

REPORT ON MACHINERY.

No. 33284

Received at London Office

Date of writing Report 10 When handed in at Local Office 31/10/13. Port of Glasgow WED. NOV. 5-1913

No. in Survey held at Glasgow Date, First Survey 3rd April 1912 Last Survey 29th Oct. 1913.

57 Sup. on the "J. J. Strabo" (Number of Visits 23)

Master Built at Dumbarton By whom built A. G. Millan & Sons. When built 1913.

Engines made at Glasgow By whom made David Rowan & Co. when made 1913

Boilers made at d. By whom made d. when made 1913

Registered Horse Power Owners Lampert & Holt 2^d 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, &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 ^{left} Dia. of Screw shaft as per rule 14.86 Material of screw shaft as fitted 15 3/4

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 as fitted 13 3/4 Dia. of Crank shaft journals as per rule 13.94 as fitted 14 1/2 Dia. of Crank pin 14 1/2 Size of Crank webs 9 Dia. of thrust shaft under collars 14 1/2 Dia. of screw 14-0 Pitch of Screw 18-6 No. of Blades 4 State whether moveable No Total surface 100 #

No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes Pair 9 1/2 x 17 x 21 10 1/2

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 9 x 12 1/2, 6 x 4 1/2, 8 x 5 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 - 3 1/2 In Holds, &c. 2 - 3 1/2 each hold

No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump pump 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 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 gratings

BOILERS, &c.—(Letter for record (5)) Manufacturers of Steel James Dunlop & 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 Corbourn 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 # Mean dia. of boilers 15-6 Length 11-6 Material of shell plates slit

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 16 x 12 #

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Single long Material slit Outside diameter 4-0 1/8 #

Length of plain part top 9 1/16 # bottom 9 1/16 # Thickness of plates crown 9 1/16 # Description of longitudinal joint weld No. of strengthening rings —

Working pressure of furnace by the rules 190 Combustion chamber plates: Material slit Thickness: Sides 9/32 # Back 9/32 # Top 9/32 # Bottom 7/8 #

Pitch of stays to ditto: Sides 7 1/2 x 8 3/4 # Back 7 3/8 x 8 3/4 # top 7 1/8 # If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 #

Material of stays slit Diameter at smallest part 1-2 9 # Area supported by each stay 66 # Working pressure by rules 180 # End plates in steam space: Material slit Thickness 17/32 # Pitch of stays 17 3/4 x 20 1/2 # How are stays secured D. Nuts Working pressure by rules 180 # Material of stays slit

Diameter at smallest part 7.06 # Area supported by each stay 365 # Working pressure by rules 200 # Material of Front plates at bottom slit

Thickness 15/16 # Material of Lower back plate slit 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 1/2 x 4 1/2 # Material of tube plates slit Thickness: Front 9/16 # 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 slit Depth and thickness of girder at centre 9 1/4 x 18 x 2 # Length as per rule 37 8 # Distance apart 8 3/4 # Number and pitch of stays in each 4 at 7 #

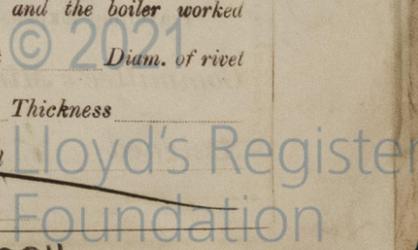
Working pressure by rules 180 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately —

Diameter	Length	Thickness of shell plates	Material	Description of longitudinal joint	Diam. of rivet
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 Hoop 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, 5th 2^d*

No. *1* Description *Cylindrical Multitubular*
 Made at *Glasgow* By whom made *David Rowan & Co* When made *1913* Where fixed *In St. Rethel*
 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 *slut* 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 *—*
 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:— *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, 1/3rd 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 12/4/13 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. P. 7/16 + 5/16 C. 7/16, 7/16 S. 7/16, 7/16*
 Material of Crank shaft *slut* Identification Mark on Do. *H.G.S.* Material of Thrust shaft *slut* Identification Mark on Do. *H.G.S.*
 Material of Tunnel shafts *slut* Identification Marks on Do. *H.G.S.* Material of Screw shafts *slut* Identification Marks on Do. *H.G.S.*
 Material of Steam Pipes *slut* 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



Glasgow

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

2411
31/1/13