

REPORT ON MACHINERY.

No. 21253

Port of Glasgow

UES. 27 OCT 1903

Received at London Office 19

No. in Survey held at Glasgow
Reg. Book.Date, first Survey 24th AprilLast Survey 15th October 1903(Number of Visits 19)32nd Sy. on theS. J. Sierra Morina

Gross

Tons

Net

When built 1903

Master

Built at GlasgowBy whom built C. Connell & Co. Ltd.Engines made at GlasgowBy whom made D. Rowan & Co.when made 1903Boilers made at do.By whom made do.when made 1903

Registered Horse Power

Owners Thompson, Anderson & Co.Port belonging to LiverpoolNom. Horse Power as per Section 28 364Is Refrigerating Machinery fitted NoIs Electric Light fitted Yes - Kaddow.

ENGINES, &c.—Description of Engines

Triple ExpansionNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 24-40-67Length of Stroke 45Revs. per minute 68

Dia. of Screw shaft

as per rule 13 1/4Material of IronIs 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 4-9

Dia. of Tunnel shaft

as per rule 12 1/4

Dia. of Crank shaft journals

as per rule 12 1/4Dia. of Crank pin 13 1/4Size of Crank webs 8 5/8

Dia. of thrust shaft under

collars 13 1/4Dia. of screw 16-9Pitch of screw 16-9No. of blades 4State whether moveable NoTotal surface 84 1/2No. of Feed pumps 2Diameter of ditto 3 1/2Stroke 24Can one be overhauled while the other is at work YesNo. of Bilge pumps 2Diameter of ditto 4Stroke 24Can one be overhauled while the other is at work YesNo. of Donkey Engines 5

Sizes of Pumps

6 x 8 1/2 x 136 x 8 x 21-2

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

In Engine Room 4 - 3 1/2 x 2 - 2 1/2

In Holds, &c.

Aft. 5 - 3 1/2 x 1 - 2 1/2For. 4 - 3 1/2No. of bilge injections 1sizes 5 1/2Connected to condenser, or to circulating pump YesIs a separate donkey suction fitted in Engine room & size Yes - 3 1/2Are all the bilge suction pipes fitted with roses YesAre the roses in Engine room always accessible YesAre the sluices on Engine room bulkheads always accessible —Are all connections with the sea direct on the skin of the ship YesAre they Valves or Cocks BothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YesAre the discharge pipes above or below the deep water line AboveAre they each fitted with a discharge valve always accessible on the plating of the vessel YesAre the blow off cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers For. bilgeHow are they protected Wood coveringAre all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges YesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launchthe screw shaft tunnel watertight YesIs it fitted with a watertight door Yesworked from Top grating

BOILERS, &c.—

(Letter for record (5))

Total Heating Surface of Boilers 4856Is forced draft fitted NoNo. and Description of Boilers 2 Single EndedWorking Pressure 185 lbTested by hydraulic pressure to 370 lbDate of test 7.9.03Can each boiler be worked separately YesArea of fire grate in each boiler 59.1

No. and Description of safety valves to

each boiler 2 Spring loadedArea of each valve 8 1/4Pressure to which they are adjusted 190 lbAre they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 10"Mean dia. of boilers 14-9"Length 11-8 1/2"Material of shell plates slutThickness 1 1/4"Range of tensile strength 24/32Are they welded or flanged NoDescrip. of riveting: cir. seams D. R. L.long. seams D. B. S.Diameter of rivet holes in long. seams 1 7/16Pitch of rivets 8 3/4"Lap of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint

rivets 92plate 84 1/2Working pressure of shell by rules 185 lbSize of manhole in shell 16 x 12Size of compensating ring 7 1/2 x 1 1/4No. and Description of Furnaces in each boiler 3 MorrisonMaterial slutOutside diameter 3' 10 1/4"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint weldNo. of strengthening rings —Working pressure of furnace by the rules 190Combustion chamber plates: Material slutThickness: Sides 5/8"Back 2 1/32"Top 7/8"Bottom 7/8"Pitch of stays to ditto: Sides 8 x 8Back 9 x 8Top 8 x 8 1/2If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 200 lbMaterial of stays slut

