

4b.

REPORT ON OIL ENGINE MACHINERY.

No. 8041

5 JUL 1929

Received at London Office

Writing Report 3rd July 1929 When handed in at Local Office

Port of Copenhagen

Survey held at Copenhagen

Date, First Survey 23rd January Last Survey 2nd July 1929

Number of Visits 40

on the Triple Screw vessel

"OSAKA I."

Tons Gross Net

at Yokohama

By whom built Miss^{rs} Yokohama Dock Co. Ltd.

Yard No. 173 When built

made at Copenhagen

By whom made Miss^{rs} C. Burmeister & Wain's

Engine No. 1590 When made 1929

Boilers made at

By whom made

Boiler No. When made

Horse Power 3000

Owners

Port belonging to

Horse Power as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

for which vessel is intended

ENGINES, &c.—Type of Engines Vertical Diesel Oil Engines (Crosshead type Solid injection) 2 or 4 stroke cycle 4 Single or double acting Single

Pressure in cylinders 35 kg/cm² Diameter of cylinders 740 mm = 29 1/8" Length of stroke 500 mm = 19.7" No. of cylinders 6 No. of cranks 6

Bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 mm Is there a bearing between each crank Yes

Revolutions per minute 112 Crank wheel dia. 2136 mm Weight 1950 kg Means of ignition Air compression Kind of fuel used Gas oil flash point above 150°F

Shaft, dia. of journals as per Rule 470 mm Crank pin dia. 476 mm Crank Webs Mid. length breadth 770 mm Thickness parallel to axis 310 mm

as fitted 476 mm Crank Webs Mid. length thickness 290 mm Thickness around eyehole 217.5 mm

Propeller Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collar as per Rule 14.175"

as fitted Intermediate Shafts, diameter as fitted 323 mm as fitted 14.14"

Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner

as fitted Screw Shaft, diameter as fitted 375 as fitted

Liners, thickness in way of bushes as per Rule Thickness between bushes as per rule 13.9 Is the after end of the liner made watertight in the

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

Water 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

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

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

Injection Thickness of cylinder liners 53.5 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

insulating material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Water Pumps, No. 2 off Centrifugal - 150 tons each Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Compressors worked from the Main Engines, No. 1 off - 20 tons Diameter of tanks 127 mm Stroke 288 mm Can one be overhauled while the other is at work

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

Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size 2 off, Log wheel pumps - 60 tons each

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

etc.

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

Bilge Suction pipes in Holds and Trunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

readily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Discharges fitted 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

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

Discharges pass through the bunkers How are they protected

Discharges 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

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

ent to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

On the vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Compressors, No. None No. of stages Diameters A. B. Stroke Driven by

Auxiliary Air Compressors, No. 2 off No. of stages 2 Diameters 210 mm - 176 mm Stroke 216 mm Driven by Electric motors

Auxiliary Air Compressors, No. 1 off No. of stages 2 Diameters 90" - 35" Stroke 120" Driven by Hand

Working Air Pumps, No. Diameter Stroke Driven by

Engines crank shafts, diameter as per Rule 132 mm as fitted 140 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

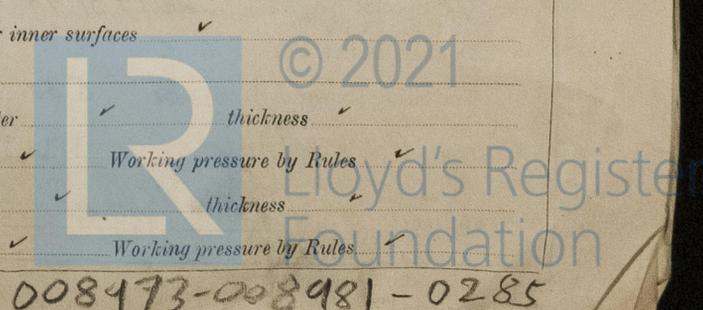
Drain arrangement fitted at the lowest part of each receiver

Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Air Receivers, No. Not yet finished Total cubic capacity Internal diameter thickness

Welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules



008473-008981-0285

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 17th September 28. Receivers
(If not, state date of approval)

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR As per accompanying list.

The foregoing is a correct description,

**AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI**

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 20, 30 Jan; 8, 15, 19, 26 Feb; - 1, 16, 21, 25, 26, March 17, 19, 20, 23, 29 April; - 2, 3, 4, 8, 11, 14, 17, 21, 22, 23, 24, 27, 31 May; - 7, 8, 10, 12
 { During erection on board vessel -- } 14, 15, 17, 20, 24, 29 June; - 2 July 1929.
 Total No. of visits 40.

Dates of Examination of principal parts—Cylinders and Covers ^{25/3, 17/4, 14/5} 22/5, 27/5 29. Pistons ^{25/3, 17/4, 14/5} 25/3, 17/4, 14/5 29. Rods ^{25/2, 26/2} 25/3, 17/4 29 Connecting rods ^{23/1, 19/2, 25/3} 17/4, 27/4, 29.
 Crank shaft ^{3/1, 5/2, 16/3, 26/3} 19/4, 14/5, 29. Flywheel shaft Thrust shaft ^{16/3, 23/4, 21/5, 22/5} 16/3, 14/4, 22/5 29. 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
 Crank shaft, Material S.M.I. Steel Identification Mark Q 14.5.29 Flywheel shaft, Material Identification Mark
 Thrust shaft, Material S.M.I. Steel Identification Mark K 22.5.29 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
 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.)

In accordance with the Society's Rules for Special Survey we have examined the material and workmanship from the commencement of construction of the main and auxiliary engines with their accessories until the final test under full power working condition on the test bench in the shop and found all good and efficient. -
The material used in the construction of the engines has been tested as required by the Rules, either by us or as per test certificates produced, issued by Surveyors to this Society.
The dimensions are as specified and in accordance with the Rules, the approved plans and the requirements contained in the Secretary's letter dated the 17th September 1928. -
The emergency starting air receiver for the engines which also shall be supplied by Mess^{rs} Burmeister & Wain, has not yet been received from the makers, - The receiver will be examined and tested by hydraulic pressure when the valve chests have been fitted, - before being despatched to Japan.

Recommend the vessel to have notation in the Register Book of **L M C** with date, and OIL ENGINE, when the machinery has been fitted on board under supervision and tested to the satisfaction of the local Surveyors to this Society.

The amount of Entry Fee ... £ 72.80 : When applied for, 3.9.19
 4/5 Special ... £ 1431.98 : ASM
 Donkey Boiler Fee ... £ : : When received, 8.8.29
 Travelling Expenses (if any) £ 5.50 : Ed

Committee's Minute FRI, 17 JAN 1930
 Assigned See Yka Rpt. 4445

A. O. Faber W. Clausen
 Engineer Surveyor to Lloyd's Register of Shipping.

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