

REPORT ON MACHINERY.

No. 1666

Port of Kobe

SAT. 25 OCT 1915

Received at London Office

No. in Survey held at Kobe Date, first Survey 16 June 1914 Last Survey 14 August 1915
 Reg. Book. on the Steel Twin Screw Steamer "Hawaii Maru" (Number of Plates)
 Master T. Saito Built at Kobe By whom built The Kawasaki Dry Dock Co. Ltd. Tons { Gross 9482
 Net 5980
 Engines made at Kobe By whom made The Kawasaki Dry Dock Co. Ltd. when made 1915
 Boilers made at Kobe By whom made The Kawasaki Dry Dock Co. Ltd. when made 1915
 Registered Horse Power 895 Owners The Osaka Shosen K. Kaisha Port belonging to Osaka
 Nom. Horse Power as per Section 28 895 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion Two sets No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 26" : 43½" : 73" Length of Stroke 48" Revs. per minute 75 Dia. of Screw shaft 15.54" 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" 5¼"
 Dia. of Tunnel shaft as per rule 13.55" Dia. of Crank shaft journals as per rule 14.23" Dia. of Crank pin 14¾" Size of Crank webs 9½" 20½" Dia. of thrust shaft under collars 14¾" Dia. of screw 17" 6" Pitch of Screws 20" 6" No. of Blades 4 State whether moveable Yes Total surface 95" each propeller
 No. of Feed pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes (One each engine)
 No. of Bilge pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes (— ")
 No. of Donkey Engines Four Sizes of Pumps 2 Weir fed 14" 10½" 24" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3½" Boiler Run 1½" 3½" Ballast " 10" 12" 12" Holds, &c. Two 3½" in each of the six holds.
1 Tunnel well one 3½" Two 1½" 1½" hals on FPT top & two 1½" 1½" hals on APT top.
 No. of Bilge Injections 2 sizes 9½" Connected to condenser, or to circulating pump Cir p. Is a separate Donkey Suction fitted in Engine room & size Yes 3½"
 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 X
 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 Inward hly. suction How are they protected Strong wooden 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
 Dates of examination of completion of fitting of Sea Connections 15/5/15 of Stern Tube 8/5/15 Screw shaft and Propeller 15/5/15
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Engine platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Wm. Beardmore & Co. Ltd. D. Colville & Sons Ltd.
 Total Heating Surface of Boilers 11524 Is Forced Draft fitted Yes No. and Description of Boilers Five Single Ended.
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 27/3/16 16/4/16 24/4/16 13/5/16 No. of Certificate 78, 79, 80, 81, 82
 Can each boiler be worked separately Yes Area of fire grate in each boiler 60.5 sq. ft. No. and Description of Safety Valves to each boiler Two, Spring loaded Area of each valve 3¾ 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 18" Mean dia. of boilers 14.6" Length 12.0" Material of shell plates Steel
 Thickness 15/16" Range of tensile strength 29.32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Drat. riv.
 long. seams Int. riv. Shp. Diameter of rivet holes in long. seams 13/16" Pitch of rivets 8¾" Imp. of plates or width of butt straps 19¾" 1½"
 Per centages of strength of longitudinal joint 95.84 Com. 87.7 Working pressure of shell by rules 202 lbs Size of manhole in shell 16" 12"
 plate 84.28 Shap 87.0 (Susp.) Material Steel Outside diameter 48¼"
 Size of compensating ring 13" 7½" No. and Description of Furnaces in each boiler 3 Morrison
 Length of plain part top 13" 7½" all round 13" 7½" bottom 13" 7½" Thickness of plates bottom 13/16" Description of longitudinal joint Weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 208 Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 7/8"
 Pitch of stays to ditto: Sides 8¾" 8½" Back 9" 8½" Top 9¾" 8½" If stays are fitted with nuts or riveted heads None Working pressure by rules 204
 Material of stays Steel Area at smallest part 2.1" 243 Area supported by each stay 79.7 Working pressure by rules 236 End plates in steam space: 3.17" margin at
 Material Steel Thickness 15/16" Pitch of stays 20½" 19¾" How are stays secured Don't nuts Working pressure by rules 200 lbs Material of stays Steel
 Diameter at smallest part 10.12" Area supported by each stay 20½" 19¾" Working pressure by rules 259 Material of Front plates at bottom Steel
 Thickness 13/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13½" Ser. shp. Working pressure of plate by rules 200
 Diameter of tubes 3½" Pitch of tubes 47/16" 45/16" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 8¾"
 Pitch across wide water spaces 13¾" Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10½" 13 (4 in) Length as per rule 34½" Distance apart 9¾" Number and pitch of stays in each 3 @ 8½"
 Working pressure by rules 22½" Superheater or Steam chest; how connected to boiler ✓ 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

