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No. 19493

REPORT ON MACHINERY.

Port of Glasgow

TUES. 2 DEC 1902

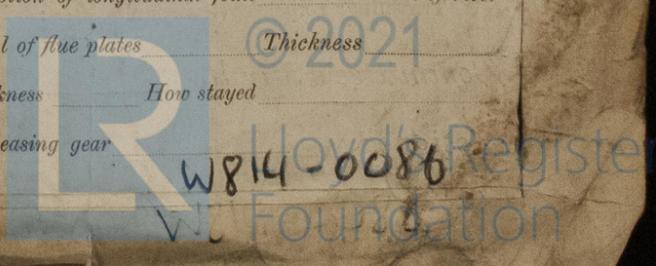
Received at London Office

No. in Survey held at Renfrew Date, first Survey 21 June 1901 Last Survey 28 March 1902
 Reg. Book. Compania Transatlantica S.S. No. 16 now named "JOSE DE ARAMBURN" (Number of Visits 34) Tons { Gross 2387
 Master Jose Romero Built at Cadiz By whom built Transatlantica & Co When built 1902
 Engines made at Renfrew By whom made Lobnitz & Co. Lim. when made 1902
 Boilers made at Renfrew By whom made Lobnitz & Co. Lim. when made 1902
 Registered Horse Power _____ Owners Compania gaditana de Navegacion del vapor, Port belonging to Cadiz
 Nom. Horse Power as per Section 28 202 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks 3
 Dia. of Cylinders 21", 34", 56" Length of Stroke 36 Revs. per minute 82 Dia. of Screw shaft as per rule 11.72 Lgth. of stern bush 50"
 Dia. of Tunnel shaft as per rule 10 Dia. of Crank shaft journals as per rule 10.5 Dia. of Crank pin 11.2" Size of Crank webs 22"x8" Dia. of thrust shaft under collars 11.2" Dia. of screw 13'-6" Pitch of screw 14-0 No. of blades 4 State whether moveable solid Total surface 75 sqr ft.
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 9' Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 9' Can one be overhauled while the other is at work yes
 No. of Donkey Engines three Sizes of Pumps 5 1/4" x 4" x 5", 4" x 2 1/2" x 5", 9" x 7 1/2" x 9" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room N3-3"-3"-3" Ballast donkey N-3 In Holds, &c. Forehold N3, 2 1/2", 2 1/2", 2 1/2", after hold N3 1/2", 2 1/2", 2 1/2"

No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump circulating Is a separate donkey suction fitted in Engine room & size yes 3"
 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 none
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves
 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 none 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock now Is the screw shaft tunnel watertight yes
 Is it fitted with a watertight door yes worked from Deck

BOILERS, &c.— (Letter for record R) Total Heating Surface of Boilers 3150 sq Is forced draft fitted no
 No. and Description of Boilers 2 single ended return tube Working Pressure 170 lbs Tested by hydraulic pressure to 340 lbs
 Date of test 6/3/02 Can each boiler be worked separately yes Area of fire grate in each boiler 54 sq No. and Description of safety valves to each boiler one pair direct spring area of each valve 4.07 sq Pressure to which they are adjusted 170 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers 14-0 Length 10-3 Material of shell plates steel
 Thickness 1 5/32 Range of tensile strength 27/32 Are they welded or flanged no Descrip. of riveting: cir. seams double lap long. seams treble butt
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8" Lap of plates or width of butt straps 18"
 Per centages of strength of longitudinal joint rivets 98.6 Working pressure of shell by rules 174 lbs Size of manhole in shell 17" x 13"
 Size of compensating ring 9" x 17 1/8" flanged No. and Description of Furnaces in each boiler 3 horizons Material steel Outside diameter 40"
 Length of plain part top 6" bottom 9" Thickness of plates crown 1" bottom 2" Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 7/8" Back 7/8" Top 7/8" Bottom 7/8"
 Pitch of stays to ditto: Sides 8" x 8" Back 7 1/2" x 8" Top 7 1/2" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 171
 Material of stays iron Diameter at smallest part 1.99 Area supported by each stay 64 sq Working pressure by rules 232 lbs End plates in steam space:
 Material steel Thickness 31/32 Pitch of stays 16" x 16" How are stays secured 2 nuts Working pressure by rules 174 Material of stays steel
 Diameter at smallest part 4.75 Area supported by each stay 256 sq Working pressure by rules 186 Material of Front plates at bottom steel
 Thickness 13/16 Material of Lower back plate steel Thickness 13/16 Greatest pitch of stays 14 1/2" with 7/8" doublers Working pressure of plate by rules 302 lbs
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates steel Thickness: Front 31/32 Back 13/16 Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 16" with 1/4" doublers Working pressures by rules 292 + 188 lbs Girders to Chamber tops: Material iron Depth and thickness of girder at centre 7 x 13" Length as per rule 28 1/2" Distance apart 7 1/8" Number and pitch of Stays in each (2) 8"
 Working pressure by rules 171 lbs 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 _____



