

## REPORT ON MACHINERY.

No. 3004

Port of Genoa

Received at London Office

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No. in Survey held at GenoaDate, first Survey March 20<sup>th</sup> 1903 Last Survey Jan 2<sup>nd</sup> 1904

Reg. Book.

(Number of Visits 26)

on the

S. S. "Miramar"Gross 1724.09Net 1103.80When built 1903-4Master Juan Singala Built at GenoaBy whom built H. Oderso & CoEngines made at GenoaBy whom made H. Oderso & Cowhen made 1903-4Boilers made at GenoaBy whom made H. Oderso & Cowhen made 1903-4Registered Horse Power 294Owners Islena Maritima SociedadPort belonging to PalmaNom. Horse Power as per Section 28 294.126Is Refrigerating Machinery fitted NoIs Electric Light fitted YesENGINES, &c.—Description of Engines Triple ExpansionNo. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 22 $\frac{1}{2}$  + 36 $\frac{1}{2}$  + 60 $\frac{1}{2}$  Length of Stroke 39 $\frac{3}{8}$  Revs. per minute 85 Dia. of Screw shaft 12 $\frac{3}{8}$  Material of IronIs the screw shaft fitted with a continuous liner the whole length of the stern tube No Is the after end of the liner made water tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive - If twoliners are fitted, is the shaft lapped or protected between the liners Yes at each end of liner - inside Length of stern bush 4-4 $\frac{1}{8}$ Dia. of Tunnel shaft 10 $\frac{1}{2}$  Dia. of Crank shaft journals 11 $\frac{1}{2}$  Dia. of Crank pin 11 $\frac{1}{8}$  Size of Crank webs 19" x 8" Dia. of thrust shaft undercollars 11 $\frac{1}{8}$  Dia. of screw 14-0 $\frac{1}{2}$  Pitch of screw 14-3 No. of blades 4 State whether moveable Yes Total surface 58.45No. of Feed pumps 2 Diameter of ditto 3 $\frac{1}{2}$  Stroke 19 $\frac{1}{2}$  Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 3 $\frac{1}{2}$  Stroke 19 $\frac{1}{2}$  Can one be overhauled while the other is at work YesNo. of Donkey Engines 2 Sizes of Pumps { 7 $\frac{1}{2}$  x 5 $\frac{1}{2}$  + 6 $\frac{1}{2}$  x 7 $\frac{1}{2}$  } duplexIn Engine Room 2-2 $\frac{3}{4}$  In Holds, &c. No 1 hold = one 2 $\frac{3}{4}$  - No 2 hold = 2-2 $\frac{3}{4}$ After hold 3-2 $\frac{3}{4}$  Tunnel well one 2 $\frac{3}{4}$ No. of bilge injections two sizes 6 $\frac{1}{2}$  Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 2 $\frac{3}{4}$ 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 YesAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks BothAre 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 aboveAre 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 YesWhat pipes are carried through the bunkers None to the fore hold How are they protected By wooden casingsAre 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 launching Is the screw shaft tunnel watertight YesIs it fitted with a watertight door Yes worked from Top platform

## BOILERS, &amp;c.—

(Letter for record S.)Total Heating Surface of Boilers 4260Is forced draft fitted YesNo. and Description of Boilers 2 Horizontal Multitubular Working Pressure 180 Tested by hydraulic pressure to 360Date of test 8.8.03 Can each boiler be worked separately Yes Area of fire grate in each boiler 49.5 No. and Description of safety valves toeach boiler 2 Spring Area of each valve 6.4 Pressure to which they are adjusted 185 Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 159.05 Length 138.18 Material of shell plates steelThickness 1.25 Range of tensile strength 24-32 - shell Are they welded or flanged No Descrip. of riveting: cir. seams Double at ends Double at centre long. seams 5 rivets in pitchDiameter of rivet holes in long. seams 1.22 Pitch of rivets 8.5 Lap of plates or width of butt straps 16.5Per centages of strength of longitudinal joint 92.27 Working pressure of shell by rules 180.7 Size of manhole in shell 15" x 11"Size of compensating ring 30" x 26" x 1.25 No. and Description of Furnaces in each boiler 3 Morrison's - suspension Material steel Outside diameter 41.34Length of plain part top bottom Thickness of plates top bottom Description of longitudinal joint Welded No. of strengthening rings 11Working pressure of furnace by the rules 205 Combustion chamber plates: Material steel Thickness: Sides .61 Back .61 Top .61 Bottom .7Pitch of stays to ditto: Sides 7.08 x 6.89 Back 6.89 x 6.89 Top 8.46 x 7.08 If stays are fitted with nuts or riveted heads not riveted - heads Working pressure by rules 204Material of stays steel Diameter at smallest part 1.5 x 1.25 Area supported by each stay 68.7 Working pressure by rules 202 End plates in steam space: 201Material steel Thickness 1 Pitch of stays 17.7 x 17.4 How are stays secured 225 long Working pressure by rules 180 Material of stays steelDiameter at smallest part 3.3 Area supported by each stay 313.5 Working pressure by rules 194.5 Material of Front plates at bottom steelThickness .79 Material of Lower back plate steel Thickness .71 Greatest pitch of stays 13 Working pressure of plate by rules 204Diameter of tubes 2.75 Pitch of tubes 3.86 Material of tube plates steel Thickness: Front 1 Back .79 Mean pitch of stays 7.72Pitch across wide water spaces 13 Working pressures by rules 211.5 Girders to Chamber tops: Material steel Depth andthickness of girder at centre 7.67 x 1.57 Length as per rule 25.59 Distance apart 8.46 Number and pitch of Stays in each 2 - 7.08Working pressure by rules 228 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler workedseparately - Diameter - Length - Thickness of shell plates - Material - Description of longitudinal joint - Diam. of rivetholes - 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 -



