

Port of Kobe

Received at London Office

No. in Survey held at

Kobe

Date, first Survey 21<sup>st</sup> Aug. 1912 Last Survey 22<sup>nd</sup> October 1913

Reg. Book.

6 Sup. on the Steel Twin Screw Steamer "Kashima Maru"

(Number of Plates)

Tons

Gross

Net

Master M. Yagi

Built at

Kobe

By whom built The Kawasaki Dockyard Co. Ltd. When built 1913

Engines made at

Kobe

By whom made

The Kawasaki Dockyard Co. Ltd.

when made 1913

Boilers made at

do

By whom made

do

when made do

Registered Horse Power

1152

Owners

Nippon Yusen Kaisha Ltd. Port belonging to Tokyo

Nom. Horse Power as per Section 28

1152

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines Triple Expansion Twin Screws No. of Cylinders Six No. of Cranks Six  
Dia. of Cylinders 24:45 $\frac{1}{4}$ :76 Length of Stroke 54 Revs. per minute 40 Dia. of Screw shaft as per rule 15.6 Material of Steel  
as fitted 16 screw shaft  
Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes 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 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 6'8"  
Dia. of Tunnel shaft as per rule 14.48 Dia. of Crank shaft journals as per rule 15.2 Dia. of Crank pin 16 Size of Crank webs 10 $\frac{3}{4}$  Dia. of thrust shaft under  
as fitted 14 $\frac{3}{4}$  as fitted 15 $\frac{1}{2}$   
collars 15 $\frac{1}{2}$  Dia. of screw 18"0 Pitch of Screw 20"0 to 22"0 No. of Blades 4 State whether moveable Yes Total surface 90" each propeller  
No. of Feed pumps 4 Diameter of ditto 5 $\frac{1}{4}$  Stroke 24 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 4 Diameter of ditto 5 $\frac{1}{4}$  Stroke 27 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines Five Sizes of Pumps Rev. 8 $\frac{1}{2}$  x 6 x 9 duplex Ballast 10 $\frac{1}{2}$  x 13 $\frac{1}{2}$  x 10 $\frac{1}{2}$  duplex No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room Three 3 $\frac{1}{2}$ , & thrust pump for 3 $\frac{1}{2}$  engine & 8 x 9 duplex In Holds, &c. Two 3 $\frac{1}{2}$  in each of the six holds, & kept in No. 4  
which has four 3 $\frac{1}{2}$ . Each tunnel on 3 $\frac{1}{2}$  & one 3" tunnel will 3" APT top 3" FPT top two 3" Boiler room two 3 $\frac{1}{2}$ . Cr. handles two 3 $\frac{1}{2}$   
No. of Bilge Injections 2 sizes 12" Connected to condenser, or to circulating pump Cir. p. Is a separate Donkey Suction fitted in Engine room & size Yes 8"  
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 Now  
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  
Dates of examination of completion of fitting of Sea Connections 7. 6. 13 of Stern Tube 31. 5. 13 Screw shaft and Propeller 6. 6. 13  
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper E.R. platform  
Is it fitted with a watertight door Yes

BOILERS, &amp;c.—(Letter for record S)

Manufacturers of Steel D. Colville &amp; Son. Leds Forge for flues.

Total Heating Surface of Boilers 16075 Is Forced Draft fitted Yes No. and Description of Boilers Seven. Single End.

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Dates of test 12. 21 & 21 Apr. v No. of Certificate 33  
5. 11. 20 & 31 May 1913Can each boiler be worked separately Yes Area of fire grate in each boiler 60 $\frac{3}{8}$  No. and Description of Safety Valves to

each boiler Two Direct Spring Area of each valve 8. 29 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 11. 9 Material of shell plates Steel

Thickness 1 $\frac{1}{32}$  Range of tensile strength 28/32 lbs Are the shell plates welded or flanged 8 at ends Descrip. of riveting: cir. seams Doub. riv.long. seams Doub. straps Diameter of rivet holes in long. seams 1 $\frac{3}{8}$  Pitch of rivets 8 $\frac{3}{4}$  x 4 $\frac{3}{8}$  Lap of plates or width of butt straps 19 $\frac{3}{4}$  x 1 $\frac{3}{16}$ Per centages of strength of longitudinal joint rivets 93.6 Continued 87.2 Working pressure of shell by rules 200 lbs Size of manhole in shell 16" x 12" 47 $\frac{3}{4}$ Size of compensating ring 3'1" x 2'9" x 1 $\frac{1}{32}$  No. and Description of Furnaces in each boiler 3 Morrison built Material Steel Outside diameter 43 $\frac{1}{4}$ 

Length of plain part top Thickness of plates crown 5/8 Description of longitudinal joint Weld No. of strengthening rings 11 bulbs

Working pressure of furnace by the rules 232 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 15/16

Pitch of stays to ditto: Sides Rev. 8 $\frac{1}{2}$  x 9 Back 8 $\frac{1}{2}$  x 8 $\frac{1}{2}$  Top 8 x 9 $\frac{3}{8}$  If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 215 lbs

