

REPORT ON MACHINERY.

Received at London Office

FRI. 13 JUL. 1917

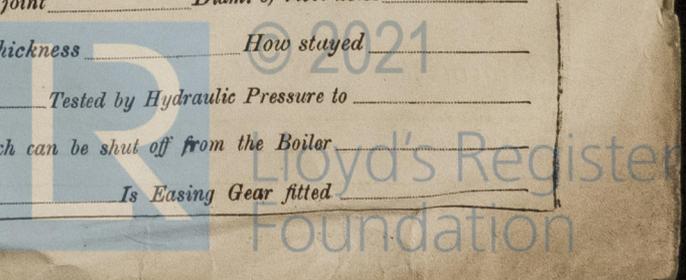
Date of writing Report 5 June 1917 When handed in at Local Office 10 Port of Nobe
 No. in Survey held at Nobe Date, First Survey 20 Nov. 1915 Last Survey 31st May 1917
 Reg. Book. on the Steel Single Screw Steamer "Jaian Maru" (Number of Visits 17)
 Master N. Segawa Built at Nobe By whom built The Kawasaki Dryd Co. Ltd. Tons { Gross 3135
 Net 1849
 Engines made at Nobe By whom made The Kawasaki Dryd Co. Ltd. when made 1917
 Boilers made at Nobe By whom made do when made do
 Registered Horse Power 285 Owners The Nippon Yusen Kaisha Port belonging to Tokio
 Nom. Horse Power as per Section 28 285 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 22 : 36 : 61 Length of Stroke 42 Revs. per minute 70 Dia. of Screw shaft as per rule 13.66 Material of Steel
 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
 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' 2 1/4"
 Dia. of Tunnel shaft as per rule 11.52 Dia. of Crank shaft journals as per rule 12.1 Dia. of Crank pin 12 1/4 Size of Crank webs 8 x 17 1/2 Dia. of thrust shaft under
 rollers 12 1/4 Dia. of screw 16.0 Pitch of Screw 16.6 to 18.6 No. of Blades 4 State whether moveable Yes Total surface 90
 No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Four Sizes of Pumps Gen. Pump 9 1/2 - 7.21 Single No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Three 3 1/2" & one 3" to tunnel well In Holds, &c. No 1 hold, two 3 1/2" No 2 hold, two 3 1/2"
Small dry pump 6 1/2 - 4 1/2 - 10 Single No 3 hold, two 4"
 No. of Bilge Injections 1 sizes 7 1/2 Connected to condenser, or to circulating pump Cir. P. Is a separate Donkey Suction fitted in Engine room & size 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 Yes
 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 Goaling in E. Ru.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Beardmore & Co Leeds Forge
 Total Heating Surface of Boilers 3614 Is Forced Draft fitted Yes No. and Description of Boilers Two Single-ended
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 25 May 1916 No. of Certificate Test witnessed by Government Surveyor
 Can each boiler be worked separately Yes Area of fire grate in each boiler 49.5 No. and Description of Safety Valves to
 boiler Two Direct spring Area of each valve 3 3/4 dia Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes
 Closest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 13.0 Length 11.6 Material of shell plates Steel
 Thickness 1 1/4 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double
 seams Double rivet Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 8 5/16 & 4 5/32 Edge of plates or width of butt straps 18 x 1 1/4"
 Percentages of strength of longitudinal joint Double straps rivets 96.6 Working pressure of shell by rules 213 lbs Size of manhole in shell 16 x 12"
 No. of compensating ring 7 1/2 + flange x 1 3/8 No. and Description of Furnaces in each boiler Three Morrison Material Steel Outside diameter 41 9/16
 Thickness of plain part top 1 1/2 Thickness of plates bottom 1 1/2 Description of longitudinal joint Weld No. of strengthening rings —
 Working pressure of furnace by the rules 220 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 7/8
 No. of stays to ditto: Sides 7 1/8 x 8 1/2 Back 7 3/16 x 8 1/2 Top 7 15/16 x 7 3/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 214 lbs
 Material of stays Steel Area at smallest part 1.79 Area supported by each stay 7 3/16 x 8 1/2 Working pressure by rules 234 End plates in steam space:
 Material Steel Thickness 1 1/16 Pitch of stays 23 1/4 x 19 How are stays secured Double nuts Working pressure by rules 205 lbs Material of stays Steel
 at smallest part 10.12 Area supported by each stay 23 1/4 x 19 Working pressure by rules 205 Material of Front plates at bottom Steel
 Thickness 13/16 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 13 3/4 Working pressure of plate by rules 200 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 3/8 & 4 7/16 Material of tube plates Steel Thickness: Front 13/16 Back 3/4 Mean pitch of stays 8 13/16
 Distance 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 9 1/4 x 3 1/2 Length as per rule 31 5/8 Distance apart 7 3/4 Number and pitch of stays in each 3 @ 7 15/16
 Working pressure by rules 234 Steam dome: description of joint to shell None % of strength of joint —
 Material — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —
 No. of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed —

