

# REPORT ON OIL ENGINE MACHINERY.

No. 6536

Received at London Office

18 JUN 1929

Date of writing Report 24 May 1929 When handed in at Local Office Yama

Port of Kobe

No. in Survey held at Reg. Book.

Date, First Survey 22<sup>ND</sup> JAN 1929 Last Survey 16<sup>TH</sup> MAY 1929  
Number of Visits 14

on the Single Screw vessel "Tansen Maru"  
Triple  
Quadruple

Tons <sup>Gross</sup> -  
<sub>Net</sub> -

Built at Yama By whom built Mitsui Bussan Kaisha Yard No. 159 When built 1929  
Engines made at Copenhagen By whom made Burmack & Wain Engine No. 1581 When made 1929  
Donkey Boiler made at Yama By whom made Mitsui Bussan Kaisha Boiler No. 159 When made 1929  
Brake Horse Power 1400 Owners Dairen Kisen Kaisha Port belonging to Dairen  
Nom. Horse Power as per Rule 240 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
Use for which vessel is intended Japan China (Coal)

ENGINES, &c. — Type of Engines SOLID INJECTION TRUNK PISTON TYPE 2 stroke cycle 2 Single or double acting

Working pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 550 mm Length of stroke 1000 mm No. of cylinders 6 No. of cranks 6

Number of bearings, adjacent to the Crank, measured from inner edge to inner edge ✓ Is there a bearing between each crank ✓

Revolutions per minute 140 Flywheel dia. ✓ Weight ✓ Means of ignition self Kind of fuel used Heavy Oil

Crank Shaft, dia. of journals as per Rule 340 mm Crank pin dia. 340 mm Crank Webs Mid. length breadth ✓ Thickness parallel to axis shrunk ✓  
as fitted 9.43" Mid. length thickness ✓ Thickness around eye-hole ✓

Propeller Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule 9.43" Thrust Shaft, diameter at collars as per Rule 340 mm  
as fitted 9.2" (part of crank shaft) as fitted

Propeller Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 10.37" Is the ✓ shaft fitted with a continuous liner yes  
as fitted 10.5" screw

Cylinder Liners, thickness in way of bushes as per Rule 19/32" Thickness between bushes as per Rule 7/16" Is the after end of the liner made watertight in the  
as fitted 1/16" 3/4" as fitted 1/2"

Are the liners 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 no Length of Bearing in Stern Bush next to and supporting propeller 4'-3"

Propeller, dia. 11'-3" Pitch 8'-5" No. of blades 4 Material Mn. Bt. whether Moveable NO Total Developed Surface 38 sq. feet

Number of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication yes

Thickness of cylinder liners 38 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
insulating material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓

Number of Bilge Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Number of Pumps worked from the Main Engines, No. 2 Diameter 150 mm Stroke 145 mm Can one be overhauled while the other is at work yes

Connections connected to the Main Bilge Line { No. and Size one Ballast 150 tons/hr. two Main Engine 15 tons/hr. each, Ind. Bilge & San. 20 tons/hr.  
How driven Main Engine & Electric motors

Number of Bilge Pumps, No. and size one, 150 tons/hr. Lubricating Oil Pumps, including Spare Pump, No. and size two, 30 tons/hr. each

Are independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
Pumps yes

No. and size: — In Machinery Spaces 4-3" in E.R. and 1-3" tunnel well

Direct Suctions, No. and size No 1 Hold - 2-3", No 2 Hold - 2-3", No 3 Hold - 2-3"

Number of Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-6" port 1-3" starboard

Are the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces  
easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

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

Are they fitted 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

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Is the Blow Off Cock fitted with a spigot and brass covering plate yes

Are the pipes pass through the bunkers ✓ How are they protected ✓

Are the pipes 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 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 above L.W.L.

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

Air Compressors, No. none No. of stages - Diameters - Stroke - Driven by -

Primary Air Compressors, No. 3 No. of stages 2 Diameters - Stroke - Driven by AUX. DIESEL

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters - Stroke - Driven by HAND

Number of Lubricating Air Pumps, No. none Diameter - Stroke - Driven by -

Number of Auxiliary Engines crank shafts, diameter as per Rule one 2 cyl & two 1 cyl. engines, crank shaft dia. 140 mm each  
as fitted

RECEIVERS: — Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes

Are the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces steam hose

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

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

Are the receivers lap welded or riveted longitudinal joint ✓ Material - Range of tensile strength - Working pressure by Rules -

Number of High Pressure Air Receivers, No. 2 Total cubic capacity 190 c.ft. Internal diameter 4'-1 1/2" thickness 3/4"

Are the receivers lap welded or riveted longitudinal joint riveted Material steel Range of tensile strength 28/32 Working pressure by Rules 25 kg/cm<sup>2</sup>

SEE COPENHAGEN REPORT ON B.A.W.'S ENG. NO. 1581

SEE COPENHAGEN REPORT ON B.A.W.'S AUX. ENG. NOS 1582-3-6



IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval) *14-12-28* Receivers *6-12-28* Separate Tanks *✓*

Donkey Boilers *21-12-28* General Pumping Arrangements *29-1-29* Oil Fuel Burning Arrangements *✓*

SPARE GEAR *See separate list*

The foregoing is a correct description,

*S. J. Khan*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - *1929 JAN. 22. FEB 2. 7. 13. ✓ MAR 4. 25.*  
During erection on board vessel - - *1929 April 11, 12, 23 May 2, 6, 10, 11, 16*  
Total No. of visits *6 in shops 8 on board vessel*

Dates of Examination of principal parts—Cylinders *✓* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*  
Crank shaft *✓* Flywheel shaft *✓* Thrust shaft *✓* Intermediate shafts *{ 19-1-29 25-1-29* Tube shaft *✓*  
Screw shaft *25-1-29* Propeller *25-2-29* Stern tube *25-2-29* Engine seatings *11-4-29* Engines holding down bolts *23-4-29*  
Completion of fitting sea connections *27-2-29* Completion of pumping arrangements *6-5-29* Engines tried under working conditions *11-5-29*  
Crank shaft, Material *✓* Identification Mark *✓* Flywheel shaft, Material *✓* Identification Mark *✓*  
Thrust shaft, Material *✓* Identification Mark *✓* Intermediate shafts, Material *steel* Identification Marks *LLOYD'S No 194 LR. A.H. 25-1*  
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *steel* Identification Mark *LLOYD'S No 194 LR. A.W. 25-1*

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

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.)

*The machinery of this vessel has been installed under special survey, examined under working conditions and found satisfactory.*

*In my opinion the vessel is now entitled to the notation in the Register Book of *L.M.C. - 5 - 29* and the record of "OIL ENGINES"*

*T.S. (C.L.)*

*Copies of Propeller & intermediate shaft forging certificates attached.*

*It is submitted that this vessel is eligible for THE RECORD. + L.M.C 5: 29.*

*OIL ENGINES. 45C.S.A.*

*6 cy. 21 5/8 - 29 3/8*

*DB. 100%*

*27/6/29*

The amount of Entry Fee ... *£ 44 : -* : When applied for *28 May 1929*  
Special 1/5 FEE ... *£ 214 : -* :  
AIR RESERVOIRS  
Donkey Boiler Fee ... *£ 68 : -* : When received, *26. 8. 29*  
Travelling Expenses (if any) *See Hull Rpt.*

*Clive Bell & Co.*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned

*JUN 28 JUN 1929*  
*Oil Engines DB-1001b*



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