

## REPORT ON MACHINERY.

Port of *Genoa*  
 Received at London Office *HUR. 9 AUG 1900*  
 No. in Survey held at *Genoa* Date, first Survey *Dec. 19<sup>th</sup> 1899* Last Survey *July 30<sup>th</sup> 1900*  
 Reg. Book. *S.S. "Manin"* (Number of Visits *22*)  
 on the *Cornelio* Tons { Gross *2782.39*  
 Master *C. Camoglio* Built at *Astori* By whom built *N. Odoro fua* Net *1829.12*  
 Engines made at *Astori* By whom made *N. Odoro fua* When built *1900*  
 Boilers made at *Se* By whom made *Se* when made *1900*  
 Registered Horse Power *221* Owners *la ceta veneziana di Mar.* Port belonging to *Venice*  
*a rapore*  
 Nom. Horse Power as per Section 28 *221* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*  
 Dia. of Cylinders *20<sup>15</sup>/<sub>32</sub> 33<sup>31</sup>/<sub>32</sub> 55<sup>1</sup>/<sub>8</sub>* Length of Stroke *39* Revs. per minute *65* Dia. of Screw shaft as per rule *11.0"* as fitted *11<sup>1</sup>/<sub>4</sub>"* Lgth. of stern bush *48"*  
 Dia. of Tunnel shaft as per rule *10"* Dia. of Crank shaft journals as per rule *10<sup>1</sup>/<sub>4</sub>"* as fitted *10<sup>1</sup>/<sub>8</sub>"* Dia. of Crank pin *11"* Size of Crank webs *16<sup>15</sup>/<sub>16</sub> x 7<sup>1</sup>/<sub>2</sub>"* Dia. of thrust shaft under  
 collars *10<sup>1</sup>/<sub>8</sub>"* Dia. of screw *15-6"* Pitch of screw *16-6"* No. of blades *4* State whether moveable *No* Total surface *77<sup>1</sup>/<sub>2</sub>"*  
 No. of Feed pumps *2* Diameter of ditto *3<sup>1</sup>/<sub>4</sub>"* Stroke *19<sup>1</sup>/<sub>8</sub>"* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *2* Diameter of ditto *3<sup>1</sup>/<sub>4</sub>"* Stroke *19<sup>1</sup>/<sub>8</sub>"* Can one be overhauled while the other is at work *Yes*  
 No. of Donkey Engines *3* Sizes of Pumps *3-8" x 6<sup>1</sup>/<sub>2</sub>" x 1<sup>1</sup>/<sub>2</sub>" 2-8" x 8" x 10" 2-8" x 9" x 8"* No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room *4-3"* In Holds, &c. *No 1—Two 3"—No 2 Two 3"*  
*No 3—Two 3"—No 4—One 3"* & after well of funnel one 3"  
 No. of bilge injections *One* sizes *6"* Connected to *condenser, or to circulating pump* *Yes* 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 *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 *Yes*  
 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*  
 That pipes are carried through the bunkers *Those to the Fore Holds* How are they protected *By wooden casing*  
 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 *before landing* Is the screw shaft tunnel watertight *Yes*  
 Is it fitted with a watertight door *Yes* worked from *the upper off*  
 BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *3630<sup>1</sup>/<sub>2</sub>"* Is forced draft fitted *No*  
 No. and Description of Boilers *2 ordinary marine type* Working Pressure *180<sup>1</sup>/<sub>2</sub>"* Tested by hydraulic pressure to *360<sup>1</sup>/<sub>2</sub>"*  
 Date of test *30.4.00* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *58<sup>1</sup>/<sub>2</sub>"* No. and Description of safety valves to  
 each boiler *2 spring* Area of each valve *15<sup>1</sup>/<sub>2</sub>"* Pressure to which they are adjusted *185-180* Are they fitted with easing gear *Yes*  
 Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean dia. of boilers *13-5<sup>3</sup>/<sub>8</sub>"* Length *10-5<sup>13</sup>/<sub>32</sub>"* Material of shell plates *steel*  
 Thickness *1<sup>1</sup>/<sub>8</sub>"* Range of tensile strength *27-32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *double outside* long. seams *5 wires per pitch*  
 Diameter of rivet holes in long. seams *1<sup>3</sup>/<sub>16</sub>"* Pitch of rivets *10<sup>1</sup>/<sub>4</sub>"* Top of plates or width of butt straps *16<sup>17</sup>/<sub>32</sub>"*  
 Percentages of strength of longitudinal joint rivets *95-25%* Working pressure of shell by rules *180<sup>1</sup>/<sub>2</sub>"* Size of manhole in shell *15<sup>3</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>8</sub>"*  
 Thickness of plate *86.75%*  
 Diameter of compensating ring *29" x 29"* No. and Description of Furnaces in each boiler *3 Plain* Material *steel* Outside diameter *38.6"*  
 Length of plain part *8.2.5"* Thickness of plates *8.0"* Description of longitudinal joint *single riveted & butt straps* No. of strengthening rings *None*  
 Working pressure of furnace by the rules *195.5"* Combustion chamber plates: Material *steel* Thickness: Sides *19<sup>1</sup>/<sub>32</sub>"* Back *19<sup>1</sup>/<sub>32</sub>"* Top *19<sup>1</sup>/<sub>32</sub>"* Bottom *19<sup>1</sup>/<sub>32</sub>"*  
 Pitch of stays to ditto: Sides *6<sup>1</sup>/<sub>8</sub>" x 6<sup>1</sup>/<sub>8</sub>"* Back *6<sup>1</sup>/<sub>8</sub>" x 6<sup>1</sup>/<sub>32</sub>"* Top *6<sup>1</sup>/<sub>8</sub>" x 8<sup>1</sup>/<sub>32</sub>"* If stays are fitted with nuts or riveted heads *only* Working pressure by rules *191 sides 185-Back 253-Top 240*  
 Material of stays *steel* Diameter at smallest part *1<sup>1</sup>/<sub>8</sub>" x 1<sup>1</sup>/<sub>8</sub>"* Area supported by each stay *44.2* Working pressure by rules *243* End plates in steam space:  
 Material *steel* Thickness *1"* Pitch of stays *16<sup>1</sup>/<sub>32</sub>" x 16<sup>1</sup>/<sub>32</sub>"* How are stays secured *Plain ends* Working pressure by rules *197* Material of stays *steel*  
 Diameter at smallest part *2<sup>3</sup>/<sub>4</sub>"* Area supported by each stay *284.5* Working pressure by rules *184.5* Material of Front plates at bottom *steel*  
 Thickness *3<sup>1</sup>/<sub>4</sub>"* Material of Lower back plate *steel* Thickness *2<sup>1</sup>/<sub>32</sub>"* Greatest pitch of stays *11<sup>13</sup>/<sub>16</sub>"* Working pressure of plate by rules *193.5"*  
 Diameter of tubes *3<sup>1</sup>/<sub>4</sub>"* Pitch of tubes *4<sup>1</sup>/<sub>32</sub>"* Material of tube plates *steel* Thickness: Front *1"* Back *1<sup>1</sup>/<sub>16</sub>"* Mean pitch of stays *10<sup>1</sup>/<sub>8</sub>"*  
 Each across wide water spaces *14<sup>1</sup>/<sub>16</sub>"* Working pressures by rules *180* Girders to Chamber tops: Material *steel* Depth and  
 thickness of girder at centre *4<sup>1</sup>/<sub>8</sub>" x 1<sup>1</sup>/<sub>16</sub>"* Length as per rule *2282"* Distance apart *8.45"* Number and pitch of Stays in each *2-6<sup>1</sup>/<sub>8</sub>"*  
 Working pressure by rules *312* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked  
 separately *Yes* 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 *—*  
 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 *see separate sheet*  
 Made *by J. Odors* made at *restri* When made *1900* Where fixed *In the boiler*  
 Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves  
 No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear *Yes* If steam from main boilers  
 enter the donkey boiler *No.* Dia. of donkey boiler Length Material of shell plates Thickness Range of tensg. Bo  
 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 Rivets 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  
 joint Thickness of furnace crown plates Stayed by Working pressure of shell by rules  
 Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:—