Area

at smallest part 2.08Area supported by each stay 72"Working pressure by rules 230

End plates in steam space:

Material slutThickness 1 3/16Pitch of stays 17 x 2 1/2 x 1 1/2How are stays secured 8 nutsWorking pressure by rules 200 lbMaterial of stays slut

Area

at smallest part 6.33Area supported by each stay 328"Working pressure by rules 195Material of Front plates at bottom slutThickness 1"Material of Lower back plate slutThickness 1 1/16Greatest pitch of stays 13 1/2"Working pressure of plate by rules 200Diameter of tubes 2 1/2"Pitch of tubes 3 3/8 x 3 3/4"Material of tube plates slutThickness: Front 1"Back 7/8"Mean pitch of stays 7 1/4"Pitch across wide water spaces 13 1/2"Working pressures by rules 197 lbGirders to Chamber tops: Material slut

Depth and

thickness of girder at centre 8 1/4 x 1 1/16 x 2Length as per rule 31 1/2"Distance apart 8 1/2"Number and pitch of Stays in each 3 - 8"Working pressure by rules 240 lbSuperheater 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

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

Lloyd's Register

Foundation

W582-D 364

DONKEY BOILER— No. 1 Description Cylindrical Multitubular
 Made at Glasgow By whom made D Rowan & Co When made 1903 Where fixed Tween Decks
 Working pressure 120 tested by hydraulic pressure to 240 No. of Certificate 6704 Fire grate area 31 1/2 Description of safety valves Spring
 No. of safety valves 2 Area of each 4.9 Pressure to which they are adjusted 12.2 If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 10.9 Length 9.7 1/4 Material of shell plates slut Thickness 3/4 Range of tensile strength 28/32 Descrip. of riveting long. seams D. B. S. Dia. of rivet holes 1 Whether punched or drilled drilled Pitch of rivets 3 3/4
 Lap of plating 70 Per centage of strength of joint 83 Rivets 83 Thickness of shell crown plates — Radius of do. — No. of Stays to do. —
 Dia. of stays — Diameter of furnace Top 39 1/2 Bottom — Length of furnace 8.2 Thickness of furnace plates 19/32 Description of joint weld Thickness of furnace crown plates — Stayed by — Working pressure of shell by rules 124 1/2
 Working pressure of furnace by rules 120 1/2 Diameter of uptake — Thickness of uptake plates — Thickness of water tubes —

SPARE GEAR. State the articles supplied:— 1 propeller shaft, 1 length crank shaft, 1 propeller, 1 set lignum vitae strips for stem bush, 2 top end bolts & nuts, 2 bottom end bolts & nuts, set coupling bolts, 2 main bearing bolts, 1 pair top end braces, 1 pair bottom end braces, feed check valves etc, etc.

The foregoing is a correct description, **YOURS FAITHFULLY,**
DAVID ROWAN & CO **For DAVID ROWAN & CO.**
MANUFACTURERS.

Dates of Survey while building { During progress of work in shops — 1903: Apr 24. 28 May 11. 20. 28 June 10. 17. 25. July 6. 16. 30. August 3. 10. 17. 21
 { During erection on board vessel — Sept 5. 9. Oct 10. 15.
 Total No. of 19. Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " 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.

In our opinion this machinery is eligible to have notation of **ILM.C. 10. 03.** in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD** **ILM.C. 10. 03** **F.D. ELEC. LIGHT**

28.10.03

Certificate (if required) to be sent to

The amount of Entry Fee... £ 2 : : : When applied for, 26.10.03
 Special... £ 38 : 4 : : : When received, 29.10.03
 Donkey Boiler Fee... £ : : :
 Travelling Expenses (if any) £ : : :

Committee's Minute

Assigned

Glasgow 26 OCT 1903

+ ILM.C. 10. 03

When fee is paid

MACHINERY CERTIFICATE

WRITTEN 28.10.03



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