Material of stays Steel Section Diameter at smallest part 2. 08 Area supported by each stay 75" Working pressure by rules 249 lbs End plates in steam space:

Material Steel Thickness 1 $\frac{1}{32}$  Pitch of stays 20 $\frac{1}{2}$  x 19 $\frac{3}{4}$  How are stays secured Doub. nuts Working pressure by rules 206 lbs Material of stays SteelSection Diameter at smallest part 9. 62 Area supported by each stay 20 $\frac{1}{2}$  x 17 $\frac{1}{2}$  Working pressure by rules 278 lbs Material of Front plates at bottom SteelThickness 3/4 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 8 $\frac{1}{2}$  for single Working pressure of plate by rules 200 lbsDiameter of tubes 3 in Pitch of tubes 4 $\frac{1}{4}$  x 4 $\frac{1}{8}$  Material of tube plates Steel Thickness: Front 13/16 Back 3/4 Mean pitch of stays 8 $\frac{3}{8}$ Pitch across wide water spaces 13 $\frac{1}{2}$  double Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 10 $\frac{1}{2}$  x 13/16 (252) Length as per rule 33 9/16 Distance apart 9 $\frac{3}{8}$  x 6 $\frac{3}{8}$  Number and pitch of stays in each 3 @ 8"

Working pressure by rules 236 lbs Superheater or Steam chest; how connected to boiler Now Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

001505-009513-0203



# VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

**SPARE GEAR.** State the articles supplied:— 4 Bolts & nuts for crossheads. 2 Bolts & nuts for crank pin branes. 2 main bearing bolts & nuts. Set shaft coupling bolts. Set feed & bly pump valves. Set packing ring for each piston each engine. Assorted bolts & nuts & iron various sizes. Propeller shaft. 4 blades. Stern bush. 1 crank shaft (interchangeable) Cr. pin & crank branes. Piston rod. Slide valve rod. Pair ecc rods & straps. Air pump rod. Piston valve packing n. Manufacturer. 2 Crosshead guide shoes. 100 Condenser tubes & ferrules. etc.

The foregoing is a correct description,  
**Kawasaki Dockyard Co., Ltd.**  
 Per *Inspector* 21st Aug 1912 to 8 June 1913  
 Dates of Survey while building { During progress of work in shops - Business Manager 8 June to 22nd Oct 1913  
 Total No. of visits Continuous attendance  
 Is the approved plan of main boiler forwarded herewith Yes  
 " " " donkey " " " None

**Dates of Examination of principal parts**—Cylinders 16.4.13 etc Slides 21.4.13 etc Covers 19.4.13 etc Pistons 6.2.13 etc Rods 2.12.12 etc  
 Connecting rods 14.4.13 etc Crank shaft 12.4.13 etc Thrust shaft 13.1.13 etc Tunnel shafts 22.2.13 etc Screw shaft 31.5.13 etc Propeller 7.6.13 etc  
 Stern tube 16.5.13 etc Steam pipes tested 5.9.13 Engine and boiler seatings 7.6.13 etc Engines holding down bolts 4.8.13 etc  
 Completion of pumping arrangements 10.9.13 Boilers fixed 20.6.13 Engines tried under steam 22.9.13  
 Main boiler safety valves adjusted 13.9.13 Thickness of adjusting washers No. 1. 3/8, No. 2. 13/32, No. 3. 3/8, No. 4. 11/32, No. 5. 13/32, No. 6. 3/8, No. 7. 11/32, No. 8. 3/8, No. 9. 11/32, No. 10. 3/8  
 Material of Crank shafts Steel Identification Mark on Do. G.H. 5.2.13 } Material of Thrust shafts Steel Identification Mark on Do. G.H. 25.11  
 Material of Tunnel shafts Steel Identification Marks on Do. G.H. 25.10.12 } Material of Screw shafts Steel Identification Marks on Do. G.H. 3.13 21  
 Material of Steam Pipes Steel 3/8. 10" dia. G.H. 20.12.12 } Test pressure 400 lbs. G.H. 26.12.12 }  
 Copper gudgeon drawn 18.11.13. 7 1/2 dia. G.H. 20.1.13 }  
 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 workman has been found good throughout.

All the shafting was made & machined at the Imperial Steel Works at Murooran  
 The forging certificates are enclosed.  
 A report on the electric lighting is forwarded.  
 It is submitted that the machinery is eligible for the notation + L.M.C. 10.13

It is submitted that  
 this vessel is eligible for  
**THE RECORD. + L.M.C. 10.13.** F.D.

*Arthur L. Jones*  
 17/11/13

The amount of Entry Fee..	Gen : 30/-	When applied for,	29.10.1913
Special .. .. .	Gen 1.10.7/-	When received,	24.10.1913
Donkey Boiler Fee .. .. .	£ :		
Travelling Expenses (if any)	Gen : 20/-		

Committee's Minute NOV. 18. 1913  
 Assigned + L.M.C. 10.13