

REPORT ON MACHINERY.

No. 2292

Received at London Office

MON 21 OCT 1918

Date of writing Report 19 _____ When handed in at Local Office 19 _____ Port of Kobe

No. in Survey held at Kobe Date, First Survey 25 July 1917 Last Survey 1st July 1918
 Reg. Book. on the Single Screw Steamer "Nagato Maru" (Number of Visits 48)

Master _____ Built at Kobe By whom built The Kawasaki Dry Dock Co Ltd When built 1918

Engines made at Kobe By whom made The Kawasaki Dry Dock Co Ltd when made 1918

Boilers made at do By whom made do when made do

Registered Horse Power 444 Owners The Nippon Yusen Kaisha Port belonging to Tokio

Nom. Horse Power as per Section 28 444 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 26:43 1/2: 79" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15.41" Material of screw shaft Steel
 as fitted 16"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No lines 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 No 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 No Length of stern bush 5' 5 1/4"

Dia. of Tunnel shaft as per rule 13.48" Dia. of Crank shaft journals as per rule 14.15" Dia. of Crank pin 14 3/4" Size of Crank webs 9 1/2 x 20 1/2" Dia. of thrust shaft under collars 14 3/8" Dia. of screw 17.6" Pitch of Screw 19" 0' mean No. of Blades 4 State whether moveable Yes Total surface 26 1/2 Shaped 100 sq. ft.

No. of Feed pumps One Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes (+ Weirs fed)

No. of Bilge pumps Two Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps Bal. 10" x 11" x 12" dup. Weirs 9 1/2 x 7 x 24 Two No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3 1/2 Gen Service 4 1/2 x 5.6 In Holds, &c. Nos. 1, 3 + 4 holds, two 3 1/2 No 2 hold, two 4"

No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Cir. p. 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 Now

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Larger Valves: Smaller, Cocks

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 Upper platform E. Rm

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Minor Steel Co. Carnegie Steel Co. Alan Wood St & Co. Wm Beardmore & Co. Wm. W. & Co. Jno Spence & Jno Marshall

Total Heating Surface of Boilers 5809 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers Two Single Ended

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 8 + 20 Feb 1918 No. of Certificate LLOYD'S TEST 400 LBS 8 + 20/2/18 ALJ. R

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 1/4 sq. ft. No. and Description of Safety Valves to each boiler Two Direct Spring Area of each valve 11.02 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 18" Mean dia. of boilers 16' 0" Length 12' 0" Material of shell plates Steel

Thickness 1 1/5" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double Riv. long. seams Straps riv. Diameter of rivet holes in long. seams 19" Pitch of rivets 10" x 5" Top of plates or width of butt straps 21 3/4 x 1 3/8"

Per centages of strength of longitudinal joint rivets: 97.00 plate: 84.37 Working pressure of shell by rules 207 lbs. Size of manhole in shell (16 x 12 in end plate)

Size of compensating ring End pl. Flanged No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 50 1/4"

Length of plain part top _____ bottom _____ Thickness of plates crown 11/16 Description of longitudinal joint Weld. No. of strengthening rings

Working pressure of furnace by the rules 224 lbs. Combustion chamber plates: Material Steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 5/8"

Pitch of stays to ditto: Sides 9 3/4 x 8 1/4 Back 8 x 9 1/2 Top 9 3/16 x 8 3/8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 200 lbs

Material of stays Steel Area at smallest part 2.1 sq. ft. Area supported by each stay 8 1/4 x 9 3/4 Working pressure by rules 230 lbs End plates in steam space:

Material Steel Thickness 1 3/16 Pitch of stays 16 3/4 x 19 1/4 How are stays secured Double nuts Working pressure by rules 205 lbs Material of stays Steel

Area at smallest part 7.5 sq. ft. Area supported by each stay 16 3/4 x 19 1/4 Working pressure by rules 240 lbs Material of Front plates at bottom Steel

Thickness 13/16 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 13 1/2 wide Working pressure of plate by rules 200 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 5/16 Material of tube plates Steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 10 1/4"

