

# REPORT ON MACHINERY.

Received at London Office

13 NOV 1924

Date of writing Report 5<sup>th</sup> Aug. 1924 When handed in at Local Office 19 Port of Kobe  
 No. in Survey held at Amoshima & Osaka Date, First Survey 5<sup>th</sup> June 1920 Last Survey 24<sup>th</sup> July 1924  
 Reg. Book. on the S.S. "KOSHIN MARU" (Number of Visits 49) Gross Tons 6057  
 Master ✓ Built at Osaka By whom built Osaka Iron Works When built 1924  
 Engines made at Osaka By whom made Osaka Iron Works when made 1924  
 Boilers made at Osaka By whom made Osaka Iron Works when made 1924  
 Registered Horse Power 553 Owners Kiroimi Shoji Kabushiki Kaisha Port belonging to Kobe  
 Nom. Horse Power as per Section 28 553 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

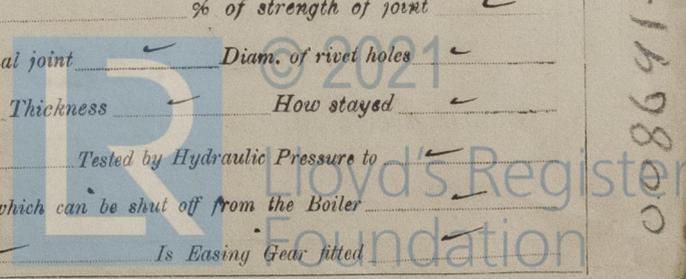
**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 27, 45, 75 Length of Stroke 51 Revs. per minute 77 Dia. of Screw shaft 15.19 Material of screw shaft Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight in the propeller boss Yes If the liner is in more than one length are the joints burned ✓ 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 ✓ Length of stern bush 5-4 3/4  
 Dia. of Tunnel shaft 13.68 Dia. of Crank shaft journals 14.37 Dia. of Crank pin 14 7/8 Size of Crank webs 9 1/4 x 2 1/2 Dia. of thrust shaft under collars 14 7/8 Dia. of screw 18-3 Pitch of Screw 18-3 No. of Blades 4 State whether moveable Yes Total surface 100 #  
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 27 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 27 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 4 Sizes of Pumps 2 Ballan 10 x 13 x 13 No. and size of Suctions connected to both Bilge and Donkey pumps 2 1/2  
 In Engine Room Four 3 1/2 In Holds, &c. Two 3 1/2 in each hold, one 2 1/2 in tunnel well  
 No. of Bilge Injections 1 sizes 9 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes, 3 1/2  
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible None  
 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 Tank air & filling pipes How are they protected wooden canings  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from E.R. top platform.

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Carbon Steel Co., Pittsburg, U.S.A.  
 Total Heating Surface of Boilers 8110 # Is Forced Draft fitted Yes No. and Description of Boilers 3 S.E. multitubular  
 Working Pressure 180 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 21-2-22, 8-8-22, 13-10-22 No. of Certificate 123 Y.C.  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63.9 # No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 12.5 # Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers 3'-0" Mean dia. of boilers 15'-0" Length 12'-0" Material of shell plates Steel  
 Thickness 1/16 Range of tensile strength 26-30 lbs. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. Lap  
 long. seams TR.D.B.S. Diameter of rivet holes in long. seams 1/16 Pitch of rivets 9 Lap of plates or width of butt straps 1 1/2 x 1/16 inner  
 Per centages of strength of longitudinal joint rivets 85.4 Working pressure of shell by rules 184 lbs. Size of manhole in shell 21" x 17"  
 Size of compensating ring 38 x 34 x 1 1/16 No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 4'-0 3/4"  
 Length of plain part top 21 Thickness of plates crown 32 Description of longitudinal joint Weld No. of strengthening rings ✓  
 Working pressure of furnace by the rules 219 Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 7/8  
 Pitch of stays to ditto: Sides 8 1/2 x 8 1/4 Back 8 1/2 x 8 1/2 Top 9 x 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 186 lbs.  
 Material of stays Steel Area at smallest part 1.79 # Area supported by each stay 72 # Working pressure by rules 224 lbs. End plates in steam space: Material Steel Thickness 1/32 Pitch of stays 18 x 20 How are stays secured D.N.O.W. Working pressure by rules 196 lbs. Material of stays Steel  
 Area at smallest part 7.5 # Area supported by each stay 18 x 20 Working pressure by rules 216 lbs. Material of Front plates at bottom Steel  
 Thickness 3/4 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 13 3/4 x 8 1/2 Working pressure of plate by rules 264  
 Diameter of tubes 3 Pitch of tubes 4 1/4 x 4 1/8 Material of tube plates Steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9.44  
 Pitch across wide water spaces 13 1/2 Working pressures by rules 204 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 3/4 x 1 1/2 x 2 Length as per rule 2-9 5/8 Distance apart 9 Number and pitch of stays in each 3 @ 8  
 Working pressure by rules 228 Steam dome: description of joint to shell ✓ % of strength of joint ✓  
 Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓  
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓

**SUPERHEATER.** Type ✓ Date of Approval of Plan ✓ Tested by Hydraulic Pressure to ✓  
 Date of Test ✓ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler ✓  
 Diameter of Safety Valve ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓

If used, state whether, and when, one will be sent

Is a Report also sent on the Hull of the Ship?



008691-008699-0050

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied :-

2 connecting rod top end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, one set of spare piston rings complete, assorted bolts & nuts.

The foregoing is a correct description,



K. Kopp

Dates of Survey while building: During progress of work in shops -- 1920 June 5, 23, July 12, Dec. 14, 23, 27, 1921 Oct. 7, 10, 24, Nov. 5, 1922 Feb. 21, May 29, July 18, Aug. 3, 8, Sept. 26, Oct. 9, 14, 1924 Jan. 15, Mar. 25, Apr. 8, 11, 13, 28, May 5, 19, July 5, 7, 21, 24. Total No. of visits 49. Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts - Cylinders 29-7-20. Slides 6-10-20. Covers 6-10-20. Pistons 6-10-20. Rods 12-7-20. Connecting rods 2-9-20. Crank shaft 9-9-20. Thrust shaft 30-11-20. Tunnel shafts 30-11-20. Screw shaft 6-10-20. Propeller 11-1-24. Stern tube 11-1-24. Steam pipes tested 28-4-24. Engine and boiler seatings 8-4-24. Engines holding down bolts 11-4-24. Completion of pumping arrangements 5-7-24. Boilers fixed 11-4-24. Engines tried under steam 21-7-24. Completion of fitting sea connections 25-3-24. Stern tube 6-10-24. Screw shaft and propeller 24-1-24. Main boiler safety valves adjusted 21-7-24. Thickness of adjusting washers Lock nuts. Material of Crank shaft OH. Steel Identification Mark on Do. 9-9-20. Material of Thrust shaft OH. Steel Identification Mark on Do. 25-11-18. Material of Tunnel shafts OH. Steel Identification Marks on Do. R.O.B. Material of Screw shafts OH. Steel Identification Marks on Do. 21-9-18. Material of Steam Pipes S.D. Steel Test pressure 540 lbs.

Is an installation fitted for burning oil fuel Yes. Is the flash point of the oil to be used over 150°F. Yes. Have the requirements of Section 49 of the Rules been complied with Yes. Is this machinery duplicate of a previous case Yes. If so, state name of vessel 'Taibu Maru' (Kobe Reg. 2293), 'Hoyeisan Maru' (' ' 2405), 'Usuri Maru' (' ' 3257). General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed and fitted on board in accordance with the requirements of the Rules and the approved plans. The materials and workmanship are good. The oil fuel piping has been tested as required by the Rules. The machinery has been tried under full working conditions and found satisfactory, and is in our opinion eligible for the record + L.M.C. - 7.24, and the notation 'Fitted for Oil Fuel 7.24, F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.24. FD. CL. Fitted for oil fuel 7.24. F.P. above 150°F.

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

The amount of Entry Fee ... ¥ 60. Special ... ¥ 1540. Donkey Boiler Fee ... £ ✓. Travelling Expenses (if any) £ see full report.

When applied for, 25 July 1924. When received, 19. L.H.F. Young & Co. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 NOV 1924. Assigned + L.M.C. 7.24. F.D. CL. Fitted for oil fuel 7.24. F.P. above 150°F.

