

## REPORT ON MACHINERY.

No. 3143.

Date of writing Report Apr. 26<sup>th</sup> 1921 When handed in at Local Office

Received at London Office

Port of Kobe

THU. 2 JUN. 1921

No. in Survey held at Kobe  
Reg. Book.Date, First Survey 17<sup>th</sup> JAN. 1920 Last Survey 8<sup>th</sup> MAY. 1921on the Steel Single Screw Steamer "FUJI MARU"(Number of Visits 101) Gross Tons 6571.25Master T. ITANIBuilt at KobeBy whom built Kawasaki Dockyard Co., Ltd. When built 1921Engines made at KobeBy whom made Kawasaki Dockyard Co., Ltd. when made 1921Boilers made at doBy whom made do when made 1921

Registered Horse Power

Owners doPort belonging to KobeNom. Horse Power as per Section 28 578Is Refrigerating Machinery fitted for cargo purposes NoIs Electric Light fitted YesENGINES, &c.—Description of Engines Triple ExpansionNo. of Cylinders Three No. of Cranks 3Dia. of Cylinders 28" 46 1/2" 78"Length of Stroke 54"Revs. per minute 85 maxDia. of Screw shaft 16.65Material of Forged steelIs the screw shaft fitted with a continuous liner the whole length of the stern tube no liners

Is the after end of the liner made water tight

n the propeller boss ✓ 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 71"Dia. of Tunnel shaft 14.8Dia. of Crank shaft journals 15.56Dia. of Crank pin 16"Size of Crank webs 29" x 10"

Dia. of thrust shaft under

collars 15 3/4" Dia. of screw 18'-0" Pitch of Screw 21'-6"No. of Blades 4 State whether moveable Yes Total surface 120<sup>sq</sup> ft developedNo. of Feed pumps one Diameter of ditto 5 1/4" Stroke 27"Can one be overhauled while the other is at work Yes (with Weir Feed pump)No. of Bilge pumps Two Diameter of ditto 5 1/4" Stroke 27"Can one be overhauled while the other is at work YesNo. of Donkey Engines Four Sizes of Pumps 10 x 11 x 12 dup.

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2"In Holds, &c. No. 1, 3 & 4 Holds—two 3 1/2"; No. 2—two 4"In Eng. Rm. Well—one 3 1/2"In COFFER DAM aft of No. 2 DB. TANK—one 3 1/2" In Tunnel Well—one 3 1/2"No. of Bilge Injections 1 sizes 12 3/4"Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"Are all the bilge suction pipes fitted with roses YesAre the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible NoneAre all connections with the sea direct on the skin of the ship YesAre 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 YesAre the Discharge Pipes above or below the deep water line 21" belowAre they each fitted with a Discharge Valve always accessible on the plating of the vessel YesAre the Blow Off Cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers Bilge SuctionsHow are they protected Wood coveringAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesIs the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from L.R. platform at upper deck.BOILERS, &c.—(Letter for record S) Manufacturers of Steel Milners Steel Co., Carnegie Steel Co., Kawasaki Fukuda & Hyogo Works (Kobe), John Marshall & Co. (Furnaces).Total Heating Surface of Boilers 3 x 2600 = 7800<sup>sq</sup> ft Is Forced Draft fitted Yes No. and Description of Boilers Three Single EndedWorking Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test No. 1, 20-12-20; No. 2, 24-12-20; No. 3, 15-1-21 No. of Certificate LLOYD'S TEST WT 400 LBS WP 200 LBS 20-12-20; 24-12-20; 15-1-21Can each boiler be worked separately Yes Area of fire grate in each boiler 63.25<sup>sq</sup> ft No. and Description of Safety Valves 2each boiler Two Spring loaded Area of each valve 11<sup>sq</sup> ft Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 2'-3" Mean dia. of boilers 15'-7 3/8" Length 12'-0" Material of shell plates SteelThickness 3 1/8" x 3 1/2" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Ends doublelong. seams Double riveted Diameter of rivet holes in long. seams 1 1/2" x 1 3/32" Pitch of rivets 9 3/4" x 4 1/8" Lap of plates or width of butt straps 21 3/8"Per centages of strength of longitudinal joint 100 Working pressure of shell by rules 202 lbs. Size of manhole in shell 16" x 12"Size of compensating ring 37 x 33 x 1 1/2" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 50 1/4"Length of plain part top 11 1/2" bottom 11 1/2" Thickness of plates 1 1/16" Description of longitudinal joint Welded No. of strengthening rings 2Working pressure of furnace by the rules 216 lbs. Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"Pitch of stays to ditto: Sides 9 3/4" x 8 1/2" Back 9 3/4" x 8 1/2" Top 8 3/4" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 208 lbs.Material of stays Steel Area at smallest part 2.10<sup>sq</sup> ft Area supported by each stay 78.13<sup>sq</sup> ft Working pressure by rules 242 lbs. End plates in steam space:Material Steel Thickness 1 1/16" Pitch of stays 17" x 15 1/4" How are stays secured Double nuts & washers Working pressure by rules 205 lbs. Material of stays SteelArea at smallest part 6.33<sup>sq</sup> ft Area supported by each stay 260.8<sup>sq</sup> ft Working pressure by rules 252 lbs. Material of Front plates at bottom SteelThickness 1 3/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 9 3/4" x 8 1/4" Working pressure of plate by rules 309 lbs.Diameter of tubes 9 3/8" Pitch of tubes 4 1/2" x 4 1/16" Material of tube plates Steel Thickness: Front 1 3/16" Back 1 3/16" Mean pitch of stays 9" x 8 3/8"Pitch across wide water spaces 13 3/4" Working pressures by rules 240 lbs. Girders to Chamber tops: Material Steel Depth andthickness of girder at centre two 10 1/4" x 1 3/16" Length as per rule 35 1/8" Distance apart 8 1/2" Number and pitch of stays in each Three @ 8 1/2"Working pressure by rules 232 lbs. Steam dome: description of joint to shell None % 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 Schmidt

