

REPORT ON OIL ENGINE MACHINERY.

No. 8967.

6 FEB 1933

Date of writing Report 2nd February 1933 When handed in at Local Office

Port of Copenhagen

No. in Survey held at Copenhagen Reg. Book.

Date, First Survey 18th September 1930 Last Survey 25th January 1933 Number of Visits 21.

on the Single Twin Triple Quadruple Screw vessel Messrs. Union Naval de Travaux Yard N^o 22 Tons Gross Net

Built at Valencia By whom built Carl. Burmeister & Wain Yard No. When built Engines made at Copenhagen By whom made Haskin-og Steen byggeri Engines No. 2138 2139 When made 1933 Donkey Boilers made at By whom made Boiler No. When made Brake Horse Power 150 Owners Port belonging to Nom. Horse Power as per Rule 44. Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Trade for which vessel is intended (2 Sets)

OIL ENGINES, &c. Type of Engines Vertical Diesel Oil engine air injection 2 or 4 stroke cycle 4 Single or double acting single Maximum pressure in cylinders 49 kg/cm² Diameter of cylinders 310 mm Length of stroke 350 mm No. of cylinders 3 No. of cranks 3 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 360 mm Is there a bearing between each crank yes Revolutions per minute 400 Flywheel dia. 1240 mm Weight 2670 kg Means of ignition Air compression Kind of fuel used Crude oil Crank Shaft, dia. of journals as per Rule 169 mm as fitted 170 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 355 mm Thickness parallel to axis Mid. length thickness 95 mm Thickness around eye-hole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

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 Length of Bearing in Stern Bush next to and supporting propeller shaft If so, state type

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication Thickness of cylinder liners Are the cylinders fitted with safety valves 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 engine

Cooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel What special arrangements are made for dealing with cooling water if discharged into bilges

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 Power Driven 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 Pump Room

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. No. of stages Diameters A B C Stroke Driven by Auxiliary Air Compressors, No. 2 off (one for each engine) No. of stages 3 Diameters 70-320-280 Stroke 220 mm Driven by Auxiliary engines Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by Scavenging Air Pumps, No. Diameter Stroke Driven by 2nd STAGE

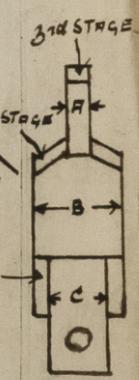
Auxiliary Engines crank shafts, diameter as per Rule as fitted Position No. AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes

Can the internal surfaces of the receivers be examined and cleaned yes Is a drain fitted at the lowest part of each receiver yes High Pressure Air Receivers, No. 2 off Cubic capacity of each 30 litres Internal diameter 7 1/4" thickness 3/8"

Seamless, lap welded or riveted longitudinal joint Seamless Material Mild Steel Range of tensile strength 29.6-30 t/0 Working pressure by Rules 99 kg/cm² Actual 65 kg/cm² Starting Air Receivers, No. Total cubic capacity Internal diameter thickness Working pressure by Rules Actual

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

CWP 7/2/33



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting *yes*
(If not, state date of approval)

Receivers -

Separate Tanks -

Donkey Boilers ✓

General Pumping Arrangements ✓

Oil Fuel Burning Arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied *as per accompanying list. To be checked when placed*

State the principal additional spare gear supplied ✓ *on board*

The foregoing description.
BURMEISTER & WAINSKIN-OG SKIBSBYGGERI

Manufacturer.

Dates of Survey while building
During progress of work in shops -- *18/9-14/10-5/12-1930-11/3-25/3-27-1931-12/10-2/10-18/11-21/11-28/11-2/12-16/12-23/12-28/12-1932-6/1*
During erection on board vessel -- *17/1-19/1-2/11-25/1-1933*
Total No. of visits *21*

Dates of Examination of principal parts—Cylinders & Covers *2/2-14/2-32* Pistons *2/2-16/2-32* Rods *18/9-14/10-5/12-30* Connecting rods *1/3-28/3-29/3-27-31*

Crank shaft *12/10-2/10-28/11-32* Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts ✓ 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 *17/1-19/1-2/11-33*

Crank shaft, Material *Soll. S. Steel* Identification Mark *Engine No. 2138 LLOYD'S No. 1560 28-11-32* Flywheel shaft, Material *Engine No. 2139 LLOYD'S No. 1559 28-11-32* Identification Mark ✓

Thrust shaft, Material ✓ Identification Mark ✓ 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. *yes*

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

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

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with ✓

Is this machinery duplicate of a previous case ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *In accordance with the Society's Rules for Special Survey we have examined the material and workmanship of the above two auxiliary engine and their accessories until the final test on the test bench in shops and found all to be good and efficient in every respect. The material used in construction of the auxiliary engine and the air receivers have been tested by us or as per certificates issued by Surveyors to this Society and the test results are in accordance with the Rules. The dimensions are as specified and in accordance with the Rules, the approved plans and the requirements contained in the Secretary's letter E dated 24th November 1932.*

A compound wound 100 K.W. (220 x 45 amps) direct current generator is direct coupled to each engine

The amount of Entry Fee .. £ .. : When applied for,
Special ... *£ 250.00* : *4 2 19 33*
Donkey Boiler Fee ... £ .. :
Travelling Expenses (if any) *£ 8.50* : *15 4 19 33*

A. O. Johnson Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 20 JUL 1934**

Assigned *See Val. 300*



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