Pitch across wide water spaces 13 3/4 Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 3/4 x 13 1/16 Length as per rule 35 1/4 Distance apart 9 3/16 Number and pitch of stays in each Three @ 8 3/8"

Working pressure by rules 230 lbs Steam dome: description of joint to shell Yes % 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 _____

UPERHEATER. Type Schmidt Date of Approval of Plan _____ Tested by Hydraulic Pressure to 600 lbs

Date of Test 26/2/18 + 5/3/18 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 3 Pressure to which each is adjusted 205 lbs Is Easing Gear fitted No

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Four main bearing bolts + nuts.
Two crank pin " "
Two Crosshead " "
Set Couplings " "
Set feed + bldg pump valves.
Assorted bolts + nuts + iron

Set packing rings + springs each piston
Set journal ring bolts + nuts.
One part crank shaft
Propeller shaft
Four blades + 2 sets studs + nuts
Slide valve spindle each size
Centrifugal pump impeller shaft.
Crosshead + crank pin trusses. A Prod tank.
3 Safety valve Springs. Cond. + blr tubes etc. etc.

The foregoing is a correct description,

A. Clakane
KAWASAKI DOCKYARD COMPANY, LTD

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 25-31 July. 3.10.13.29 Aug. 3.7.10.20-25.26.28 Sept. 5.15.18.25.29 Oct.
During erection on board vessel --- 3.15.21.26.29 Nov. 3.15.22 Dec. 1917. 1.5.8.20.22.26 Feb. 5.22 March
Total No. of visits 48. 19.27 April. 4.13.15.21.27.29 May. 4.8.12.15.18. June. 1 July 1918.

Is the approved plan of main boiler forwarded herewith With Rept 2206 on S.S. "Tofuku Maru"

Dates of Examination of principal parts—Cylinders 3/8/17 etc Slides 15/10/17 Covers 15/10/17 Pistons 29/8/17 Rods 29/10/17
Connecting rods 29/10/17 Crank shaft 25/10/17 Thrust shaft 25/10/17 Tunnel shafts 3/11/17 Screw shaft 26/2/18 Propeller 22/2/18
Stern tube 5/2/18 Steam pipes tested 19/2/18 4/5/18 Engine and boiler seatings 15/5/18 Engines holding down bolts 4/6/18
Completion of pumping arrangements 15/6/18 Boilers fixed 4/6/18 Engines tried under steam 13/6/18. opened after trial 15/6/18
Completion of fitting sea connections 21/5/18 Stern tube 22/2/18 Screw shaft and propeller 21/5/18
Main boiler safety valves adjusted 12/6/18 Thickness of adjusting washers Star. Blr Fore 5/16" Port Blr. Fore 3/4" Aft 3/4"
Material of Crank shaft Steel Identification Mark on Do. LLOYD'S 25.10.17 Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S 25.10.17
Material of Tunnel shafts Steel Identification Marks on Do. LLOYD'S Material of Screw shafts Steel Identification Marks on Do. LLOYD'S 26.2.18
Material of Steam Pipes Steel 3.11.17 ALJ R Test pressure 600 lbs.
Is an installation fitted for burning oil fuel No. Is the flash point of the oil to be used over 150° F. ✓ Spax: 13.5.18 ALJ R
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 (Shinkoku Maru. No. 406)
(Tofuku Maru " " 407)
(Seiyuku Maru " " 408)

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

The machinery has been made & fitted under Special Survey in accordance with the requirements of the Rules & the materials & workmanship have been found good.

The vessel is eligible in my opinion for the notation LMC 7.18.

The report upon the Electric lighting will be sent very shortly.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.18 F.D.

ALJ
23-10-18
ALJ

The amount of Entry Fee ... Yen 30 : When applied for,
Special ... Yen 633 : 4 July 1918
Donkey Boiler Fee ... : :
Travelling Expenses (if any) Yen 15 : When received, 6 July 1918

Arthur L Jones

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 29 OCT. 1918

Assigned

MACHINERY CERTIFICATE WRITTEN. + LMC 7.18
ALJ



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