

REPORT ON OIL ENGINE MACHINERY.

No. 6879.

24 APR 1930

Received at London Office

of writing Report

19... When handed in at Local Office 8-4-30 19... Port of Kobe.

in Survey held at Osaka

Date, First Survey 13th March 1929. Last Survey 31st March 1930

Book. on the ^{Single} Twin ^{Triple} Screw vessel "HEIYO MARU"

Tons { Gross 9815.69. Net

built at Osaka By whom built Osaka Iron Works Yard No. 1127 When built 1930
 engines made at Nagasaki By whom made Mitsubishi Zosen Kaisha Engine No. 464 When made
 key Boilers made at Osaka By whom made Osaka Iron Works Boiler No. 1127 When made 1930
 make Horse Power 8000 Owners. Nippon Yusen Kabushiki Kaisha Port belonging to Tokyo
 m. Horse Power as per Rule 2004 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes
 made for which vessel is intended Ocean going

ENGINES, &c.—Type of Engines Mitsubishi - Sulzer 2 or 4 stroke cycle 2 Single or double acting single
 minimum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks
 No. of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank
 revolutions per minute 120 Flywheel dia. Weight Means of ignition Kind of fuel used
 Crank Shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth shrunk Thickness parallel to axis
 Wheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 13.86 as fitted 14.3/8 Thrust Shaft, diameter at collars as per Rule as fitted 4.50
 Propeller Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 15.11 as fitted 16 Is the screw shaft fitted with a continuous liner yes
 Liners, thickness in way of bushes as per Rule .76 as fitted .875 Thickness between bushes as per rule .57 as fitted .75 Is the after end of the liner made watertight in the
 after boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
 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
 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
 If so, state type Length of Bearing in Stern Bush next to and supporting propeller 66"
 Propeller, dia. 15'-0" Pitch 16'-1/2" No. of blades 4 Material C.S. Bars whether Moveable yes Total Developed Surface 67.5 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
 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
 Bilge Water Pumps, No. 6 (4 main, 2 auxiliary) Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes (Quito)
 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 1 Bilge Pump 5 1/2 1 Emergency bilge pump 5 1/2 Ballast Pump 7 How driven All Electric Driven
 Main Pumps, No. and size 1-200 7/8 Lubricating Oil Pumps, including Spare Pump, No. and size 2 Cog-wheel type
 two independent means arranged for circulating water through the Oil Cooler yes jacket cooling pumps
 Pumps, No. and size:—In Machinery Spaces 4-3 1/2; 1-5 1/2 Bilge direct, 1-5 1/2 Emergency direct 1-7 Ballast direct 2-2 1/2 Bilge hatch 1-3 1/2 Tunnel well
 holds, &c. 1-3 1/2 Chain locker N 1 Hold 2-3 1/2 N 2 H. 2-3 1/2 N 3 H. 2-3 1/2 N 4 H. 2-3 1/2 N 5 H. 2-3 1/2 2-2 1/2 shaft tunnel 2-2 1/2 Pipe passage 2-2 1/2 Gutter way out well
 independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-5 1/2 1-7 5-2 1/2 Cofferdams
 all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces
 from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes
 all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves & Cocks yes
 they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line above
 they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
 pipes pass through the bunkers none How are they protected
 pipes pass through the deep tanks oil fuel pipes Have they been tested as per Rule yes
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 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 yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper deck
 good vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. No. of stages Diameters Stroke Driven by
 Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
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 Driven by
 Auxiliary Engines crank shafts, diameter as per Rule as fitted 210 mm
 RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
 the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces Manholes
 there a drain arrangement fitted at the lowest part of each receiver yes
 Pressure Air Receivers, No. 12 Cubic capacity of each 800 Litres Internal diameter 540 mm thickness 25 mm
 less, lap welded or riveted longitudinal joint Seamless Material S.O. Steel Range of tensile strength 28 to 35 Working pressure by Rules 75 lbs
 Air Receivers, No. 2 Total cubic capacity 16 cub. ft. each Internal diameter 5'-9" thickness 1 1/16" Working pressure by Rules 47.5
 less, lap welded or riveted longitudinal joint riveted Material steel Range of tensile strength 28-32 Working pressure by Rules 47.5

Capacity of
 ons. 6.1
 5.6
 7.1
 8.8
 74.6

Beaming Suit
 110 ft
 90 ft
 45 ft

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664711-009720-0124

IS A DONKEY BOILER FITTED? *Yes* If so, is a report now forwarded? *Yes*
 PLANS. Are approved plans forwarded herewith for Shafting *T.S. 12.1.29* Receivers *16.1.29* Separate Tanks *8.11.29*
 (If not, state date of approval) *14.12.29*
 Donkey Boilers *26.2.29* General Pumping Arrangements *19.2.29* Oil Fuel Burning Arrangements *✓*

SPARE GEAR

See Nagasaki Report 1686

The foregoing is a correct description,

[Signature]

Manufacturer.

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - -
 Total No. of visits
*1929 March 13 April 18 July 3rd 10th Aug 23rd Oct 7th 18th Nov 7th 14th Dec 3rd 11th
 1930 Jan 9th 17th 21st 23rd 25th 29th Feb 4th 13th 15th 21st March 5th 14th 31st*

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
 Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft
 Screw shaft *3.7.29 19.9.29* Propeller *19.5.29* Stern tube *3.7.29 27.8.29* Engine seatings *19.9.29* Engines holding down bolts *7.11.29*
 Completion of fitting sea connections Completion of pumping arrangements *14.3.30* Engines tried under working conditions *21.2.30*
 Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark
 Thrust shaft, Material Identification Mark Intermediate shafts, Material *Steel* Identification Marks *[Stamp]*
 Tube shaft, Material Identification Mark Screw shaft, Material *Steel* Identification Mark *[Stamp]*

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 If so, have the requirements of the Rules 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.) *The machinery has been installed under special survey in accordance with the requirements of the Rules and approved plans; the workmanship and materials are good and on completion was tested under full working conditions ahead & astern and found to be efficient and in our opinion is eligible for the record of +L.M.C 3.30. T.S. (C) 3.30 2 D.B. 100 lb.*

The amount of Entry Fee ... £ *450* ✓
 as Recurring ... £ *126* ✓
 Special ... £ :
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) £ :
 When applied for, *30/3/1930*
 When received, *31/3/1930*

[Signature] *[Signature]*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+L.M.C 3.30 Oil Eng. 2 D.B. - 100 lb.

TUE 29 APR 1930
 TUE 13 MAY 1930
 TUE 28 OCT 1930
 CERTIFICATE WRITTEN
 WEL 8 APR 1930

FRI. 17 APR 1931

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