

## REPORT ON OIL ENGINE MACHINERY.

No. 11700<sup>a</sup>

Received at London Office

23 NOV 1929

Reporting Report 120th March 1929 When handed in at Local Office

19 Port of AMSTERDAM

Survey held at AMSTERDAM

Date, First Survey 3/12. 1928 Last Survey 16/11 1929

Number of Visits 46

136 on the Twin Screw vessel "LION"

Tons { Gross  
Net

at Krimpen a/d. Yssel By whom built N.V.C.v.d.Giessen & Zonen's Yard No. 596 When built 1929  
 nes made at Amsterdam By whom made Werkspoor Engine No. 1340-51 When made 1929  
 ey Boilers made at Amsterdam By whom made Werkspoor Boiler No. - When made 1929  
 e Horse Power 3196 Owners A/S. Ambra Port belonging to Oslo

Horse Power as per Rule 712. 712 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted Yes  
 for which vessel is intended 24 13/16 43 7/16

ENGINES, &c.—Type of Engines Werkspoor 4 stroke cycle Single or double acting  
 m pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 630 mm Length of stroke 1100 mm No. of cylinders 6 No. of cranks 6+2  
 bearings, adjacent to the Crank, measured from inner edge to inner edge 830 mm Is there a bearing between each crank ☒  
 ons per minute 130 ÷ 130 Flywheel dia. 2260 mm Weight 745 kg Means of ignition Self ignition Kind of fuel used Fuel oil  
 Shaft, dia. of journals as per Rule 295 mm Crank pin dia. 295 mm Crank Webs Mid. length breadth 450 mm Thickness parallel to axis 265 mm  
 as fitted 295 mm M.d. length thickness 240 mm Thickness around eye hole 14 mm  
 el Shaft, diameter as per Rule 395 mm Intermediate Shafts, diameter as per Rule 320 mm Thrust Shaft, diameter at collars as per Rule 310 mm  
 as fitted 395 mm as fitted 320 mm as fitted 310 mm  
 Shaft, diameter as per Rule 320 mm Screw Shaft, diameter as per Rule 320 mm Is the { tube  
 as fitted 320 mm screw } shaft fitted with a continuous liner ☒  
 e Liners, thickness in way of bushes as per Rule 12 1/2 x 19 1/2 mm Thickness between bushes as per rule 15 mm Is the after end of the liner made watertight in the  
 r boss ☒ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ☒  
 inner 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 ☒  
 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  
 If so, state type ☒ Length of Bearing in Stern Bush next to and supporting propeller 1500 mm

ller, dia. 3400 mm Pitch 3000 mm No. of blades 3 Material Same whether Moveable ☒ Total Developed Surface 49 sq. feet  
 d of reversing Engines ☒ a governor or other arrangement fitted to prevent racing of the engine when declutched ☒ Means of lubrication  
 and Thickness of cylinder liners 50/40 mm Are the cylinders fitted with safety valves ☒ Are the exhaust pipes and silencers water cooled or lagged with  
 ducting material ☒ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ☒  
 g Water Pumps, No. 2 ☒ Is the sea suction provided with an efficient strainer which can be cleared within the vessel ☒

Pumps worked from the Main Engines, No. 2 Diameter 160 mm Stroke 246 mm Can one be overhauled while the other is at work ☒  
 connected to the Main Bilge Line { No. and Size 1 bilge pump 160 mm pump line  
 How driven by Steam

Pumps, No. and size 240 x 200 x 400 mm Lubricating Oil Pumps, including Spare Pump, No. and size 1 pump 6 x 4 x 10" ☒  
 independent means arranged for circulating water through the Oil Cooler ☒ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
 No. and size:—In Machinery Spaces 4" x 3 1/2"

ts, &c. each centre and side cargo tanks & suction of 10" after suction 39.70 mm in pump room 30' x 20' mm  
 and suction 5' x 30' mm in pump room 18' x 12' mm after pump 12' x 100' mm four d. holes 20' x 20' mm pump room 10' x 50' mm  
 endent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2" one of 4' and one of 6' one pump bilge line 160 mm

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

Sea Connections fitted direct on the skin of the ship ☒ Are they fitted with Valves or Cocks ☒  
 y 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 ☒  
 y 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 ☒  
 pipes pass through the bunkers ☒ How are they protected ☒  
 pipes pass through the deep tanks ☒ Have they been tested as per Rule ☒

