

Rpt. 4.

# REPORT ON MACHINERY.

No. 2647.

Date of writing Report Nov 14<sup>th</sup> 1919 When handed in at Local Office Kobe Port of Kobe Received at London Office FRI 2 JAN 1920

No. in Survey held at Kobe Date, First Survey June 13<sup>th</sup> Last Survey Nov 3<sup>rd</sup> 1919 (Number of Visits 47)

Reg. Book. on the Steel Single Screw Steamer "France Maru" Tons Gross 5863  
Net 4263

Master T. OKI. Built at Kobe By whom built Kawasaki Dockyard Co. Ltd. When built 1919

Engines made at Kobe By whom made Kawasaki Dockyard Co. Ltd. when made 1919

Boilers made at do By whom made do when made 1919

Registered Horse Power 437 Owners Kawasaki Kisen Kabushiki Kaisha Port belonging to Kobe

Nom. Horse Power as per Section 28 437 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 26-13 1/2-72 Length of Stroke 18" Revs. per minute 70 Dia. of Screw shaft 15-11 1/2 Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the liner made water tight in 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 5'-5 1/4"

Dia. of Tunnel shaft 13-11 1/2 Dia. of Crank shaft journals 14-15 1/2 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 14'-6" Pitch of Screw 19'-0" mean No. of Blades 1 State whether moveable yes Total surface 100 sq. ft.

No. of Feed pumps One Diameter of ditto 5" Stroke 21" Can one be overhauled while the other is at work yes (with Weir's feed)

No. of Bilge pumps Two Diameter of ditto 5" Stroke 21" Can one be overhauled while the other is at work yes

No. of Donkey Engines Three Sizes of Pumps Bal. 10"x11"x12" Dup No. and size of Suctions connected to both Bilge and Donkey pumps 3 1/2"

In Engine Room Three 3 1/2" In Holds, &c. No. 1, 3 + 1 Hold each two 3 1/2"  
One 3 1/2" to tunnel Well - No. 2 Hold. two 4"

No. of Bilge Injections 1 sizes 9" 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 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 Up platform of E. R.

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Illinois Steel Co, Carnegie Steel Co, American Spiral Pipe Co, (Furnaces) 2 S.B. & 1 Aux S.B.

Total Heating Surface of Boilers = 5636 sq. ft. Forced Draft fitted yes No. and Description of Boilers Two 5.6 + Aux. 5.6

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 5-9-19 12-9-19 No. of Certificate NEI. LLOYD'S TEST 400 LBS. 200 LBS. WLR

Can each boiler be worked separately yes Area of fire grate in each boiler 60 1/2 sq. ft. No. and Description of Safety Valves to each boiler Two Spring loaded Area of each valve 3 3/4" dia. 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 12" Mean dia. of boilers 14'-6" Length 12'-0" Material of shell plates steel

Thickness 1 3/8" Range of tensile strength 2678 to 32600 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams End Doub.

long. seams Doub. Straps Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9 1/8" + 1 9/16" Lap of plates or width of butt strap 20 1/8" + 1 3/8"

Per centages of strength of longitudinal joint 95.84 Working pressure of shell by rules 200 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring (1 1/2" + Flange) 1 5/16" No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 18 1/4"

Length of plain part top ✓ Thickness of plates bottom 2 1/2" Description of longitudinal joint Weld No. of strengthening rings ✓

Working pressure of furnace by the rules 221 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 8 5/8" x 8 1/2" Back 8 1/2" x 9" Top 8 1/2" x 9 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 203 lbs.

Material of stays steel Area at smallest part 2.10 sq. in. Area supported by each stay 8 1/2" x 9 3/8" Working pressure by rules 230 lbs. End plates in steam space: Material steel Thickness 1 5/8" Pitch of stays 19 3/4" x 20 1/2" How are stays secured Doub. nuts Working pressure by rules 201 lbs. Material of stays steel

Area at smallest part 10" Area supported by each stay 19 3/4" x 20 1/2" Working pressure by rules 260 lbs. Material of Front plates at bottom steel

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

Diameter of tubes 3 1/4" Pitch of tubes 1 7/16" x 1 5/16" Material of tube plates steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 8 3/4"

Pitch across wide water spaces 13 3/4" + 3/4" doubled Working pressures by rules 210 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 10 3/4" + 1 3/16" (2) Length as per rule 34 1/2" Distance apart 9 3/8" Number and pitch of stays in each 3 @ 8 1/2"

Working pressure by rules 220 lbs. Steam dome: description of joint to shell ✓ % of strength of joint 100