DONKEY BOILER— No. Description *Vertical*
 Made at *Amman* By whom made *Cochran & Co.* When made *15/11/01* Where fixed *center of vessel from main boiler*
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *6054* Fire grate area *20 1/4* Description of safety valves *one pair spring*
 No. of safety valves *two* Area of each *7.07* Pressure to which they are adjusted *80* lbs If fitted with easing gear *yes* If steam from main boilers enters the donkey boiler *no* Dia. of donkey boiler *6'-6"* Length *14'-0"* Material of shell plates *Steel* Thickness *1/2"* Range of tensile strength *27 to 32* Descrip. of riveting long. seams *lap double* Dia. of rivet holes *27/32"* Whether punched or drilled *drilled* Pitch of rivets *2 3/4"*
 Lap of plating *4 1/8"* Per centage of strength of joint Rivets *69.1* Plates *69.3* Thickness of shell crown plates *7/8"* Radius of do. *5'-3"* No. of Stays to do. *no*
 Dia. of stays. *✓* Diameter of furnace Top *2'-7 1/4"* Bottom *✓* Length of furnace Thickness of furnace plates *19/32* Description of joint *riveted* Thickness of furnace crown plates *3 1/2* Stayed by *✓* Working pressure of shell by rules *170*
 Working pressure of furnace by rules *113 lbs* Diameter of uptake *17" x 19"* Thickness of uptake plates *7/8"* Thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *2 top end bolts and nuts, 2 bottom end bolts and nuts, 1 set of coupling bolts, 2 main bearing bolts and nuts, feed and bilge pump valves bolts and nuts assorted, Iron of various sizes, and in addition 1 spare propeller and shaft complete*
The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops— *1901 Jan. 21. Feb. 4. 9. Aug. 7. 14. 19. 29. Sep. 4. 13. 18. 30. Oct. 21. 22. 23.*
 During erection on board vessel— *30. Nov. 12. 14. 18. 22. Dec. 6. 10. 23. 1902. Jan. 9. 30. Feb. 11. 18. 20. Mar. 3. 6. 10.*
 Total No. of visits *34* Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *no*

General Remarks (State quality of workmanship, opinions as to class, &c. *L.M.C.* The workmanship is good, and I have seen the engines working for five hours to my entire satisfaction, in my opinion the Machinery is eligible for class proposed with date.

Material of screw shaft *Steel* Is 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 tight in 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 part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *no* If two liners are fitted, is the shaft lapped or protected between the liners *Painted*

To complete this survey the engines and boilers have to be fitted on board, the safety valves adjusted under steam and the engines examined whilst at work.

This machinery so far as completed has been built under special survey, the materials and workmanship are of good description.

In my opinion this machinery will be eligible for the above notification with date when this survey has been completed.

This machinery has now been shipped to Cadiz where it is to be fitted on board.

This Survey completed, the engines and boilers have been fitted on board this vessel to my entire satisfaction, Safety valves adjusted under steam, and engines examined whilst working.

Fee £30.1.0

GL. 2/3 23.1.0 This amt. payable if it is submitted that this vessel is eligible for

Cadiz 10.0.0

The amount of Entry Fee. £ *23.1.0* When applied for. *12/12/02*
 Special *10/-*
 Donkey Boiler Fee *2.3.0*
 Travelling Expenses (if any) £ *4*

(Signed) *A. McKeand*
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

F.E.M. 3
 Special 30.1.0

Committee's Minute

TUES. 16 DEC 1902

Assigned

+ L M C 11.02

MACHINERY CERTIFICATE WRITTEN.

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