

# REPORT ON OIL ENGINE MACHINERY.

No. 9994

26 AUG 1927

Received at London Office

Date of writing Report 22/8/27 When handed in at Local Office 22/8/27 Port of GENOA

No. in Survey held at TURIN Date, First Survey 29/7/26 Last Survey 26/7/27 19 27  
Reg. Book. Number of Visits 88

on the Single Twin Triple Quadruple Screw vessel "ARARAQUARA" Tons Gross Net

Built at Trieste By whom built Cantiere Navale Triestino Yard No. 176 When built 1927

Engines made at Turin By whom made FIAT - Stab. Grandi Motori Engine No. 1391 1392 When made 1927

Donkey Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. \_\_\_\_\_ When made \_\_\_\_\_

Brake Horse Power 1750 each engine Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

Nom. Horse Power as per Rule 1008 Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

Trade for which vessel is intended \_\_\_\_\_

## OIL ENGINES, &c. — Type of Engines Fiat Diesel 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 35 Kg. Diameter of cylinders 680 m/m Length of stroke 960 m/m No. of cylinders 4 No. of cranks 4

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 950 m/m. Is there a bearing between each crank Yes

Revolutions per minute 125 Flywheel dia. 3000 Weight 12000 Kg. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 407.5 as fitted 420 Crank pin dia. 420 M/M Crank Webs Mid. length breadth 530 shrunk Thickness parallel to axis \_\_\_\_\_ Mid. length thickness 265 Thickness around eyehole \_\_\_\_\_

Flywheel Shaft, diameter as per Rule 407.5 as fitted 420 to 300 Intermediate Shafts, diameter as per Rule 277.3 as fitted 290 Thrust Shaft, diameter at collars as per Rule 291.2 as fitted 310

Tube Shaft, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Screw Shaft, diameter as per Rule 315.3 as fitted 335 Is the { tube screw } shaft fitted with a continuous liner { No liners }

Bronze Liners, thickness in way of bushes as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Thickness between bushes as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the after end of the liner made watertight in the propeller boss \_\_\_\_\_

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner \_\_\_\_\_

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 \_\_\_\_\_ Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes Cedex

Length of Bearing in Stern Bush next to and supporting propeller 1860

Propeller, dia. 3800 Pitch 4050 No. of blades 3 Material Bronze whether Moveable No Total Developed Surface Proj. 5.27 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced

Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

Exhaust pipes lagged/ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine \_\_\_\_\_

Cooling Water Pumps, No. 2 - Each engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel \_\_\_\_\_

Bilge Pumps worked from the Main Engines, No. \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

Pumps connected to the Main Bilge Line { No. and Size \_\_\_\_\_ How driven \_\_\_\_\_

Ballast Pumps, No. and size 3-150 ton 210 dia. x 250 stroke Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_

Are two independent means arranged for circulating water through the Oil Cooler \_\_\_\_\_ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size: — In Machinery Spaces \_\_\_\_\_

In Holds, &c. \_\_\_\_\_

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size \_\_\_\_\_

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes. \_\_\_\_\_ Are the Bilge Suctions in the Machinery Spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges \_\_\_\_\_

Are all Sea Connections fitted direct on the skin of the ship \_\_\_\_\_ Are they fitted with Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water line \_\_\_\_\_

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel \_\_\_\_\_ Are the Blow Off Cocks fitted with a spigot and brass covering plate \_\_\_\_\_

What pipes pass through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

What pipes pass through the deep tanks \_\_\_\_\_ Have they been tested as per Rule \_\_\_\_\_

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another \_\_\_\_\_ Is the Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork \_\_\_\_\_

Main Air Compressors, No. 1 each engine No. of stages 3 Diameters 120/530/600 Stroke 620 Driven by Main Engine

Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 70/270/310 Stroke 250 Driven by Electric motor

Small Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 42/165/185 Stroke 140 Driven by Hot bulb engine

Scavenging Air Pumps, No. 2 each engine double acting Diameter 850 Stroke 800 Driven by Main engine

Auxiliary Engines crank shafts, diameter as per Rule 154.3 as fitted 160

## AIR RECEIVERS: — Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Plugs in ends.

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 4 Cubic capacity of each 190 liters Internal diameter 291 m/m thickness 12.5 m/m

Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Range of tensile strength 45 kg/mm<sup>2</sup> Working pressure by Rules 80 kg/cm<sup>2</sup>

Starting Air Receivers, No. 2 Auxiliary Total cubic capacity 800 liters Internal diameter 291 m/m thickness 12.5 m/m

Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Range of tensile strength 45 Kg. mm<sup>2</sup> Working pressure by Rules 80 Kg. cm

Registered Foundation  
10148-0117

**IS A DONKEY BOILER FITTED?**

If so, is a report now forwarded?

