

REPORT ON OIL ENGINE MACHINERY

No. 2863

8 SEP 1927

Received at London Office

Date of writing Report: 5 Sept. 1927 when handed in at Local Office in Port of Stockholm

No. in Survey held at Stockholm Date, First Survey 11 Aug. 1927 Last Survey 30 Aug. 1927
Reg. Books Number of Visits 4.

on the Single
Twin
Triple } Screw vessels Tons Gross
Net

Built at Stockholm By whom made J. & C.G. Bolinder's Co. Ltd Engine No. 18488 When made 1927

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

Brake Horse Power 15 Owners Messrs. James Pollock, Sons & Co. Port belonging to London
Pollocks Order no. 15411/G.

Nom. Horse Power as per Rule 4.3 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

OIL ENGINES, &c.—Type of Engines **Aux. Bolinder Oil Engine** 2 ~~stroke~~ stroke cycle Single ~~or double~~ acting

Maximum pressure in cylinders 21 kg./cm² No. of cylinders 1 Diameter of cylinders 170 mm. No. of cranks 1 Length of stroke 190 mm.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 160 mm. Is there a bearing between each crank—

Revolutions per minute 625 Flywheel dia. 900 mm. Weight 130 kg. Means of ignition Hot bulb Kind of fuel used Crude oil

Crank Shaft, dia. of journals as per Rule 61 mm. Crank pin dia. 65 mm. Crank Webs Mid. length breadth 84 mm. Thickness parallel to axis —
as fitted 65 " Mid. length thickness 39 " shrunk Thickness around eyehole —

The flywheel is fitted at the fore end of the crank shaft

Flywheel Shafts, diameter as per Rule Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Tube Shafts, 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 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 Is a governor or other arrangement fitted to prevent racing of the engine when declutched **yes** Means of lubrication

pumps Thickness of cylinder liners 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 engine

Cooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps fitted to 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 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 Engine and Boiler Room

In Holds, &c.

2 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-bares 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 by

Auxiliary Engines crank shafts, diameter as per Rule as fitted

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule none ordered.

Can the internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces

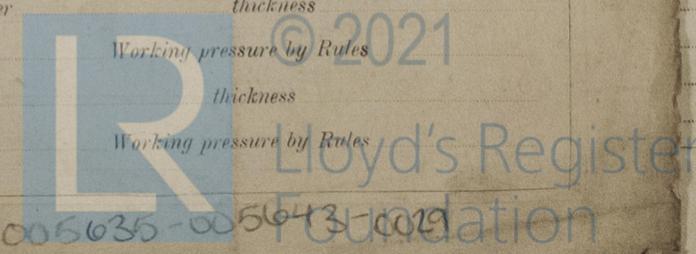
Is there a drain arrangement fitted at the lowest part of each receiver

High Pressure Air Receivers, No. 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. Total cubic capacity Internal diameter thickness

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



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 | 20.8.27 | 21 kg./cm. ² | 43 kg./cm. ² | LLOYD'S TEST 42. Kg. AI. 20.8.27 A | |
| " " COVERS | 20.8.27 | ditto | ditto | | |
| " " JACKETS | 20.8.27 | - | 3,5 kg./cm. ² | | |
| " PISTON WATER PASSAGES | /open pistons/ | | | | |
| MAIN COMPRESSORS—1st STAGE | none fitted | | | | |
| " 2nd " | | | | | |
| " 3rd " | | | | | |
| AIR RECEIVERS—STARTING | none ordered | | | | |
| " INJECTION | | | | | |
| AIR PIPES | | | | | |
| FUEL PIPES | | | | | |
| FUEL PUMPS | | | | | |
| SILENCER | | | | | |
| " WATER JACKET | | | | | |
| SEPARATE FUEL TANKS | | | | | |

See Secretary's letter

PLANS. Are approved plans forwarded herewith for Shafting **E. 31.8.27** Receivers Separate Tanks

(If not, state date of approval)

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR to be supplied and inspected when motor is being fitted on board.

The foregoing is a correct description,

Manufacturer.

| | | | |
|---|--------------------------------------|----------------------------|------|
| Dates of Survey while building | During progress of work in shops - - | <u>11, 12, 20 & 30</u> | 1927 |
| | During erection on board vessel - - | 8 | |
| | Total No. of visits | in shop 4. | |
| Dates of Examination of principal parts—Cylinders <u>20.8.27</u> Covers <u>20.8.27</u> Pistons <u>20.8.27</u> Rods - Connecting rods <u>11, 12 & 20</u> | | | |
| Crank shaft <u>11, 12 & 20</u> 27 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 piping arrangements Engines tried under working conditions in shop <u>20 27</u> | | | |
| Crank shaft, Material S.M. Steel Identification Mark LLOYD'S No 3451 AI. 20.8.27 A Flywheel shaft, Material 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.

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.)

I am of opinion that this engine is of superior material and workmanship, and as it has been designed and constructed under special survey, I have respectfully to submit that it be approved as auxiliary to a classed main engine.

| | | | |
|--------------------------------|---|---|---------------------|
| The amount of Entry Fee ... £ | : | : | When applied for, |
| Special ... Kr. 182,00. | : | : | <u>5 Sept. 1927</u> |
| Donkey Boiler Fee ... £ | : | : | When received, |
| Travelling Expenses (if any) £ | : | : | <u>30.9.27</u> |

Committee's Minute

FRI. 27 JAN 1928

Assigned

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



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