

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 29 NOV 1928

Date of writing Report 30th October 1928 When handed in at Local Office 19 Port of YOKOHAMA
 Date, First Survey 15th May Last Survey 24th October 1928
 (Number of Visits 28)
 Survey held at Jokohama
 on the Steel S.S. "HAGURO MARU"
 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
 Net Horse Power as per Rule 387-392 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &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 Crank shaft journals as per rule 13.1 Dia. of Crank pin 14 Crank webs Mid. length breadth _____ If shrunk Thickness parallel to axis 8 1/2
 as fitted 13 1/2 Mid. length thickness _____ 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 13.83 Is the Screw shaft as fitted 14
 Is the after end of the liner made watertight in the propeller boss Yes
 If the liner does not fit tightly at the part _____
 Is the after end of the liner made watertight in the propeller boss Yes
 If the liner does not fit tightly at the part _____
 Is the space between the bearings in the stern tube, 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 the liner is in more than one length are the joints burned Yes
 Is the shaft lapped or protected between the liners Yes
 Is 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 1 . 8"
 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 1/2" 8 . 3"

No. and size of Main Water Circulating Pump Bilge Suctions 1 . 8" No. and size of Donkey Pump Direct Suctions _____
 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 limber 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 5530 Sq. ft.
 Are 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 31-178 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,

H. Abel

Manufacturer.



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During progress of work in shops --
 May 15^h June 4^h, 15^h, 19^h, 20^h July 2nd, 11^h, 16^h, 17^h, 23rd, 26^h Sept 8^h, 10^h, 13^h Oct 12^h, 19^h, 28^h
 Aug 5^h, 28^h
 Dates of Survey while building
 During erection on board vessel --
 Sept 10^h, 13^h, 25^h Oct 2nd, 9^h, 12^h, 16^h, 19^h, 22nd, 24^h
 Total No. of visits 28

Dates of Examination of principal parts—Cylinders June 15^h, 20^h Slides June 15^h
 Covers June 15^h, 20^h Pistons June 20^h July 16^h Rods June 4^h, 20^h
 Connecting rods June 4^h Crank shaft Thrust shaft July 23rd
 Tunnel shafts July 17^h Screw shaft July 14^h Propeller Sept 10^h
 Stern tube May 15^h, Sept 10^h Engine and boiler seatings Sept 10^h, 13^h Engines holding down bolts Sept 25^h Oct 2nd
 Completion of pumping arrangements Oct 22nd, 24^h Boilers fixed Oct 2nd Engines tried under steam Oct 24^h
 Completion of fitting sea connections Sept 10^h Stern tube Sept 10^h Screw shaft and propeller Sept 10^h
 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 plans. 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

So have notation screw shaft CL and Forced Draught fitted.

It is submitted that
 this vessel is eligible for
 THE RECORD. + LMC 10.28 CL FD

J. Brooke Smith
 3/12/28.

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

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

Committee's Minute TOE. 4 DEC 1928
 Assigned Thue 10.28
 J.D. CL.

J. Brooke Smith
 Engineer Surveyor to Lloyd's Register of Shipping.

