

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

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of writing Report 30th October 1928 When handed in at Local Office 19 Port of **YOKOHAMA**
 in Survey held at **Jokohama** Date, First Survey 15th May Last Survey 24th October 1928
 eg. Book. on the **Steel Ss "HAGURO MARU"** (Number of Visits 28)
 Tons { Gross 3352.63
 Net 2047.65
 built at **Jokohama** By whom built **The Yokohama Dock Co** Yard No. 141 When built 1928
 engines made at **Jokohama** By whom made **The Yokohama Dock Co** Engine No. 141 when made 1928
 boilers made at **Jokohama** By whom made **The Yokohama Dock Co** Boiler No. 141 when made 1928
 Registered Horse Power Owners **Itaya Shosen Kaisha** Port belonging to **Suchu**
 m. Horse Power as per Rule **384 392** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

GINES, &c.—Description of Engines **Triple Expansion**
 No. of Cylinders **23** Length of Stroke **48"** Revs. per minute **84 3/4** No. of Cranks **3** No. of Cranks **3**
 No. of Crank shaft journals as per rule **13.1** Dia. of Crank pin **14"** Crank webs Mid. length breadth **8 1/2"** Thickness parallel to axis **8 1/2"**
 as fitted **13 1/2** Mid. length thickness **8 1/2"** Thickness around eye-hole **8 1/2"**
 Diameter of Thrust shaft under collars as per rule **13.1** Diameter of Tunnel shaft as per rule **12.48** Diameter of Screw shaft as per rule **13.53** Is the Screw shaft
 as fitted **14** as fitted **12 1/2** as fitted **14**
 Is the after end of the liner made watertight in the propeller boss **Yes**
 Is the liner in more than one length are the joints burned **Yes**
 Is the space charged with a plastic material insoluble in water and non-corrosive **Yes**
 Is an approved appliance fitted at the after end of the shaft to permit
 it being efficiently lubricated **No** Length of Stern Bush **5' 7 1/8"** Diameter of Propeller **16' 3"**
 Pitch of Propeller **14' 11"** No. of Blades **4** State whether Moveable **Moveable** Total Surface **74.75** square feet.
 No. of Feed Pumps fitted to the Main Engines **2** Diameter of ditto **4 1/2"** Stroke **24"** Can one be overhauled while the other is at work **Yes**
 No. of Bilge Pumps fitted to the Main Engines **2** Diameter of ditto **4 1/2"** Stroke **24"** Can one be overhauled while the other is at work **Yes**
 Total number and size of power driven Feed and Bilge Auxiliary Pumps **2 9 1/2" x 7" x 18"**
 No. and size of Pumps connected to the Main Bilge Line
 No. and size of Ballast Pumps **1 9" x 12" x 10"** No. and size of Lubricating Oil Pumps, including Spare Pump **Yes**
 Are two independent means arranged for circulating water through the Oil Cooler **Yes** No. and size of suction connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room **1 4 1/2"** See plan. and in Holds, &c. **6 3/2" 8.3"**

No. and size of Main Water Circulating Pump Bilge Suctions **1 8"** No. and size of Donkey Pump Direct Suctions
 to the Engine Room Bilges **1 3 1/2"** Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes **Yes**
 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 **Yes**
 Are all connections with the sea direct on the skin of the ship **Yes** Are they Valves or Cocks **Both**
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates **Yes** Are the Discharge Pipes 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** Are the Blow Off Cocks fitted with a spigot and brass covering plate **Yes**
 What Pipes are carried through the bunkers **bilge pipe** How are they protected **timber boards**
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **Yes**
 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 **Yes** Is the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **Top platform**

MAIN BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers **5536 Sq. ft.**
 Is Forced Draft fitted **Yes** No. and Description of Boilers **2 Single Ended** Working Pressure **200lb.**
IS A REPORT ON MAIN BOILERS NOW FORWARDED? **Yes**
IS A DONKEY BOILER FITTED? **No** If so, is a report now forwarded? **Yes**

PLANS. Are approved plans forwarded herewith for Shafting **No** Main Boilers **Kobe 31-128** Auxiliary Boilers **Yes** Donkey Boilers **Yes**
 (If not state date of approval) **Kobe 5-4-28**
 General Pumping Arrangements **18-1-28** Oil Fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:— **2 Connecting Rod top end bolts & nuts. 2 Connecting Rod bottom**
end bolts & nuts. 2 Main bearing bolts. 6 coupling bolts & nuts. One set of feed & bilge pump
valves. One set of piston rings. One air pump rod & nut. One set of air pump valves. One set
of top & bottom end hasses. 21 junk ring bolts. One set of thrust block pads. 2 Slide valve
spindles & eccentric rods. A number of spare condenser tubes & ferrules. 2 safety valve spring
for main boilers and a number of plain tubes. A quantity of assorted bolts & nuts. Iron of
various sizes.

The foregoing is a correct description,

G. Abey

Manufacturer.



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Lloyd's Register
Foundation

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May 15th June 4th 15th 19th 20th July 2nd 14th 16th 17th 23rd 26th Sept 8th 10th 13th Oct 12th 19th 28th 5a.
 During progress of work in shops --
 Dates of Survey while building
 During erection on board vessel --
 Total No. of visits 28

Dates of Examination of principal parts—Cylinders June 15th 20th Slides June 15th
 Covers June 15th 20th Pistons June 20th July 16th Rods June 4th 20th
 Connecting rods June 4th Crank shaft Thrust shaft July 23rd
 Tunnel shafts July 17th Screw shaft July 14th Propeller Sept 10th
 Stern tube May 15th Sept 10th Engine and boiler seatings Sept 10th 13th Engines holding down bolts Sept 25th Oct 2nd
 Completion of pumping arrangements Oct 22nd 24th Boilers fixed Oct 2nd Engines tried under steam Oct 24th
 Completion of fitting sea connections Sept 10th Stern tube Sept 10th Screw shaft and propeller Sept 10th
 Main boiler safety valves adjusted Thickness of adjusting washers None fitted
 Material of Crank shaft Mild Steel Identification Mark on Do. LLOYD'S No 1329 F.B.S.R. 8.8.2
 Material of Thrust shaft Mild Steel Identification Mark on Do. LLOYD'S No 1425 F.B.S.R. 24.8.2
 Material of Tunnel shafts Mild Steel Identification Marks on Do. LLOYD'S No 1350 F.B.S.R. 24.8.28
 Material of Screw shafts Mild Steel Identification Marks on Do. LLOYD'S No 1351 F.B.S.R. 8.9.28
 Material of Steam Pipes Mild Steel Test pressure 600lb. Date of Test 19th October 1928.
 Is an installation fitted for burning oil fuel No. Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for carrying and burning oil fuel been complied with No.
 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 of this vessel has been constructed and installed in accordance with the Society's Rules, and the approved plan. The materials and workmanship have been found good and the machinery is eligible in my opinion to be classed in the Register Book with the record + LMC 10.28
 To have notation screw shaft C.L. and Forced Draught fitted.

It is submitted that
 this vessel is eligible for
 THE RECORD.

+ LMC 10.28 C.L. FD

J. Brooke Smith
 3/12/28.

The amount of Entry Fee ... £ 42.00 When applied for,
 Special ... £ 1290.00 27-10-1928
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) £ 20.00 12-11-1928

Committee's Minute TOE. 4 DEC 1928

Assigned Thue 10.28

J.D. C.L.

J. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.



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