

REPORT ON OIL ENGINE MACHINERY.

No. 2862.
6 SEP. 1927

Received at London Office

Date of writing Report 2 Sept. 1927 When handed in at Local Office

Port of Stockholm

No. in Survey held at Stockholm
Reg. Book.Date, First Survey 4 Aug. 1917 Last Survey 30 Aug. 1927.
Number of Visits 8.on the ~~Single~~ ^{tug} ~~Twin~~ ^{Screw} ~~Quadrant~~ ^{Quitador}Tons ^{Gross}
_{Net}

Built at **Chester** By whom built **J. Crichton & Co. Ltd.** Yard No. **13980 - 83** When built **1927**
Engines made at **Stockholm** By whom made **J & C. G. Bolinder's Co. Ltd.** Engine No. When made **1927**
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power **300** Owners **Argentine Navigation Co.** Port belonging to **Buenos Ayres**
Nom. Horse Power as per Rule **86** Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

OIL ENGINES, &c.—Type of Engines **Bolinder Oil Engine** 2 or 4 stroke cycle Single or double acting
Maximum pressure in cylinders **21 Kg./cm.²** No. of cylinders **4** Diameter of cylinders **380 mm.** No. of cranks **4** Length of stroke **410 mm.**
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **778 mm.** Is there a bearing between each crank **yes**
Revolutions per minute **300** Flywheel dia. **900 mm.** Weight **875 kg.** Means of ignition **Hot bulb** Kind of fuel used **Crude oil**
Crank Shaft, dia. of journals as per Rule **156 mm.** Crank pin dia. **160 mm.** Crank Webs Mid. length breadth **220 mm.** Thickness parallel to axis **-**
as fitted **160 mm.** Mid. length thickness **94,5 "** shrunk Thickness around eyehole **-**
The flywheel is fitted at fore end of the crank shaft
Flywheel Shafts, diameter as fitted Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as per Rule **150 mm.**
as fitted **155 "**

Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner
as fitted as fitted
Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes 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 Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines **Timing** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **yes** Means of lubricationpumps Thickness of cylinder liner **none fitted** Are the cylinders fitted with safety valves **no** Are the exhaust pipes and silencers water cooled or lagged with non-conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engineCooling Water Pumps, No. **2** Is the sea suction provided with an efficient strainer which can be cleared within the vesselBilge Pumps fitted to the Main Engines, No. **none ordered** Diameter Stroke Can one be overhauled while the other is at workPumps connected to the Main Bilge Line { No. and Size
How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size

2 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 Engine and Boiler Room
In Holds, &c.

27 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 Space

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. **none fitted** No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. **none fitted** Diameter Stroke Driven byAuxiliary Engines crank shafts, diameter as per Rule
as fittedIR 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 **manhole /300 x 400 mm./**Is there a drain arrangement fitted at the lowest part of each receiver **yes**High Pressure Air Receivers, No. **none fitted** Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. **2** Total cubic capacity **1300 litres** Internal diameter **582 mm.** thickness **9 mm.**Seamless, lap welded or riveted longitudinal joint **lap welded** Material **S.M. Steel** Range of tensile strength **38 kg./mm.²** as a min. Working pressure by Rules **18,5 kg./cm.²**

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	30.8.27	21 kg./cm. ²	43 kg./cm. ²	Lloyd's Test 43 kg. A.I.30.8.27. A	
" " COVERS	"	ditto	ditto		
" " JACKETS	"	-	3,5 kg./cm. ²		
" PISTON WATER PASSAGES	/open pistons/				
MAIN COMPRESSORS—1st STAGE	none fitted				
" 2nd "					
" 3rd "					
2 AIR RECEIVERS—STARTING	30.8.27	15 kg./cm. ²	30 kg./cm. ²	N:o 2257 LLOYD'S TEST 30 Kg. WP 15 Kg. A.I.30.8.27 A	Spare. N:o 2258 LLOYD'S TEST 30 Kg. WP 15 Kg. A.I.30.8.27. A
" INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER	30.8.27	-	3,5 kg./cm. ²	HYDR. TEST 3,5 Kg. A.I. 30.8.27 A	
" WATER JACKET	30.8.27	-	ditto		
SEPARATE FUEL TANKS					

See Secretary's letters

PLANS. Are approved plans forwarded herewith for Shafting E 18/2,1/10 1915 Receivers E. 8/3 1916 Separate Tanks

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR to be supplied and inspected when machinery is fitted in ship.

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	4 & 10 1917, 2 & 21, 10, 25, 18 & 30 1927.
	During erection on board vessel - -	8 2 3 4 8
	Total No. of visits	in shop 8.
Dates of Examination of principal parts—Cylinders		18 & 30 27
Covers		18 & 30 27
Pistons		30 27
Rods		-
Connecting rods		2 & 21, 30 27
Crank shaft		10, 25, 30 27
Flywheel shaft		3 4 8
Thrust shaft		4 & 10 17, 30 27
Intermediate shafts		8
Tube shaft		
Screw shaft		
Propeller		
Stern tube		
Engine seatings		
Engines holding down bolts		
Completion of fitting sea connections		
Completion of pumping arrangements		
Engines tried under working conditions		in shop 18 2
Crank shaft, Material		S.M. Steel
Identification Mark		LLOYD'S N:o 3393 A.I. 30.8.27 A
Flywheel shaft, Material		
Identification Mark		
Thrust shaft, Material		S.M. Steel
Identification Mark		LLOYD'S N:o 2796 A.I. 30.8.27 A
Intermediate shafts, Material		
Identification Marks		
Tube shaft, Material		
Identification Mark		
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 See Skm. report no. 2398.

General Remarks (State quality of workmanship, opinions as to class, &c.)

I am of opinion that this motor is of superior material and workmanship, and as it has been designed and constructed under special survey, I have respectfully to submit that it will be eligible to be classed *LMC, as soon as it has been fitted in a classed vessel to the satisfaction of the Society's Surveyors.

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

The amount of Entry Fee ... £	:	:	When applied for,
Special ...	Kr	391,30	2.9. 19 27
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	30-9-27

Committee's Minute

FRI 27 JAN 1928

Assigned

A. G. G. G. G.
Engineer Surveyor to Lloyd's Register of Shipping.
Assisted by Mr. K. J. Andersson