

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 17 Nov 1918 When handed in at Local Office 10 Port of Kobe WED. 5-FEB. 1919

No. in Survey held at Kobe Date, First Survey 19 Feb Last Survey 4 Nov 1918

Reg. Book. on the Single Screw Steel Strmt. "Kifuku Maru" (Number of Visits 5852)

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 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 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 15.41 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 Yes If the liner is in more than one length are the joints burned Yes 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 Yes 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 1000'

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 10-11-12 dupl. Weir's 9 1/2, 7, 5 1/4 Two No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3 1/2 & one 3 1/2 in tunnel well. Gen. Ser. 7 1/2, 5-6 In Holds, &c. Nos. 1, 3 & 4 holds Two 3 1/2 to each. No. 2 hold, two 4"

No. of Bilge Injections 1 sizes 9" 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 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 None

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. Sawada S. Wks. Alan Wood S. Co. Illusion S. L. Co. Leeds Forge Carnegie S. Co. (Lester)

Total Heating Surface of Boilers 5741 Is Forced Draft fitted Yes No. and Description of Boilers Two S. S. & 1 Aux S. S. 2SB7 1AUXSB.

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

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 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 5/16 Range of tensile strength 29 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams W. Riv. long. seams Drawn, Slip, Trib. Riveted. Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 3/4 x 4 3/8 Lap of plates or width of butt straps 11 7/8 x 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" plate 84.3

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

Length of plain part top Thickness of plates crown 21/32 Description of longitudinal joint Weld No. of strengthening rings None bottom

Working pressure of furnace by the rules 221 1/2 Combustion chamber plates: Material Steel Thickness: Sides 11/16 Back 11/16 Top 11/16 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 lbs End plates in steam space: Material Steel Thickness 1 5/16 Pitch of stays 19 3/4 x 20 1/2 How are stays secured Drawn nuts Working pressure by rules 201 1/2 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 1" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 13 1/2 at wide water space Working pressure of plate by rules 200

Diameter of tubes 3 1/4" Pitch of tubes 4 7/8 x 4 5/16 Material of tube plates Steel Thickness: Front 1" 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 10 3/4 x 3/4 Length as per rule 34 1/2 Distance apart 9 7/8 Number and pitch of stays in each 3 @ 8 1/2"

Working pressure by rules 218 Steam dome: description of joint to shell Yes % of strength of joint None

Diameter None Thickness of shell plates None Material None Description of longitudinal joint None Diam. of rivet holes None

Pitch of rivets None Working pressure of shell by rules None Crown plates None Thickness None How stayed None

SUPERHEATER. Type Yes Date of Approval of Plan None Tested by Hydraulic Pressure Lloyd's Register

Date of Test None Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes Foundation

Diameter of Safety Valve None Pressure to which each is adjusted None Is Easing Gear fitted None

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

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

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 pump & bilge pump valves ✓
 Assorted bolts nuts & iron

Set packing rings & springs for each p
 Set joint ring bolts & nuts
 On part crank shaft. Propeller s
 Four blades & two sets studs & nuts
 Slide valve spindle each size
 Centrifugal impeller & shaft.
 Crosshead & cr. pin trusses. A.P.M
 3 Safety valve springs. Condenser h
 He etc

The foregoing is a correct description,

Kawasaki Dockyard Co., Ltd.

Per *J. Masajima* Secretary.

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- **19th July to September 1918**
 During erection on board vessel --- **September to 4th Nov. 1918**
 Total No. of visits **Continuous attendance.**

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders **19/2/18: 13/3/18** Slides **24/5/18** Covers **26/4/18** Pistons **21/5/18** Rods **12/4/18**
 Connecting rods **23/5/18** Crank shaft **5/6/18** etc Thrust shaft **2/5/18** etc Tunnel shafts **30/5/18** etc Screw shaft **28/9/18** Propeller **3/10/18**
 Stern tube **14/9/18** Steam pipes tested **3/10/18: 23/10/18** Engine and boiler seatings **10/10/18** Engines holding down bolts **25/10/18**
 Completion of pumping arrangements **22/10/18** Boilers fixed **22/10/18** Engines tried under steam **2/11/18** Marked
 Completion of fitting sea connections **14/10/18** Stern tube **25/9/18** Screw shaft and propeller **3/10/18**
 Main boiler safety valves adjusted **29/10/18** Thickness of adjusting washers **Port Bl. F 1/2 A 3/8 Star Bl. F 5/8 A 5/8** Area sup
 Material of Crank shaft **Steel** Identification Mark on Do. **LLOYD'S 2-5-18 R. A.L.W.** Material of Thrust shaft **Steel** Identification Mark on Do. **1104**
 Material of Tunnel shafts **Steel** Identification Marks on Do. **LLOYD'S 5/6/18: 21/5/18: 26/5/18: 30/5/18** Material of Screw shafts **Steel** Identification Marks on Do. **448**
 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. **Space**

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 Inven"**

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 in my opinion eligible for the record + L.M.C. 11. 1918

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11-18. F.D.

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

A. H. Jones

Engineer Surveyor to Lloyd's Register of Shipping.

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

Committee's Minute

FRI. 7 FEB. 1919

MACHINERY CERTIFICATE

WRITTEN.

Assigned

+ L.M.C. 11. 18. *J.D.*



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