**DONKEY BOILER—** No. *One* Description *Horizontal Multitubular*  
 Made at *Leace* By whom made *H. J. Jones & Co* When made *1903* Where fixed *Stoke hold*  
 Working pressure *100* tested by hydraulic pressure to *200* No. of Certificate *54* Fire grate area *18.3* Description of safety valves *Spring*  
 No. of safety valves *2* Area of each *3.5* Pressure to which they are adjusted *100* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*  
 Dia. of donkey boiler *9.75* Length *83.5* Material of shell plates *steel* Thickness *.47* Range of tensile strength *27-32* Descrip. of riveting long. seams *S. B. straps treble metal* Dia. of rivet holes *.9* Whether punched or drilled *Yes* Pitch of rivets *4.8*  
 Lap of plating *1.2-3* Per centage of strength of joint *12.5* Rivets *per plate* Thickness of shell crown plates *.7* Radius of do. *flat* No. of stays to do. *4*  
 Dia. of stays *2.08* Diameter of furnace Top *27.2* Bottom *—* Length of furnace *55* Thickness of furnace plates *.41* Description of joint *single lap* Thickness of furnace crown plates *.71* Stayed by *stay tubes* Working pressure of shell by rules *105*  
 Working pressure of furnace by rules *12/10* Diameter of uptake *—* Thickness of uptake plates *—* Thickness of water tubes *2.45*

**SPARE GEAR.** State the articles supplied:— *2 Top + 2 bottom end bolts + nuts. 2 Holding down bolts + nuts. One set of coupling bolts + nuts. One set of feed + bidge pump valves. One set of piston springs for each cylinder. Assorted bolts + nuts. Iron of various sizes. 2 ballast + 2 donkey pump suction valves, + delivery valves. 2 donkey pump piston + pump rods. 2 complete bottoms end cranks, a valve spindle. One air and on circulating pump rod. 2 cast iron propeller blades. 2 safety valve springs of main valves and one of donkey safety valves.*  
 The foregoing is a correct description,

*H. J. Jones* Manufacturer.

Dates of Survey while building  
 During progress of work in shops— *1903. March 20. April 11. 22. May 4. 16. 19. June 2. 26. July 9. 10. 22. Aug 1. 8. 13. 26. Sept 11. 18. 26.*  
 During erection on board vessel— *1903. Oct 24. Nov 3. 12. 27. Dec 15. 22. 23. Jan 2<sup>nd</sup> 1904*  
 Total No. of *s* *26* Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " " *Yes*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *This vessel's machinery has been made under special survey, + is in conformity with the Society's rules + the approved plans. The materials and workmanships are good.*

*The main steam pipes + the boilers have been tested to double the working pressure by hydraulic test + found sound.*

*The engines have been seen running under steam, and all safety valves have been adjusted under steam to the aforementioned working pressures, with satisfactory results.*

*She is therefore eligible in my opinion to be classed as regards the machinery, with the notation of +LMC. 1. 04 in the R. Book.*

*Plans enclosed. Main Boilers. Donkey Boiler. Pumping Plan.*

*steel plates from John Spenner; Furnaces from Schweizer Eisen Stahlwerk.*

It is submitted that  
 this vessel is eligible for  
 THE RECORD. + L.M.C 1.04 F.D. ELECT. LIGHT

*Bal.*

*H. J.*  
*4.1.04*

*4.1.04*

The amount of Entry Fee.. £ *2 : 0 :* When applied for, *Sept 24<sup>th</sup> 1903*  
 Special .. .. £ *34 : 14 :* *Jan 2<sup>nd</sup> 1904*  
 Donkey Boiler Fee .. .. £ *2 : 2 :* When received, *Sept 24<sup>th</sup> 1903*  
 Travelling Expenses (if any) £ *— : 10 :*

*Maurice Piton*

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

Committee's Minute

TUES. 5 JAN 1904

Assigned

*+ LMC 1.04*

MACHINERY CERTIFICATE  
 WRITTEN.



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 Foundation