

REPORT ON MACHINERY

No. 2669

Received at London Office

Date of writing Report Dec 2nd 1919 When handed in at Local Office 19 Port of Kobe
 No. in Survey held at Kobe Date, First Survey June 13th 1919 Last Survey Nov 17th 1919
 Reg. Book. on the Steel Single Screw Steamer "ENGLAND MARU" (Number of Visits 57)
 Master R. ISHIZUKA Built at Kobe By whom built The Kawasaki Dockyard Co. Ltd When built 1919
 Engines made at Kobe By whom made The Kawasaki Dockyard Co. Ltd when made 1919
 Boilers made at Do By whom made Do when made 1919
 Registered Horse Power _____ Owners The Kawasaki Kisen Kaisha Port belonging to Kobe
 Nom. Horse Power as per Section 28 437 440 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 26 : 43 1/2 : 72 Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15.4 Material of Steel
 as fitted 16" screw shaft
 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 as per rule 13.40 13.54 Dia. of Crank shaft journals as per rule 14.15 14.22 Dia. of Crank pin 14 3/4 Size of Crank webs 9 1/2 + 2 1/8 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 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 (with Weir's feed)
 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. No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room three 3 1/2" Gen. Ser. 7 1/2 x 5 x 6 dup. In Holds, &c. Nos. 1, 3, + 4 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 Cur. 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 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 Stl. Co. Carnegie Stl. Co. Am. Spiral Pipe Co. (Furnaces)
2252x2+1132(AUX-CLR) P.S.B. 1/AUX.S.B.
 Total Heating Surface of Boilers = 5636 sq. ft. Forced Draft fitted yes No. and Description of Boilers Two S. & Aux. S. & B.
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 15-9-19 1-10-19 No. of Certificate Nº. 400 LBS WP 200 LBS
 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 26785 to 32000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Ende Doub.
Double riveted long. seams Doubl. straps Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 1/8" + 4 9/16" Lap of plates or width of butt straps 20 1/8" + 1 3/8"
 Per centages of strength of longitudinal joint rivets 95.84 Working pressure of shell by rules 200 lbs. Size of manhole in shell 16" x 12"
 plate 84.28
 Size of compensating ring (7 1/2" + flange) 1 5/8" No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 48 1/4"
 Length of plain part top ✓ Thickness of plates bottom 2 1/32" 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 2.1 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 Doubl. 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 4 1/16" x 4 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 3/4" doubl. Working pressures by rules 210 lbs. Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 10 3/4" x 13 1/16" (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 _____
 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? *Cause. Blr. 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 impeller ✓
Two Crank pin " " ✓ Set junk ring bolts + nuts ✓ Crosshd. + Crankpin bra ✓
Two Crosshead " " ✓ One part Crank shaft ✓ A.B. rod + nut ✓
Set coupling " " ✓ Propeller shaft ^{P. 370} LLOYDS ₂₀₋₁₀₋₁₉ W.L.R. ✓ 3 Safety valve springs ✓
Set Feed + Bilge pump valves ✓ Four blades + 2 sets slides + nuts ✓ Cond. + Blr. tubes etc. ✓
Assorted bolts + nuts + iron ✓ Slide Valve sprindles each size ✓

The foregoing is a correct description,
Kawasaki Dockyard Co., Ltd.

Per *J. O. Takane* Manufacturer.
Secretary

1919
Dates of Survey while building { During progress of work in shops -- } June: 13, 25, 26; July: 4, 15, 19, 21, 24, 28, 31; Aug: 2, 7, 12, 14, 15, 16, 18, 19, 20, 21, 22, 23, 26, 27, 28
{ During erection on board vessel --- } Sept: 1, 2, 5, 6, 10, 12, 13, 15, 17, 18, 29; Oct: 1, 3, 4, 6, 9, 10, 11, 14, 16, 18, 20, 25, 27, 28; Nov: 1, 4, 8, 10, 14, 17
Total No. of visits 57

Is the approved plan of main boiler forwarded herewith *yes*
" " " *Auxy. donkey* " " " *yes*

Dates of Examination of principal parts—Cylinders 6-10-19 Slides 21-11-19 Covers 18-10-19 Pistons 18-10-19 Rods 28-10-19
Connecting rods 4-10-19 Crank shaft 18-9-19 Thrust shaft 18-9-19 Tunnel shafts 14-10-19 Screw shaft 3-10-19 Propeller 9-10-19
Stern tube 10-10-19 Steam pipes tested 16-10-19 Engine and boiler seatings 6-10-19 Engines holding down bolts 1-11-19
Completion of pumping arrangements 10-11-19 Boilers fixed 1-11-19 Engines tried under steam ⁷⁻¹¹⁻¹⁹ overhaul 8-11-19
Completion of fitting sea connections 6-10-19 Stern tube 11-10-19 Screw shaft and propeller 14-10-19
Main boiler safety valves adjusted 4-11-19 Thickness of adjusting washers Locknuts (locked by Japanese Gov.)
Material of Crank shaft *steel* Identification Mark on Do. ¹⁸⁻⁹⁻¹⁹ LLOYDS _{W.L.R.} Material of Thrust shaft *steel* Identification Mark on Do. ¹⁸⁻⁹⁻¹⁹ LLOYDS _{W.L.R.}
Material of Tunnel shafts *steel* Identification Marks on Do. ¹⁴⁻¹⁰⁻¹⁹ LLOYDS _{W.L.R.} Material of Screw shafts *steel* Identification Marks on Do. ¹⁴⁻¹⁰⁻¹⁹ LLOYDS _{W.L.R.}
Material of Steam Pipes *steel* Test pressure 600 lbs.

Is an installation fitted for burning oil fuel *No 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 *S.S. War Queen Rpt. No. 201*
S.S. War Prince " " 203
S.S. Naples Mare " " 258
S.S. Fortsaid " " 258
S.S. Scotland " " 263
S.S. Italy " " 263
S.S. France " " 264

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, and the workmanship are good.

The vessel is eligible in my opinion for the notation *L.M.C. 11-*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 11-19 F.D.

2 SB & 1 Aux SB
J.W.D. 9/11/20
J.P.S.

The amount of Entry Fee ... *yes* 30.- When applied for,
Special ... £ 735.- 20th Nov. 1919
Donkey Boiler Fee ... included
Travelling Expenses (if any) £ 20.- 27th Nov. 1919

A. Watt & W. Rawson
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. JAN. 16. 1920
Assigned *L.M.C. 11-19*
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.