Date of Approval of Plan

Tested by Hydraulic Pressure to 600 LBS.Date of Test 21-1-21; 25-1-21; 29-1-21 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YesDiameter of Safety Valve one 3" for each. Pressure to which each is adjusted 245 lbs. (Relief Valve would not keep tight at lower adjustment) Is Easing Gear fitted Yes



IS A DONKEY BOILER FITTED? None

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

- |   |                                      |  |
|---|--------------------------------------|--|
| 1 Set packing rings for all piston & piston valves. | 1 Main bearing bolts & nuts          | 1 Set A. P. head valves                        |
| 15 studs & nuts for junk rings                      | 1 Slide valve rod of each size       | 3 Safety valves springs                        |
| 1 pair Eccentric Rods.                              | 1 Set feed check valves & seats      | 1 Set Feed & Bilge pump valves & seats.        |
| 1 Propeller shaft with nut.                         | 1 Centrifugal pump impeller & shaft. | Condenser tubes & ferrules, bolts & nuts, etc. |
| 2 Bolter nuts for Conn. Rod top & bottom ends.      | 1 Set Crosshead & Crank-pin brasses. | Oil burning sprayers & etc.                    |
| 9 Shaft coupling bolts & nuts.                      | 1 Air pump rod & nut.                | Superheater tubes etc.                         |

The foregoing is a correct description,

**Kawasaki Dockyard Co., Ltd.**

For

*Shota Kane*  
Secretary.

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- JAN 17, 29, 31; FEB 7, 10, 12, 17, 24, 27; MAR 17, 19, 26, 31; APR 1; MAY 15, 18, 26, 29; JUNE 2, 4, 7, 15, 22, 23, 26, 29;  
During erection on board vessel -- JULY 3, 6, 8, 9, 12, 13, 17, 20, 22, 24, 26, 27, 28, 29, 31; AUG 2, 3, 4, 7, 9, 10, 12, 13, 16, 19, 24, 26; SEPT. 2, 4, 6, 8, 13, 16, 18, 24, 25, 27; OCT. 1, 6, 19, 29; NOV. 5, 9, 11, 12, 20, 22, 24, 30; DEC. 1, 6, 8, 17, 20, 22, 23, 24; 1921 JAN. 6, 15, 21, 22, 25, 29; FEB. 5, 7, 9, 16, 17, 21, 22, 25; MAR 9, 10, 29; APR. 1, 7, 8.  
Total No. of visits 103 (including visits of Shafting etc.) Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 24-12-21 Slides 22-1-21 Covers 22-1-21 Pistons 22-1-21 Rods 16-2-21  
Connecting rods 9-2-21 Crank shaft 6-12-20 Thrust shaft 6-12-20 Tunnel shafts 5-11-20 Screw shaft 1-12-20 Propeller 22-12-20  
Stern tube 6-1-21 Steam pipes tested 17-2-21 Engine and boiler seatings 12-1-21 Engines holding down bolts 24-2-21  
Completion of pumping arrangements 31-3-21 Boilers fixed 28-2-21 Engines tried under steam 31-3-21  
Completion of fitting sea connections 21-1-21 Stern tube 8-1-21 Screw shaft and propeller 12-1-21  
Main boiler safety valves adjusted 10-3-21 Thickness of adjusting washers LOCK-NUTS

Material of Crank shaft F-STEEL Identification Mark on Do. LLOYDS 6-12-20 AW B Material of Thrust shaft F-STEEL Identification Mark on Do. LLOYDS 6-12-20 AW B  
Material of Tunnel shafts F-STEEL Identification Marks on Do. LLOYDS 6-11-20 AW B Material of Screw shafts F-STEEL Identification Marks on Do. LLOYDS 1-12-20 AW B  
Material of Steam Pipes S.D. STEEL Test pressure 600 lbs T.S. MARK (PA 937) LLOYDS 1-12-20 AW B

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 No If so, state name of vessel First vessel of this type

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

The Machinery has been made and fitted under Special Survey in accordance with the requirements of the Rules & the materials & workmanship are good. The machinery worked satisfactorily on trial. The Oil Fuel Suction Piping from Settling Tanks to Strokehold Pumps was tested to 50 lbs/sq inch water pressure; the Pressure Piping from Pumps to Burners to 400 lbs/sq inch. The Machinery of this vessel is eligible, it is submitted for the notation + LMC 4.21 and "Fitted for Oil fuel 4.21. (FP above 150°F.) A blue print of arrangement of Oil Fuel Piping and Shut-off Valves in 2 & B Spaces is sent herewith.

It is submitted that this vessel is eligible for THE RECORD + LMC 5.21. F.D. Fitted for oil fuel 5.21. FP above 150°F.

The amount of Entry Fee ... Yen 6000  
Special ENG STEEL CASTINGS ... 8600  
Donkey Boiler Fee ... 212  
" " FORGINGS ... 279  
Travelling Expenses (if any) £ 30

When applied for,

9th Apr 1921

When received,

15th Apr 1921

Committee's Minute

TUE JUN. 21 1921

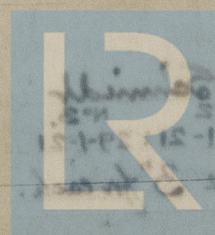
Assigned

+ LMC 5.21. F.D.

Fitted for oil fuel 5.21  
F.P. above 150°F.

CERTIFICATE WRITTEN

*Alexander Watt*  
Engineer Surveyor to Lloyd's Register of Shipping.



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