

## REPORT ON MACHINERY.

No. 2045

Received at London Office

MON AUG 27 1917

Date of writing Report 25<sup>th</sup> June 1917 When handed in at Local Office

Port of Kobe

No. in Survey held at Kobe  
Reg. Book.Date, First Survey 2<sup>nd</sup> June 1916 Last Survey 26<sup>th</sup> June 1917

on the Steel Twin Screw Steamer "War Soldier"

Master Burdon Built at Kobe

By whom built Sh. Kawasaki Dry Dock Co. Ltd.

Engines made at Kobe

By whom made Sh. Kawasaki Dry Dock Co. Ltd.

When made 1917-6

Boilers made at do

By whom made do

when made do

Registered Horse Power

Owners Furness, Withy &amp; Co. Ltd.

Port belonging to

Nom. Horse Power as per Section 28 659

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines Two sets Triple Expansion No. of Cylinders Six No. of Cranks Six

Dia. of Cylinders 21" 35" 59" Length of Stroke 48" Revs. per minute 85 Dia. of Screw shaft as per rule 13.79" 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' 0"

Dia. of Tunnel shaft as per rule 11.83" Dia. of Crank shaft journals as per rule 12.42" Dia. of Crank pin 13" Size of Crank webs 8" Dia. of thrust shaft under

collars 12 9/16" Dia. of screw 16" 0" Pitch of Screw 17" 0" No. of Blades 4 State whether moveable Yes Total surface 78" each prop

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes (One each engine)

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps Worthington No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2" in Ber Rm two 3 1/2" In Holds, &amp;c. Two 3 1/2" in each hold

No. of Bilge Injections 2 sizes 4 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room &amp; 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 Forward bilge suction. How are they protected Strong wood casings

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 E Rm

BOILERS, &amp;c.—(Letter for record S.) Manufacturers of Steel Beardmore Carnegie Leeds Inge

Total Heating Surface of Boilers 9219 Is Forced Draft fitted Yes No. and Description of Boilers Four Single Ended

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 14, 24 &amp; 30 Nov. No. of Certificate 400 LBS. HYD. 14-11-16. ALJ R

Can each boiler be worked separately Yes Area of fire grate in each boiler 60.5 No. and Description of Safety Valves to

each boiler Two direct spring Area of each valve 11.00" 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 Double riv.

long. seams Double straps 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 19 5/8" x 1 1/4"

Per centages of strength of longitudinal joint rivets 96.0 Working pressure of shell by rules 202 lbs Size of manhole in shell 12" x 16"

Size of compensating ring (7 1/2" + flange) x 1 3/8" No. and Description of Furnaces in each boiler 3 Morison Sup. 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 222 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 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 2.43 sq. in. Area supported by each stay 9 3/8 x 8 1/2" Working pressure by rules 238 lbs End plates in steam space:

Material Steel Thickness 1 5/16" Pitch of stays 20 1/2" x 19 3/4" How are stays secured Double nuts Working pressure by rules 200 lbs Material of stays Steel

Area at smallest part 10.12" Area supported by each stay 20 1/2" x 19 3/4" Working pressure by rules 249 lbs Material of Front plates at bottom Steel

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

Diameter of tubes 3 1/4" Pitch of tubes 4 7/16" 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 10 1/2" x 13 1/2" Length as per rule 34 1/2" Distance apart 9 3/8" x 6 3/8" Number and pitch of stays in each 3 @ 8 1/2"

Working pressure by rules 226 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 Schmidt Date of Approval of Plan Tested by Hydraulic Pressure to 600 lbs

Date of Test 24 &amp; 30 Mar. 5 &amp; 10 Apr. 1917 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 3 Pressure to which each is adjusted 205 lbs Is Easing Gear fitted No

Lloyd's Register  
Foundation



IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: — Two crosshead bolts & nuts. Two crank pin bolts & nuts. Four main bearing bolts & nuts. Set coupling bolts. Set feed & blg pump valves. Set packing rings & springs for all pistons. Assorted bolts & nuts & iron. One crank shaft. Propeller shaft. Pair crank pin brasses. Piston rod with nut for each size. Slide valve rod each size. 1/4 set journal ring bolts. Air pump rod. 4 safety valve springs. Condenser tubes. Boiler tubes. Fire bars etc. etc.

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

Per

M. K. Kojima

Manufacturer.

Secretary

Dates of Survey while building

During progress of work in shops -- 2nd June 1916 to 30th April 1917

During erection on board vessel -- 1st May 1917 to 26th June 1917

Continuous attendance

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

None

Dates of Examination of principal parts—Cylinders 4/7/16 etc Slides 18/11/16 etc Covers 18/11/16 etc. Pistons 30/10/16 etc. Rods 10/6/16 etc  
Connecting rods 29/1/17 etc Crank shaft 28/7/16 etc Thrust shaft 29/1/17 etc Tunnel shafts 29/1/17 etc Screw shaft 27/4/17 etc Propeller 21/4/17 etc  
Stern tube 4/5/17 etc Steam pipes tested 4.15.17 May Engine and boiler seatings 21/5/17 etc Engines holding down bolts 28 May 1917  
Completion of pumping arrangements 14 June 1917 Boilers fixed 2nd June 1917 Engines tried under steam 21st June 1917  
Completion of fitting sea connections 18 May 1917 Stern tube 12 May 1917 Screw shaft and propeller  
Main boiler safety valves adjusted 14 June 1917 Thickness of adjusting washers 246-272-277 Port forebls F 3/8 A 3/8 Port forebls F 5/16 A 1/16  
Material of Crank shaft Steel Identification Mark on Do. LLOYDS No. 275-276-277 Stat. G.H. 6-1916 Material of Thrust shaft Steel Identification Mark on Do. LLOYDS No. 275-276-277 Stat. G.H. 6-1916  
Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS No. 275-276-277 Stat. G.H. 6-1916 Material of Screw shafts Steel Identification Marks on Do. LLOYDS No. 275-276-277 Stat. G.H. 6-1916  
Material of Steam Pipes Steel Test pressure 600 lbs Spare 2.5.1916

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 Harbin Maru Rob. Rpt No 1601.

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 shafting has been made by The Maroran Imperial Steel Works.

The machinery worked satisfactorily on trial. Light draught (12' 11" mean) Revs. per min 96. I.H.P. 5500. HP steam 200 lbs I.P. 80 to 84 lbs. L.P. 14 lbs. Vacuum 27 1/2 ins. Feed temp. 200° F. Satisfactory trials were made of the auxiliary machinery. Mean speed on trial 15.2 Knots.

The machinery is in my opinion eligible for the notation + LMC 6.17. in the Register.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 6.17. F.D.

The amount of Entry Fee ... Yen : 30 : When applied for,  
Special ... Yen 795 : 25 June 1917  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 26 June 1917

Committee's Minute TUE AUG. 28 1917.

Assigned

+ LMC 6.17

F.D.

MACHINERY CERTIFICATE

J.M.

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of Shipping.



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Lloyd's Register  
Foundation

Rpt. 13.

RI

Port of

No. in Reg. Book

Owners

Yard No.

DESCRIPTION

Two cylinders 18" dia.

Capacity of L

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Position of M

Positions of

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If vessel is u

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D

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2 arc + 7

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protect

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Main cable

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Branch cable

Branch cable

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Branch cable

Leads to lamp

Cargo light ca

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