**PLANS.** Are approved plans forwarded herewith for Shafting (If not, state date of approval) 3/6/26

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

**SPARE GEAR**

The foregoing is a correct description;

STABILIMENTO GRANDI MOTORI

36 Disottose  
(ING. GIOVANNI CHIERA)

*Ang. G. Chiera*

Manufacturer.

Dates of Survey while building  
 During progress of work in shops - 1926 - July 29, Sep. 2, 9, 23, 30, Oct. 7, 14, 20, 21, 29, Nov. 5, 11, 18, 25, 30, Dec. 3, 7, 10, 15, 28, 31, 1927 Jan. 4, 7, 11, 14, 19, 25, Feb. 1, 5, 8, 10, 11, 15, 18, 22, 25, March 1, 4, 8, 9, 12, 15, 18, 22, 25, 29, 29 April 1, 5, 8, 11, 14, 15, 20, 22, 26, 29 May 3, 7, 10, 13, 14, 17, 19, 20, 24, 27, June 3, 7, 8, 10, 14, 20, 24, 25, 28 July 1, 6, 9, 12, 14, 18, 20, 25, 26.  
 During erection on board vessel -  
 Total No. of visits 88

Dates of Examination of principal parts - Cylinders 18/7/27 Covers 18/7/27 Pistons 18/7/27 Rods 18/7/27 Connecting rods 18/7/27  
 Crank shaft 11/4/27 Flywheel shaft 28/6/27 Thrust shaft 28/6/27 Intermediate shafts 28/6/27 Tube shaft 28/6/27  
 Screw shaft 20/5/27 Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections: Crank shaft, Material S.M. Steel Identification Mark LLOYD'S No 3155-3154-3070 CRH 4/2/27 & 22/10/27  
 Thrust shaft, Material Identification Mark LLOYD'S No 3128-3164-3071 CRH 8/10/26  
 Tube shaft, Material Identification Mark  
 Completion of pumping arrangements: Engines tried under working conditions  
 Flywheel shaft, Material S.M. STEEL Identification Mark  
 Intermediate shafts, Material Identification Marks  
 Screw shaft, Material Identification Mark

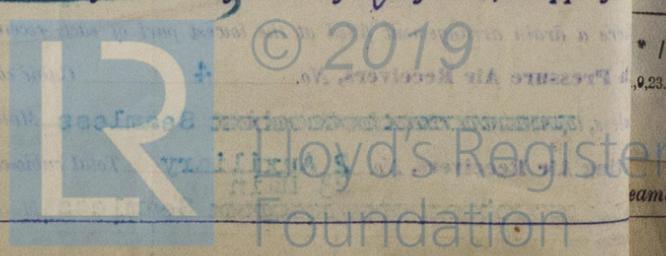
Is the flash point of the oil to be used over 150° F.  
 Is this machinery duplicate of a previous case Yes If so, state name of vessel "ARARANGUA" C.N.T. No 175

**General Remarks** (State quality of workmanship, opinions as to class, &c. The machinery consisting of 2 main motors (No 1391 - 1392), 3 Auxiliary Motors Type L.252, 1 Hot Bulb Engine Type A.241, 1 Compressor type C.3 I Compressor type C.65, has been built of tested materials under special survey, in accordance with the approved plans the Secretary's letters and the requirements of the Rules.  
 The machinery has been shipped to Trieste where it is to be fitted on board. A copy of the report has been sent to the Trieste Surveyors for their guidance. The approved plans are retained for dealing with machinery for sister vessels.  
 In our opinion this machinery when satisfactorily fitted in a classed vessel will title such vessel to the record of \* L.M.C. (with date) & notation of Oil Engine.

The amount of Entry Fee ... £ : : When applied for, 22/2/1927  
 Special ... £ : :  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :  
 Ret-9000  
 Ret-4500

Committee's Minute FRI. 4 NOV 1927  
 Assigned See Tri F.E. Rpt 7742

*W. Lawrence & R. Julackinto*  
 Engineer Surveyor to Lloyd's Register of Shipping.



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