

REPORT ON MACHINERY

No. 1316

THU. 21 APR. 1921

Received at London Office

Writing Report 10th March 1921 When handed in at Local Office 12th March 1921 Port of Nagasaki.

Survey held at Nagasaki. Date, First Survey 16-1-20 Last Survey 9-2-1921.

Book. on the S.S. "Kishigama Maru" (Number of Visits 26)

F. Futui Built at Nagasaki By whom built Matsuo Iron Works & Dockyard When built 1921.

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Horse Power Owners Itaya Shosun Kaisha Port belonging to Koyagi.

Horse Power as per Section 28 262³⁰⁰ Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

NES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3.

Cylinders 22" 37" 61" Length of Stroke 42. Revs. per minute 77. Dia. of Screw shaft as per rule 12.76" Material of screw shaft as fitted 13.2" steel

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

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

the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes. If two

are fitted, is the shaft lapped or protected between the liners Yes. Length of stern bush 4'-8".

Tunnel shaft as per rule 11.3" Dia. of Crank shaft journals as per rule 11.86" Dia. of Crank pin 12.4" Size of Crank webs 8.2" 23.2" Dia. of thrust shaft under

12.4" Dia. of screw 15.9" Pitch of Screw 16.9" No. of Blades 4 State whether moveable Yes. Total surface 77.2 sq ft.

Feed pumps 2. Diameter of ditto 4.2" Stroke 2.1" Can one be overhauled while the other is at work Yes.

Bilge pumps 2. Diameter of ditto 4.2" Stroke 2.1" Can one be overhauled while the other is at work Yes.

Donkey Engines 3. Sizes of Pumps 1. 4.2" x 3.2" x 5" 2. 6" x 4" x 8" 3. 7.2" x 8.2" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps

In Holds, &c. No. 1 Hold 20.32" No. 2 Hold 20.32"

Bilge Injections 1 sizes 7.2" Connected to condenser to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 3.2"

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 Yes.

connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both.

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.

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.

pipes are carried through the bunkers Bilge pipes How are they protected With iron plates.

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes.

Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes.

Screw Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes. worked from Upper Deck.

ERS, &c.—(Letter for record 5) Manufacturers of Steel Yawata Steel Works.

Heating Surface of Boilers 4004.7 Is Forced Draft fitted No. No. and Description of Boilers 2 Cylindrical Single Ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 25th Nov 1920 No. of Certificate 108.

each boiler be worked separately Yes. Area of fire grate in each boiler 55.8 sq ft. No. and Description of Safety Valves to

boiler 2 Spring loaded Area of each valve 8.6 sq in Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes.

at distance between boilers or uptakes and bunkers or woodwork 2 1/2" Mean dia. of boilers 14.3" Length 11.0" Material of shell plates Steel

Range of tensile strength 28.6 to 32.4 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Double lap.

Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9" 4 1/2" Lap of plates or width of butt straps 18 1/2"

Working pressure of shell by rules 207 lbs. Size of manhole in shell 16" x 12"

No. and Description of Furnaces in each boiler 3 Plain Material Steel Outside diameter 3'-6"

of plain part top 2'-5 1/2" Thickness of plates crown 4 1/2" Description of longitudinal joint Welded No. of strengthening rings Two.

Working pressure of furnace by the rules 210 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"

of stays to ditto: Sides 7 1/2" x 8 1/4" Back 7 1/2" x 8 1/4" Top 7 1/2" x 8 1/4" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 214 lbs.

Area at smallest part 1.79 sq in Area supported by each stay 5.9 sq in Working pressure by rules 244 lbs. End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 16 1/2" x 15 1/2" How are stays secured Double nuts Working pressure by rules 237 lbs. Material of stays Steel

at smallest part 5.93 sq in Area supported by each stay 26.0 sq in Working pressure by rules 230 lbs. Material of Front plates at bottom Steel

Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 207 lbs.

Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates Steel Thickness: Front 7/8" Back 7/8" Mean pitch of stays 9 1/2"

Working pressures by rules 267 lbs. Girders to Chamber tops: Material Steel Depth and

Length as per rule 34" Distance apart 8" Number and pitch of stays in each 30 7 1/2"

Steam dome: description of joint to shell % of strength of joint

Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Working pressure of shell by rules Crown plates Thickness How stayed

RHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Pressure to which each is adjusted Is Easing Gear fitted

IS A ^{Donkey} DONKEY BOILER FITTED? Yes. If so, is a report now forwarded? Yes.

SPARE GEAR. State the articles supplied:— As per Rule and in addition, one set of packing rings, 1 set of piston rings, bolts & nuts for each piston, 3 valve spindles, 2 eccentric rods, 1 set each of top & bottom brasses for connecting rod, 43 condenser tubes, 1 set of air pump valves & rod, 1 impeller spindle for circulating pumps, 3 safety valve springs, 3 escape valve springs, 1 set of valves & seats for feed & bilge pumps, 1 set of valves & seats for feed chest valves, 1 propeller blade etc.

The foregoing is a correct description,

R. Drake Matsu Ironworks & Dockyard Manufacturer.

Dates of Survey while building	{	During progress of work in shops --	<u>1920 Jan 16. 27. Feb 9. Mar 8. 17. April 6. 26. May 6. 13. 20. 26. June 15. 22. July 1. 22.</u>
		During erection on board vessel --	<u>Aug 12. Oct 13. Nov 16. 24. Dec 1. 10. 13. 24.</u>
		Total No. of visits	<u>26</u>
			Is the approved plan of main boiler forwarded herewith <u>Yes.</u>
			" " " donkey " " " <u>Yes.</u>

Dates of Examination of principal parts—Cylinders 1-7-20 Slides 13-12-20 Covers 1-7-20 Pistons 13-12-20 Rods 13-12-20
Connecting rods 6-5-20 Crank shaft 4-5-20 Thrust shaft 9-8-20 Tunnel shafts 6-2-20 Screw shaft 30-1-20 Propeller 10-12-20
Stern tube 13-12-20 Steam pipes tested 2-1-21 Engine and boiler seatings 3-1-21 Engines holding down bolts 3-1-21
Completion of pumping arrangements 2-1-21 Boilers fixed 24-1-21 Engines tried under steam 9-2-21
Completion of fitting sea connections 18-11-20 Stern tube 18-11-20 Screw shaft and propeller 18-11-20
Main boiler safety valves adjusted 3-1-21 Thickness of adjusting washers Lock nuts.
Material of Crank shaft Steel Identification Mark on Do. 4-5-20 Y.T. Material of Thrust shaft Steel Identification Mark on Do. 9-8-20 Y.T.
Material of Tunnel shafts Steel Identification Marks on Do. 6-2-20 Y.T. Material of Screw shafts Steel Identification Marks on Do. 30-1-20 Y.T.
Material of Steam Pipes Copper Test pressure 360 lbs.
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 Section 49 of the Rules been complied with ✓
Is this machinery duplicate of a previous case Yes. If so, state name of vessel "Kohyo Maru" Report N° 1249

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Engines and Boilers have been constructed under Special Survey, in accordance with the Rules, and of good workmanship and materials. 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 2-21 in the Register Book.

Mean speed on Trial = 12.764 knots.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC. 2.21. 1921. C.L.

2SB + 1 Aux SB. 180lbs.

RCM
29/4/21

The amount of Entry Fee ...	<u>£ 60 :</u>	When applied for,
Special ...	<u>£ 579.25</u>	<u>15-2-1921.</u>
Donkey Boiler Fee ...	<u>See separate</u>	When received,
Travelling Expenses (if any) £	<u>Report.</u>	<u>17-2-1921.</u>

W. Boylan
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. MAY. 3 1921
Assigned + LMC. 2.21
C.L.