE GEAR. State the articles supplied:—Two top end bolts, 2 bottom end bolts, 2 main bearing bolts, set of coupling bolts—all with nuts, feed & bilge pump valves, assorted iron etc. Also;—tail shaft, propeller, 1/2" crank shaft, valve spindle, top & bottom end bushes etc, etc.

The foregoing is a correct description,

for David Rowan & Co Manufacturer.

Dates of Survey while building During progress of work in shops -- 1913 April 3-24 May 1 June 2 July 2-14-29 Aug. 1-5-12-15-20 Sept. 4-11-22.  
During erection on board vessel --- Oct. 2-8-13-14-17-20-23-27.  
Total No. of visits 23.

Is the approved plan of main boiler forwarded herewith Yes  
" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 2/6/13 Slides 29/7/13 Covers 29/7/13 Pistons 29/7/13 Rods 14/7/13  
Connecting rods 14/7/13 Crank shaft 2/6/13 Thrust shaft 2/6/13 Tunnel shafts 11/9/13 Screw shaft 12/4/13 Propeller 12/4/13  
Stern tube 12/8/13 Steam pipes tested 13/10/13 Engine and boiler seatings 2/10/13 Engines holding down bolts 8/10/13  
Completion of pumping arrangements 20/10/13 Boilers fixed 8/10/13 Engines tried under steam 23/10/13  
Main boiler safety valves adjusted 20/10/13 Thickness of adjusting washers P. 7/16, 5/16, C. 7/16, 5/16, S. 7/16, 1/2"  
Material of Crank shaft Steel Identification Mark on Do. H.G.S. Material of Thrust shaft Steel Identification Mark on Do. H.G.S.  
Material of Tunnel shafts Steel Identification Marks on Do. H.G.S. Material of Screw shafts Steel Identification Marks on Do. H.G.S.  
Material of Steam Pipes Steel Test pressure 540 lb.

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

The engines & 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 my opinion eligible to have notation LMC 10, 13 (in red) in the Register book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 10.13.

JWR 6/11/13

The amount of Entry Fee .. £ 3 : 0 :  
Special .. .. £ 42 : 18 :  
Donkey Boiler Fee .. .. £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 29/10/1913.  
When received, 31/10/1913.

H Gardner-Smith  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 4 - NOV. 1913

Assigned LMC 10, 13

MACHINERY CERTIFICATE WRITTEN 5/11/13



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