

REPORT ON MACHINERY.

No. 11744

Received at London Office

FRI. MAY. 10. 1913

Date of writing Report 23rd March 1918 When handed in at Local Office 23rd March 1918 Port of

NAGASAKI.

No. in Survey held at NAGASAKI.

Date, First Survey 10th April 1917 Last Survey 18th March 1918

Reg. Book. on the s.s. "Tama Maru"

(Number of Visits 38.)

Master Y. Yano Built at Nagasaki By whom built Matsuo Iron Works & Dockyard When built 1918

Engines made at Nagasaki By whom made Matsuo Iron Works & Dockyard when made 1918

Boilers made at Nagasaki By whom made Matsuo Iron Works & Dockyard when made 1918

Registered Horse Power Owners Tokio Kaifu Kabushiki Kaisha Port belonging to Amagasaki

Nom. Horse Power as per Section 28 262 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 22" 37" 61" Length of Stroke 42" Revs. per minute 77 Dia. of Screw shaft as per rule 12.76" Material of screw shaft Steel as fitted 13.3"

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 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 Yes Length of stern bush 4' 7"

Dia. of Tunnel shaft as per rule 11.3" Dia. of Crank shaft journals as per rule 11.86" Dia. of Crank pin 12.25" Size of Crank webs 8 1/2" x 23 1/2" Dia. of thrust shaft under collars 12 1/4" Dia. of screw 15.9" Pitch of Screw 16.9" No. of Blades 4 State whether moveable Yes Total surface 77.2 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 1 1/2" x 3 1/2" 2 1/2" x 4" 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3 @ 3 1/2" In Holds, &c. No. 1 Hold 2 @ 3 1/2" No. 2 Hold 2 @ 3 1/2" No. 3 Hold 2 @ 3 1/2" Tunnel well 1 @ 2 1/2"

No. of Bilge Injections 1 sizes 7 1/2" 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 Bilge pipes How are they protected With iron plates

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 S) Manufacturers of Steel John Spencer & Sons, Carnegie Steel Co., Imperial Steel Works.

Total Heating Surface of Boilers 4032.7 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 26th Dec. 1917 No. of Certificate 80

Can each boiler be worked separately Yes Area of fire grate in each boiler 56.87 sq. ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 8.61 sq. ins Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 16" Mean dia. of boilers 14.3" Length 11' 0" Material of shell plates Steel

Thickness 1 5/16" Range of tensile strength 28 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" x 4 1/2" Lap of plates or width of butt straps 18 1/2"

Per centages of strength of longitudinal joint rivets 85.25 plate 84.72 Working pressure of shell by rules 207 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 36 1/4" x 32 1/4" x 1 5/8" No. and Description of Furnaces in each boiler 3 horizontal Material Steel Outside diameter 3' 8 3/4"

Length of plain part top bottom Thickness of plates crown 5" bottom 8" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 225 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5" Back 5" Top 5" Bottom 3 1/2"

Pitch of stays to ditto: Sides 7 1/2" x 8 1/2" Back 7 1/2" x 8 1/2" Top 7 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 217 lbs.

Material of stays Steel Area at smallest part 1.79 sq. ins Area supported by each stay 59.8 sq. ins Working pressure by rules 260 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 Washers Working pressure by rules 237 lbs. Material of stays Steel

Area at smallest part 5.73 sq. ins Area supported by each stay 260 sq. ins Working pressure by rules 230 lbs. Material of Front plates at bottom Steel

Thickness 7/8" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 207 lbs.

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 7/8" Back 7/8" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 13 1/2" Working pressures by rules 267 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9" x 7 1/2" double Length as per rule 34 Distance apart 8 1/2" Number and pitch of stays in each 3 @ 7 1/2"

Working pressure by rules 197 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

Material of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

W1099-0054

IS A 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, junk ring bolts & nuts for each piston, 1 valve spindle, 2 eccentric rods, 1 set each of top & bottom brasses for connecting rod, 4 2 condenser tubes, 1 set air pump valves rod, 1 impeller spindle for circulating pump, 2 safety valve springs, 3 escape valve springs, 1 propeller blade

The foregoing is a correct description,

Matsuo Iron works & Dock yard.

Manufacturer.

1917 April 10. May 2. 23. 25. 28. June 6. 14. 20. July 4. 21. 24. 28. Aug. 7. 24.
Dates of Survey while building { During progress of work in shops -- Sept. 14. 20. 28. Oct. 5. 16. 26. 29. Nov. 7. 21. 30. Dec. 21. 24. 26.
During erection on board vessel --- 1918 Jan. 15. 16. 20. Feb. 4. 5. 14. 21. March 6. 11. 17. 18.
Total No. of visits 38

Is the approved plan of main boiler forwarded herewith Yes. ✓

" " " donkey " " " Yes. ✓

Dates of Examination of principal parts—Cylinders 24. 12. 17 Slides 21. 11. 17 Covers 21. 11. 17 Pistons 30. 11. 17 Rods 21. 11. 17

Connecting rods 4. 2. 18 Crank shaft 21. 12. 17 Thrust shaft 21. 11. 17 Tunnel shafts 30. 11. 17 Screw shaft 16. 1. 18 Propeller 4. 2. 18

Stern tube 16. 2. 18 Steam pipes tested 5. 2. 18 Engine and boiler seatings 16. 1. 18 Engines holding down bolts 4. 2. 18

Completion of pumping arrangements 14. 2. 18 Boilers fixed 4. 2. 18 Engines tried under steam 11. 3. 18

Completion of fitting sea connections 20. 1. 18 Stern tube 20. 1. 18 Screw shaft and propeller 14. 2. 18

Main boiler safety valves adjusted 6. 3. 18 Thickness of adjusting washers Jam nut

Material of Crank shaft Steel Identification Mark on Do. 6416 2.S. Material of Thrust shaft Steel Identification Mark on Do. 6450 2.S.

Material of Tunnel shafts Steel Identification Marks on Do. 6450 & 6453 2.S. Material of Screw shafts Identification Marks on Do. 6433 2.S.

Material of Steam Pipes Copper ✓ Test pressure 360 lbs. ✓

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 "Joys Mann No. 2" ✓

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 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 3.18** in the Register Book.

Mean speed of 6 runs on Trial when $\frac{1}{3}$ loaded = 11.58 knots.

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.18.

13/5/18

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

The amount of Entry Fee ... £ 2.00.0 : When applied for,
Special ... £ 49.13.0 : 22 March 1918
Donkey Boiler Fee ... £ 4.4.0 : When received,
Travelling Expenses (if any) £ : 23 March 1918

Committee's Minute

TUE. MAY 14 1918

Assigned

+ LMC 3.18

MAINTENANCE CERTIFICATE



© 2020

Lloyd's Register Foundation