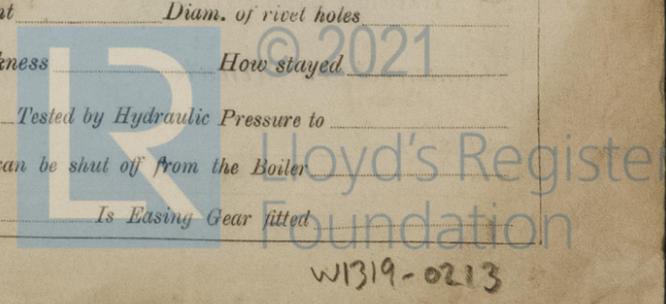
Diameter \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet holes \_\_\_\_\_

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? Aux. Bhr. only If so, is a report now forwarded? **yes**

SPARE GEAR. State the articles supplied:—

Four main bearing bolts + nuts Set packing rings + springs each piston. Centrifugal pump  
 Two Crank pin " " Set junk ring bolts + nuts. Impeller Shaft  
 Two Crosshead " " One part Crank Shaft. Crosshead + Crank  
 Set coupling " " Propeller Shaft. P.F. 746  
 LLOYDS  
 3-10-19  
 W.L.B. A.B. rod + nut.  
 Set Feed + Bilge pump valves Four blades + 2 sets studs + nuts 3 Safety Valves Spru  
 Assorted bolts + nuts + iron Slide valve sprindle each size Cond. + Bhr. tubes etc

The foregoing is a correct description.

**Kawasaki Dockyard Co., Ltd.**

Per J. Takano Secretary Manufacturer.

1919  
 Dates of Surcey { During progress of work in shops - - June 13, 25, 26; July 2, 10, 15, 16, 21, 23, 24, 28, 31; Aug. 4, 6, 8, 11, 13, 14, 16, 18, 19, 22, 23, 25, 26, 28, 30.  
 while building { During erection on board vessel - - Sept. 1, 3, 5, 6, 10, 11, 15, 17, 19; Oct. 2, 3, 6, 7, 22, 23, 24, 25, 27, 29.  
 Total No. of visits 47

Is the approved plan of main boiler forwarded herewith **No** San  
 " " " " **auxy.** on S/S. Italy Maru Rpt. No. 263  
 " " " " **donkey** " " " "

Dates of Examination of principal parts—Cylinders 18-8-19 Slides 3-10-19 Covers 11-9-19 Pistons 11-9-19 Rods 19-9-19  
 Connecting rods 17-9-19 Crank shaft 28-8-19 Thrust shaft 28-8-19 Tunnel shafts 28-8-19 Screw shaft 6-9-19 Propeller 15-9-19  
 Stern tube 6-9-19 Steam pipes tested 10-9-19 Engine and boiler seatings 17-9-19 Engines holding down bolts 24-10-19  
 Completion of pumping arrangements 24-10-19 Boilers fixed 24-10-19 Engines tried under steam 26-10-19 Overhaul 27-10-19  
 Completion of fitting sea connections 15-9-19 Stern tube 15-9-19 Screw shaft and propeller 4-10-19  
 Main boiler safety valves adjusted 23-10-19 Thickness of adjusting washers Locknuts (Sealed by Government Inspector)  
 Material of Crank shaft **Steel** Identification Mark on Do. **LLOYDS 28-8-19 W.L.B.** Material of Thrust shaft **Steel** Identification Mark on Do. **LLOYDS 28-8-19 W.L.B.**  
 Material of Tunnel shafts **Steel** Identification Marks on Do. **LLOYDS 28-8-19 W.L.B.** Material of Screw shafts **Steel** Identification Marks on Do. **LLOYDS 28-8-19 W.L.B.**  
 Material of Steam Pipes **Steel** 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.  
 Have the requirements of Section 49 of the Rules been complied with **✓**  
 Is this machinery duplicate of a previous case If so, state name of vessel  
 S.S. War Prince Rpt. No. 203  
 S.S. Naples Maru " " 258  
 S.S. Port Said Maru " " 258  
 S.S. Scotland Maru " " 263  
 S.S. Italy Maru " " 263

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

The Machinery of this vessel has been made + fitted under special survey in accordance with the requirements of the Rules + the workmanship are good.  
 The vessel is eligible in my opinion for the notation  
 ✠ LMC 10-19

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.19 F.D.

2 S.B. 1 Aux. S.B. F.D. W.L.B. 5/1/20

The amount of Entry Fee **Yers** 30.- :  
 Special ... £ 735.- :  
 Auxy Boiler Fee included :  
 Travelling Expenses (if any) £ 15.- :  
 When applied for, **Nov 7<sup>th</sup> 1919**  
 When received, **Nov 13<sup>th</sup> 1919**

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

Committee's Minute **TUE. JAN 6 - 1920**  
 Assigned **+ LMC 10, 19 F.D.**



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

MACHINERY CERTIFICATE  
 WRITTEN