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. _____ Description None ✓

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 _____ Descripti _____

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 _____ Riv _____

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:— 2 Crosshead bolts + nuts. 2 crank pin bolts + nuts.
4 main bearing bolts + nuts. Set coupling bolts + nuts. Set feed + bilge pump
1 set packing rings + springs for all pistons. Assorted bolts + nuts + iron.
One part crank shaft. One propeller shaft. + 4 blades with 2 sets studs + nuts.
Piston rod. Pair ecc. rods. Etc etc.

The foregoing is a correct description,
KAWASAKI DOCKYARD COMPANY, LTD. Manufacturer.
J. H. K. Secretary

Dates of Survey while building { During progress of work in shops - - 16th June 1914 to 18th May 1915
During erection on board vessel - - 18th May 1915 to 14th Aug. 1915
Total No. of visits Continuous attendance

Is the approved plan of main boiler forwarded herewith _____

Dates of Examination of principal parts—Cylinders 22/12/14 to 30/4/15 Slides 14/4/15 to 16/4/15 Covers 16/4/15 to 18/4/15 Pistons 12/3/15 to 14/3/15 Rods 3/3/15 to 5/3/15

Connecting rods 26/3/15 to 28/3/15 Crank shaft 3/5/15 to 5/5/15 Thrust shaft 26/3/15 to 28/3/15 Tunnel shafts 16/6/15 to 18/6/15 Screw shaft 24/4/15 to 26/4/15 Propeller 16/6/15 to 18/6/15

Stern tube 21/4/15 to 23/4/15 Steam pipes tested 14/15 to 16/15 Engine and boiler seatings 13/5/15 to 15/5/15 Engines holding down bolts 16/6/15 to 18/6/15

Completion of pumping arrangements 26/6/15 Boilers fixed 31/5/15 Engines tried under steam 6/7/15

Main boiler safety valves adjusted 26/6/15 Thickness of adjusting washers For cen. F 7/16 For Star F 3/32 For A.S. F 3/16 For A.S. F 3/16

Material of Crank shaft Steel Identification Mark on Do. LLOYDS A.L.J. Material of Thrust shaft Steel Identification Mark on Do. R 8/11/3

Material of Tunnel shafts Steel Identification Marks on Do. R 8/11/3 Material of Screw shafts Steel Identification Marks on Do. R 8/11/3

Material of Steam Pipes Steel Test pressure 600 lbs A.L.J.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery has been made & fitted under Special Survey accordance with the requirements of the Rules & the workmanship has been found good throughout.

The shafting ordered from Messrs Carl A Walter of Hamburg & Messrs George Marien Hütte in July 1914 never reached this country & the fitted has been made at The Robt Steel Works. The certificates for both shafting are enclosed.

A report on the Electric Lighting is enclosed.
The vessel is fitted with a small installation for refrigeration & a report is being forwarded shortly.
The machinery in my opinion renders the vessel eligible for notation + L.M.C. 8.15

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.15

The amount of Entry Fee. £ 30 : : When applied for, 22 Aug. 1915

Special £ 970.00 : : When received, 12 Aug. 1915

Donkey Boiler Fee £ : : : : : 12 Aug. 1915

Travelling Expenses (if any) £ : : : : : 12 Aug. 1915

Committee's Minute
Assigned
+ L.M.C. 8.15
TUE. JAN. 18. 1916

Engineer Surveyor to Lloyd's Register of British & Foreign Vessels
A. L. Jones
FRI. 4 FEB. 1916
Lloyd's Register Foundation