Form 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 830

Received at London Office 25 AUG 1952

Date of writing Report 11th Aug 1952 When handed in at Local Office ..... 19 .... Port of Kobe

Class in Book. Survey held at Kobe Date, First Survey 27th October, 1951 Last Survey 9th August 1952 Number of Visits 53

4263 on the Single / ~~Twin~~ / ~~Triple~~ / ~~Quadruple~~ Screw vessel M.V. "JAMES J. MAGUIRE" Tons Gross 10575 Net 6065

Built at Monfalcone By whom built Cantieri Riuniti dell' Adriatico Yard No. ..... When built 1949-5

Engines made at Kobe By whom made Mitsubishi Heavy Ind. Reorganized Ltd. (Kobe Shipyard & Engine Wks.) Engine No. 1362 When made 7,52

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

Brake Horse Power 5000 Owners Oriental Trade & Transport Co. Ltd. Port belonging to London

I.H.P. Power as per Rule 1000 Is Refrigerating Machinery fitted for cargo purposes ..... Is Electric Light fitted .....

Grade for which uessel is intended .....

**OIL ENGINES, &c.** — Type of Engines Sulzer 7SD72 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 53 Kg/cm² Diameter of cylinders 720 mm Length of stroke 1250 mm No. of cylinders 7 ✓ No. of cranks 7

Mean Indicated Pressure 5.98 Kgs/cm² Ahead Firing Order in Cylinders 1-7-2-5-4-3-6 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 934 mm Is there a bearing between each crank Yes Revolutions per minute 128

Flywheel dia 2398 mm. Weight 1700 Kgs Moment of inertia of flywheel (lbs. in² or Kg. cm.²) 5.47X10⁷ Means of ignition Compression Kind of fuel used Diesel oil

**Crank Shaft,** ~~Solid forged~~ / Semi built / ~~All built~~ dia. of journals as per Rule 451.3 mm as fitted 490 mm Crank pin dia 490 mm Crank webs Mid. length breadth 846 mm Mid. length thickness 295 mm shrunk Thickness parallel to axis 295 mm Thickness around eyehole 243 mm

**Combined ~~& Thrust~~ Flywheel Shaft,** diameter as per Rule 451.3 mm as fitted 490 mm **Intermediate Shaft,** diameter as per Rule ..... as fitted ..... **Thrust Shaft,** diameter at collars as fitted 490 mm as per Rule 360.8 mm

**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 tube shaft ..... 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

Moment of inertia of propeller (lbs. in² or Kg. cm.²) ..... Kind of damper, if fitted .....

**Method of reversing Engines** ..... Is a governor or other arrangement fitted to prevent racing of the engine when declutched ..... No. 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 lagged 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** 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 .....

Is the cooling water led to the bilges ..... If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements .....

**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 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 ..... 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 .....

In 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 ..... 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 .....

What provision is made for first charging the air receivers .....

**Scavenging Air Pumps,** No. ..... diameter ..... stroke ..... driven by .....

**Auxiliary Engines** crank shafts, diameter as per Rule ..... as fitted ..... No. ..... Position .....

Have the auxiliary engines been constructed under special survey ..... Is a report sent herewith .....

**AIR RECEIVERS:**— Have they been made under survey ..... State No. of report or certificate .....

Is each receiver, which can be isolated, fitted with a safety valve as per Rule .....

Can the internal surfaces of the receivers be examined and cleaned ..... Is a drain fitted at the lowest part of each receiver .....

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

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

**Starting Air Receivers,** No. ..... Total cubic capacity ..... Internal diameter ..... thickness .....

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

**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 28. 7. 52 (If not, state date of approval) ..... Receivers ..... Separate fuel tanks .....

Donkey boilers ..... General pumping arrangements ..... Pumping arrangements in machinery space .....

Oil fuel burning arrangements .....

Have Torsional Vibration characteristics been approved No, calculation sheet now attached Date of approval 29/9/52 8/1/53

## SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied One complete cylinder cover, one cylinder liner, one complete cylinder relief valve, one set of piston rings for one cylinder.

The foregoing is a correct description, for KOBE SHIPYARD & ENGINE WORKS, Manufacturer. MITSUBISHI HEAVY INDUSTRIES, REORGANIZED, LIMITED

Dates of Survey while building — During progress of work in shops: 1951:- Oct. 27. Nov. 1. 6. 10. 13. 15. 20. 22. 27. 29. Dec. 6. 8. 15. 27.
1952:- Jan. 12. 16. 24. 29. Feb. 5. 7. 12. 14. 19. 23. 28. March 11. 13. 17. 20. 27. April 8. 26. May 3. 24. 29. June 3. 5. 7. 10. 14. 21. 24. 26. 28. July 1. 4. 10. 23. 25. 26. Aug. 4. 9.

During erection on board vessel: .....

Total No. of visits 53 in shops.

Dates of examination of principal parts — Cylinders 21.6.52 & 17.6.52 Covers 1.7.52 pistons 10.6.52 Rods — Connecting rods 7.6.52

Crank shaft 7.6.52 Flywheel shaft — Thrust shaft 7.6.52 Intermediate shafts ..... Tube shaft .....

Propeller ..... Stern tube ..... Engine seatings ..... Engine holding down bolts .....

Connections ..... Completion of pumping arrangements ..... Engines tried under working conditions Shop trial 25.7.52

Crank shaft, material Forged steel Identification mark MK-CK103F A. AM Flywheel shaft, material, — Identification mark —

Thrust shaft, material Forged steel Identification mark Y2027 AM Intermediate shafts, material ..... Identification marks .....

Tube shaft, material ..... Identification mark ..... Screw shaft, material ..... Identification mark .....

Identification marks on air receivers .....

Welded receivers, state Makers' Name .....

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

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

Description of fire extinguishing apparatus fitted .....

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 .....

Application for ice strengthening is desired, state whether the requirements in this respect have been complied with .....

Is this a duplicate of a previous case Yes If so, state name of vessel "Olympia Maru" (Ship No. 847)

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

This Engine has been constructed under the supervision of the Surveyors in accordance with the Rules, the Approved plans and the Secretary's letters.

The materials and workmanship are good and free from defects.

The Engine was examined under working conditions in the shop and found satisfactory.

It is submitted that this Engine be assigned a record of ✠ NE made 7.52 fitted (with date) when satisfactorily installed in the Vessel.

(The Surveyors are requested not to write on or below the space for Committee's Minute)

The amount of Entry Fee During Construction £ 7420,000-

Special ... ... ... £ : :

Donkey Boiler Fee ... ... £ : :

~~Travelling~~ General Expenses (if any) £ 7 20,000-

Committee's Minute .....

Assigned .....

When applied for ..... 19

When received ..... 19

Engineer Surveyor to Lloyd's Register of Shipping.