*as per rule, & one spare propeller.—*  
*See letter attached. 6.8.00 f.m.v.*

The foregoing is a correct description.  
 Manufacturer.

*J. Odors*

Dates During progress of work in shops— 1899 ÷ Dec 19 — 1900 Feb 17. March 10. 27 April 7. 14. 27. 28. 30  
 of Survey During erection on board vessel — 1900 ÷ May 7. 17  
 while building Total No. of visits 22

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 built under special survey in accordance with the requirements of the rules, & the approved plans.— The materials & workmanship are good.— on completion, the engines were seen running under steam, with satisfactory results.— The vessel is therefore eligible in my opinion to be classed as regards the machinery, with the notation of + LMC 7.00 in the Red Book.—*

*The plans of the main & donkey boilers are herewith enclosed.—*

It is submitted that this vessel is eligible for  
**THE RECORD. + LMC 7.00. Electric Light.**

*L.S.* *L.D.*  
 9.8.00 9.8.00.

The amount of Entry Fee: £ 2 : 0 :  
 Special ... £ 31 : 1 :  
 Donkey Boiler Fee ... £ 2 : 2 :  
 Travelling Expenses (if any) £ 1 : 0 :  
 When applied for *July 27<sup>th</sup> 1900*  
 When received *July 27<sup>th</sup> 1900*

Committee's Minute  
 Assigned  
 + L.M.C. 7.00  
 Electric Light.

*Manue Pukon*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping