

REPORT ON MACHINERY.

No. 1226

1919

Date of writing Report 2nd April 1919 When handed in at Local Office 2nd April 1919 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 15th Jan'y. 1918 Last Survey 22nd March 1919
Reg. Book. on the s.s. "Kaian Maru" (Number of Visits 75)

Master J. Hayashi Built at Nagasaki By whom built Mitsubishi Zosen Kaisha Tons { Gross 5732
Net 3583
Engines made at Nagasaki By whom made Mitsubishi Zosen Kaisha When built 1919
Boilers made at Nagasaki By whom made Mitsubishi Zosen Kaisha when made 1919
Registered Horse Power _____ Owners Katsuda Steamship Co. Port belonging to Mitsugahama
Nom. Horse Power as per Section 28 490 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 26 1/2, 44 1/2, 75 Length of Stroke 48 Revs. per minute 80 Dia. of Screw shaft as per rule 15.98 Material of Steel
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No. liner fitted 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 Yes 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 5' 6 1/2"
Dia. of Tunnel shaft as per rule 13.74 Dia. of Crank shaft journals as per rule 14.127 Dia. of Crank pin 15 Size of Crank webs 22 1/2 x 9 1/2 Dia. of thrust shaft under collars 14.75 Dia. of screw 18.3 Pitch of Screw 19.9 No. of Blades 4 State whether moveable Yes Total surface 96.8 sq. ft.
No. of Feed pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes
No. of Donkey Engines 4 Sizes of Pumps 1 General Service Duplex 7 1/2 x 7 1/2
In Engine Room 3 @ 3 1/2 2 Feed duplex 10 1/2 x 12 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps In Holds, &c. No. 1 hold 2 @ 3 1/2, No. 2 hold 2 @ 3 1/2, Cross-tunnel 2 @ 3 1/2, No. 3 hold 2 @ 3 1/2, No. 4 hold 2 @ 3 1/2, Tunnel well 1 @ 2 1/2
No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating 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 None How are they protected _____
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 Bridge deck.

BOILERS, &c.—(Letter for record B) Manufacturers of Steel Yawata Steel Works
Total Heating Surface of Boilers 6499 Is Forced Draft fitted Yes No. and Description of Boilers 3 Cylindrical Single ended
Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 15th Feb'y. 1919 No. of Certificate 89
Can each boiler be worked separately Yes Area of fire grate in each boiler 54.32 sq. ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 9.62 sq. in. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 9' 5" Mean dia. of boilers 14' 0" Length 11' 6" Material of shell plates Steel
Thickness 1 5/16 Range of tensile strength 25 to 32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Double lap.
long. seams 2 straps Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9 1/2 x 4 3/4 Lap of plates or width of butt straps 20 1/2
Per centages of strength of longitudinal joint rivets 88.6 Working pressure of shell by rules 212 lbs. Size of manhole in shell 16" x 12"
plate 83.5 Size of compensating ring 37 x 33 x 1 5/16 No. and Description of Furnaces in each boiler 3 Monson's Material Steel Outside diameter 3' 9 1/4"
Length of plain part top _____ bottom _____ Thickness of plates crown 9 Description of longitudinal joint Welded No. of strengthening rings _____ bottom _____
Working pressure of furnace by the rules 217 lbs. Combustion chamber plates: Material Steel Thickness: Sides 3/4 Back 3/4 Top 3/4 Bottom 1 5/16
Pitch of stays to ditto: Sides 11 1/4 x 7 1/4 Back 9 x 10 1/8 Top 7 x 11 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 212 lbs.
Material of stays Steel Area at smallest part 2.02 sq. in. Area supported by each stay 81.6 sq. in. Working pressure by rules 223 lbs. End plates in steam space: _____
Material Steel Thickness 1 9/32 Pitch of stays 15 x 20 How are stays secured Double nuts and washers Working pressure by rules 214 lbs. Material of stays Steel
Area at smallest part 8.295 Area supported by each stay 360 sq. in. Working pressure by rules 239 lbs. Material of Front plates at bottom Steel
Thickness 1 Material of Lower back plate Steel Thickness 1 1/16 Greatest pitch of stays 13 3/4 Working pressure of plate by rules 241 lbs.
Diameter of tubes 3 1/2 Pitch of tubes 4 3/8 x 11 1/2 Material of tube plates Steel Thickness: Front 3/4 Back 3/8 Mean pitch of stays 11 1/8
Pitch across wide water spaces 13 3/4 Working pressures by rules 229 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 1/2 x 8 double Length as per rule 31.9 Distance apart 11 1/2 Number and pitch of stays in each 3 @ 7"
Working pressure by rules 214 lbs. 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 _____

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— As per Rule, and in addition 1 H.P. valve spindle, 1 L.P. valve spindle, 2 eccentric rods, 1 air pump rod, 1 set each of H.P. I.P. & L.P. packing rings, 1 set each of top & bottom brasses for one connecting rod, 13 junk ring bolts, 1 set of air pump valves, 1 impeller spindle for circulating pump, 53 condenser tubes, 160 ferrules, 1 complete set of valves & rods for main & donkey feed checks, 3 cylinder escape valves & springs, 1 safety valve spring &

The foregoing is a correct description,
NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

[Signature]
GENERAL MANAGER.

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1918 Jan. 15. 30. Feb. 20. March 1. 14. 28. April 2. 9. 16. 20. May 22. 27. 29. 31. June 12. 17. Aug 17. 19. Sept. 3. 4. 9. 13. 24. 26. Oct. 2. 4. 12. 15. Nov. 5. 8. 13. 14. 20. 26. 30. Dec. 4. 13. 23.
During erection on board vessel --- 1919 Jan. 9. 17. 20. 22. 27. 30. 31. Feb. 1. 4. 6. 7. 10. 13. 14. 15. 17. 18. 19. 20. 21. 22. 24. 25. 27. 28.
March 1. 4. 5. 7. 11. 12. 13. 15. 20. 21. 22.
Total No. of visits 75

Is the approved plan of main boiler forwarded herewith Yes.

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 4x10. 2. 19 Slides 25. 2. 19 Covers 4x10. 2. 19 Pistons 25. 2. 19 Rods 25. 2. 19
Connecting rods 25. 2. 19 Crank shaft 25. 2. 19 Thrust shaft 21. 11. 17 Tunnel shafts 3. 6. 18 Screw shaft 2. 2. 19 Propeller 19. 2. 19
Stern tube 27. 1. 19 Steam pipes tested 4x7. 3. 19 Engine and boiler seatings 18. 2. 19 Engines holding down bolts 5. 3. 19
Completion of pumping arrangements 12. 3. 19 Boilers fixed 4. 3. 19 Engines tried under steam 15. 3. 19
Completion of fitting sea connections 27. 2. 19 Stern tube 34. 2. 19 Screw shaft and propeller 27. 2. 19.
Main boiler safety valves adjusted 12. 3. 19 Thickness of adjusting washers Jambs nuts
Material of Crank shaft Steel Identification Mark on Do. M.W. Material of Thrust shaft Steel Identification Mark on Do. M.T.
Material of Tunnel shafts Steel Identification Marks on Do. M.I. Material of Screw shafts Steel Identification Marks on Do. M.L.
Material of Steam Pipes Copper Test pressure 400 lbs. ASV

Is an installation fitted for burning oil fuel Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case Yes. If so, state name of vessel "Kohnan Maru"

General Remarks (State quality of workmanship, opinions as to class, &c.)

These Engines and Boilers have been constructed under Special Survey, in accordance with the Rules, and of good materials and workmanship. They have been securely fitted on board, and have been satisfactorily tried under steam.

The machinery of this vessel is eligible, in my opinion, for the record of

LMC 3.19 in the Register Book

Mean speed on Trial in water ballast condition = 14.503 knots.

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.19. F.D.

[Signatures]
15/5/19

A.S. Williamson
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3.0.0 : When applied for,
Special ... £ 77.18.3 : 27th March 1919
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 2nd April 1919

Committee's Minute WED. JUN. 11. 1919
Assigned + LMC 3.19

[Signature]

ORIGINAL CERTIFICATE
WRITTEN



Surveyed

" Kaiten

Mitsubishi

and the

Register

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This Certificate is
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Lloyd's Register
Foundation

Nagasaki Office

Certificate (if required) to be sent to

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