SUPERHEATER. Type — Date of Approval of Plan — Tested by Hydraulic Pressure to —
 No. of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler —
 No. of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —

w1593-0033



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Set crosshead brasses & bolts & nuts. Set crank pin brass & bolts & nuts. 2 main bearing bolts & nuts. Set coupling bolts & nuts. $\frac{1}{4}$ total pin it ring bolts. Set packing rings & springs for each piston & piston valve. Slide valve rod each side. Pair ecc. rods & straps. $\frac{1}{30}$ condenser tubes & $\frac{1}{20}$ ferrules. Air pump rod & nut. A.P. head valves Centrif. fan & shaft. Set suction & delivery valves for feed pump & set for bilge pump. $\frac{1}{3}$ Crank shaft. 1 Propeller shaft. 2 Bronze propeller blades. Iron & bolts & nuts of assorted sizes. etc.

The foregoing is a correct description,

Kawasaki Dockyard Co., Ltd.

Per *J. M. Mulla* Manufacturer.

Dates of Survey while building: During progress of work in shops -- 20 Nov. 13-15 Dec 1915 for shafting. Sundry dates in 1916 not recorded as vessel was not intended for classification. During erection on board vessel -- 18. 24. 25. 29 Jan. 2. 3. 9. 12. 15. 27 Feb. 1st March. & 22nd 29th & 31st May 1917. Total No. of visits 17+ Is the approved plan of main boiler forwarded herewith Yes ✓

Dates of Examination of principal parts—Cylinders *overhauled after trial & "donkey" 1/3/17* Slides Covers Pistons Rods
 Connecting rods Crank shaft 15/12/15 Thrust shaft 15/12/15 etc Tunnel shafts 15/12/15 etc Screw shaft 15/12/15 etc Propeller 18/1/17 etc
 Stern tube Dec 1916 Steam pipes tested 3rd & 12th Feb '17 Engine and boiler seatings 24/1/17 Engines holding down bolts 9/2/17
 Completion of pumping arrangements 15/2/17 Boilers fixed 29/1/17 Engines tried under steam 27/2/17
 Completion of fitting sea connections 18/1/17 Stern tube 18/1/17 Screw shaft and propeller 24/1/17
 Main boiler safety valves adjusted 16th Feb. 1917 Thickness of adjusting washers *Coast nuts Interval, nut to set head* S. Bl. P. Bl. F. A. F. A. 1/16 1/8 1/10 1/4
 Material of Crank shaft Steel Identification Mark on Do. LLOYD'S Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S
 Material of Tunnel shafts Steel Identification Marks on Do. 15.12.15 ALJ Material of Screw shafts Steel Identification Marks on Do. 15.12.15 ALJ
 Material of Steam Pipes Steel & c.s. flanges riveted on ✓ 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. ✓

Have the requirements of Section 49 of the Rules been complied with ✓
 Is this machinery duplicate of a previous case No. ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
 Please see Kobe letter of 2nd Feb. & London reply of 19th March.
 The machinery & boilers have been seen in all stages while under construction side by side with engines & boilers intended for classification & the materials & workmanship are good. The shafting was made under survey at the Mitsubishi Dryd. & S. Works, Kobe.
 A report upon the Electric lighting is forwarded.
 The machinery is in my opinion eligible for the notation + LMC 5.17.

It is submitted that
 this vessel is eligible for
 THE RECORD + LMC 5.17. F.D. *ARK*

J.W.D.
 16.7.17.
Arthur L. Jones
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee	... Yen 20	: When applied for,	
Special	... Yen 514	: 20.3. 1917	
Shafting	... " 120	: 21.12. 15	
Donkey Boiler Fee	...	: When received,	
Travelling Expenses (if any)	£	: 23.3. 1917	

Committee's Minute
 Assigned + L.M.C. 5.17 F.D.

MACHINERY CERTIFICATE
 WRITTEN.



Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.