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ☒  
 rrangement 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  
 ment to another ☒ Is the Shaft Tunnel watertight ☒ Is it fitted with a watertight door ☒ worked from ☒  
 od vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ☒

Air Compressors, No. two No. of stages 3 Diameters 520/440/120 Stroke 450 mm Driven by M. Engine  
 ary Air Compressors, No. one No. of stages 3 Diameters 44/290/330 Stroke 250 mm Driven by Steam  
 Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 100 Stroke 100 Driven by 1  
 aging Air Pumps, No. 1 Diameter 100 Stroke 100 Driven by 1

ary Engines crank shafts, diameter as per Rule 320 mm as fitted 320 mm

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule ☒  
 internal surfaces of the receivers be examined ☒ What means are provided for cleaning their inner surfaces Manhole

a drain arrangement fitted at the lowest part of each receiver ☒  
 Pressure Air Receivers, No. 2 Cubic capacity of each 340 dm<sup>3</sup> Internal diameter 450 mm Thickness 21 mm

s, lap welded or riveted longitudinal joint ☒ Material Steel Range of tensile strength 50/60 kg Working pressure by Rules 15.5 Atm  
 g Air Receivers, No. 4 Total cubic capacity 2118 dm<sup>3</sup> Internal diameter 1645 mm Thickness 24 mm

s, lap welded or riveted longitudinal joint ☒ Material Steel Range of tensile strength 28/32 kg Working pressure by Rules 3.4 Atm

002330 002331 0168



IS A DONKEY BOILER FITTED? *Yes (two)*

If so, is a report now forwarded? *Yes*

PLANS. Are approved plans forwarded herewith for Shaping

(If not, state date of approval)

Receivers

*to London*

Separate Tanks

Donkey Boilers

*Returned*

General Pumping Arrangements

*to London*

Oil Fuel Burning Arrangements

### SPARE GEAR

*Expend. bolts, nuts; 1 bottom end bolts, nuts; 2 main bearing bolts, 1 set of keys, 3 con- pump valves, 3 pistons with rings complete, a quantity of assorted bolts, nuts, of coupling bolts, cylinders complete with valves, couings, springs etc. Please see further list attached.*

The foregoing is a correct description,

**WORKSPOOR**

*H. P. Hughes*

*M. G. Hughes*

Manufacturer.

Dates of Survey while building  
During progress of work in shops--  
During erection on board vessel--  
Total No. of visits

Dates of Examination of principal parts—Cylinders 1/2 - 29/6 Covers 1/2 - 29/6 Pistons 6/2 - 29/6 Rods 8/1 - 24/9 Connecting rods 29/1

Crank shaft 10/5 - 7/10 Flywheel shaft 2/4 - 7/10 Thrust shaft 19/6 17/10 Intermediate shafts 19/6 - 7/10 Tube shaft 2

Screw shaft 14/8 - 15/10 Propeller 12/11 Stern tube 2/4 - 12/11 Engine seatings 2/10 Engines holding down bolts 2/10

Completion of fitting sea connections 21/2 - 29/9 Completion of pumping arrangements 4/11 Engines tried under working conditions 16/11

Crank shaft, Material *Steel* Identification Mark *2542 22.9.28* Flywheel shaft, Material *Steel* Identification Mark *2542 22.9.28*

Thrust shaft, Material *Steel* Identification Mark *2542 22.9.28* Intermediate shafts, Material *Steel* Identification Marks *2542 22.9.28*

Tube shaft, Material *Steel* Identification Mark *2542 22.9.28* Screw shaft, Material *Steel* Identification Mark *2542 22.9.28*

Is the flash point of the oil to be used over 150° F. *Yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Yes* If so, have the requirements of the Rules been complied with *Yes*

Is this machinery duplicate of a previous case *No* If so, state name of vessel

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

*The engines of this vessel have been made in accordance with the approved plans and Secretary's letters, workmanship good. The engines have been tested under full working conditions and satisfactory. The vessel is in my opinion eligible to be classed + L.M.C. 11.23*

Certificate (if required) to be sent to L

The amount of Entry Fee ... £ 42.-  
Special ... £ 201.60  
Donkey/Boiler Fee ... £ 228.  
Travelling Expenses (if any) £ 42.50

When applied for,

19

When received,

21.12.29

Committee's Minute

FRI, 29 NOV 1929

Assigned

*+ L.M.C. 11.23 Oil Engines 25/11/180lb*

*F. N. Bennett*  
Engineer Surveyor to Lloyd's Register of Shipping



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