

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 18th Nov. 1918 When handed in at Local Office 10 Port of Kobe

No. in Survey held at Kobe Date, First Survey 8th April Last Survey 6th Novem. 1918

Reg. Book. on the Single Screw Steer Steamer "Raifuku Maru" (Number of Visits 37)

Master Built at Kobe By whom built 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 Owners The Kawasaki Dry Dock Co. Ltd. Port belonging to Kobe

Nom. Horse Power as per Section 28 440 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 : 72 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 lined 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 13.48 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 26 Dia. of thrust shaft under collars 14 3/8 Dia. of screw 17.6 Pitch of Screw 19.0 No. of Blades 4 State whether moceable 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 Deir'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, 11, 12 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps Weir 9 1/2, 7 x 24 In Engine Room Three 3 1/2 x one 3 1/2 to tunnel well Gen. Service 7 1/2, 5.6 In Holds, &c. Nos. 1, 3 & 4 holds two 3 1/2 to each hold No. 2 hold, two 4

No. of Bilge Injections 1 sizes 9 Connected to condenser, or to circulating pump C.S.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 upper platform in Eng. Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Worth Bros (Sheets), Illinois (C.C. & H. Pl.), Leeds Forge, Carnegie (Rivets), Yawata, Man Wood (Specs)

Total Heating Surface of Boilers 5741 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 S.E. & one S.E. 2SB + 1AUX SB

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 20th & 26th Sep 1918 No. of Certificate Lloyd's Test 400 LBS 20/9/18: 26/9/18 ALJ

Can each boiler be worked separately Yes Area of fire grate in each boiler 60 1/2 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

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 5/16 Range of tensile strength 29-32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Double riv. long. seams Treb. riv. Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 8 3/4 x 4 3/8 Top of plates or width of butt straps 19 5/8, 1 1/4

Per centages of strength of longitudinal joint rivets 95.8 Working pressure of shell by rules 209 lbs Size of manhole in shell 16 x 12

Size of compensating ring (7 1/2 + flange) 1 3/8 No. and Description of Furnaces in each boiler Three Morrison Material Steel Outside diameter 48 1/4

Length of plain part top Thickness of plates crown 5/8 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 7/8

Pitch of stays to ditto: Sides 8 5/8 x 8 1/2 Back 9 x 8 1/2 Top 9 3/8 x 8 1/2 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 9 3/8 x 8 1/2 Working pressure by rules 230 End plates in steam space:

Material Steel Thickness 1 5/16 Pitch of stays 19 3/4, 20 1/2 How are stays secured Double 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 Material of Front plates at bottom Steel

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

Diameter of tubes 3 1/4 Pitch of tubes 4 7/8 x 4 5/16 Material of tube plates Steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 8 3/4

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 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 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

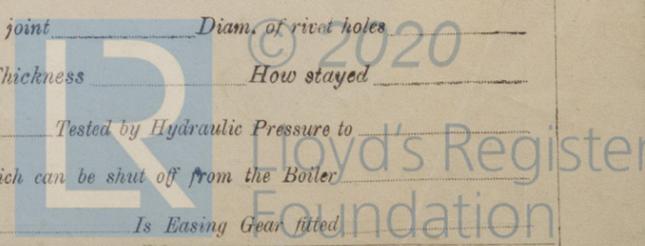
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

Total No. of Visits **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

W659-0053



IS A DONKEY BOILER FITTED? *Ans. No.*

If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:—

- Four main bearing bolts & nuts ✓*
- Two crank pin do do ✓*
- Two crosshead do do ✓*
- Set coupling do do ✓*
- Set feed & belt pump valves ✓*
- Assorted bolts & nuts & sheet steel ✓*

- Set packing rings & springs each piston*
- Set pump ring bolts & nuts*
- One part crank shaft. Propeller shaft*
- Four prop. blades & 2 sets studs & nuts*
- Slide valve spindle each size*
- Centrifugal impeller & shaft*
- Crosshead trasses & cr. pin trasses.*
- A.P. rod & nut. Three safety valve springs*
- Condensed tubes. Boiler tubes & bars etc. etc.*

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

Per: *Shakayama* Secretary

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- *8.18.26. Apr. 8.13.21.24.28.29.30 May. 1.3.17 June. 16.25 July. 28.21.28 Aug. 2.10.11*
 During erection on board vessel -- *1.10.15.21.23.26.28.29 Oct. 3.4.5.6 Nov. 1918.*
 Total No. of visits *37*

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders *28/5/18* Slides *1/6/18* Covers *28/5/18* Pistons *16/7/18* Rods *26/4/18*
 Connecting rods *30/5/18* Crank shaft *8/5/18* Thrust shaft *8/5/18* Tunnel shafts *24 & 30/5/18* Screw shaft *1/10/18* Propeller *1/10/18*
 Stern tube *14/10/18* Steam pipes tested *18/9/18: 23/10/18* Engine and boiler seatings *26 Oct 1918* Engines holding down bolts *28 Oct 1918*
 Completion of pumping arrangements *28/10/18* Boilers fixed *4/11/18* Engines tried under steam *5th Nov. 1918*
 Completion of fitting sea connections *26/10/18* Stern tube *24/10/18* Screw shaft and propeller *29 Oct 1918*
 Main boiler safety valves adjusted *4th Nov. 1918* Thickness of adjusting washers *Locknuts.*
 Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S 8.5.18 A.L.S.R.* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYD'S 8.5.18 A.L.S.R.*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYD'S 5.6.18 (two): 25.5.18 (two): 30.5.18 (two).* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYD'S 1-14.6 A.L.S.R.*
 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. *Span shaft. LLOYD'S 15.10.18 A.L.S.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 *War Queen War Prince East Cape. Easterling etc etc*

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 11-18.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11-18. FD.

J.W.D. 4.K 6/2/19

A.L. Jones

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... *Yes 30* : When applied for,
 Special ... *Yes 735* : *7th Nov. 1918.*
 Donkey Boiler Fee ... *X* : :
 Travelling Expenses (if any) *Yes :15* : *11th Nov. 1918.*

Committee's Minute
Assigned

FRI. 7 FEB. 1919 + LMC 11.18 S.D.



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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.