

REPORT ON MACHINERY.

Received at London Office TUE DEC 11 1917

Date of writing Report 27th Octr 1917 When handed in at Local Office 19 Port of YOKOHAMA

No. in Survey held at TOKIO Date, First Survey Decr 11th Last Survey Octr 20th 1917

Reg. Book. on the S. S. "HAKUSHIKA MARU" (Number of Volls 33) Gross 8150.82 Net 5036.711

Master Built at Tsurumi By whom built Asano Shipbuilding Co Ld When built 1917

Engines made at Tokio By whom made Ishikawajima S. B. & E Co Ld when made 1917

Boilers made at do By whom made do when made 1917

Registered Horse Power Owners Tatsuuma Steamship Co Port belonging to Kobe

Nom. Horse Power as per Section 28 615 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines twin screw triple expansion No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 22-36 1/2 - 61 Length of Stroke 48 Revs. per minute 91 Dia. of Screw shaft as per rule 13.5 Material of screw shaft S
 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 xx 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 xxx Length of stern bush 62
 Dia. of Tunnel shaft as per rule 12 5/8 Dia. of Crank shaft journals as per rule 12 1/8 Dia. of Crank pin 13 1/8 Size of Crank webs 25x8 1/2 Dia. of thrust shaft under collars 13 1/8 Dia. of screw 16' - 0" Pitch of Screw 18' - 0" No. of Blades 4 State whether moveable Yes Total surface 78 Sq in
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes
 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 2 Mumford feed pumps Sizes of Pumps 10 1/2 x 8 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 1 B. 3-3 1/2 5 1/2 x 3 1/2 x 6 10 x 6 x 10 In Holds, &c. No 1 hold 2-3 1/2, No 2 hold 2-3 1/2 No 3 hold 2-3 1/2, side bunkers 2-3 1/2 No 4 hold 2-3 1/2 No 5 hold 2-3 1/2 tunnel well 1-3"
 No. of Bilge Injections 2 sizes 7 1/2 Connected to condenser, or to circulating pump Yes 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 Both
 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 bilges How are they protected led through holes in Margin brackets (Ceiling)
 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 top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons
 Total Heating Surface of Boilers 9835 Is Forced Draft fitted Yes No. and Description of Boilers 4 Multitubular
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 11-8-17 No. of Certificate A. 4.
 Can each boiler be worked separately Yes Area of fire grate in each boiler 58.2 Sq in No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 11.04 Sq in Pressure to which they are adjusted 205 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 19" Mean dia. of boilers 14' - 3" Length 11' - 6" Material of shell plates S
 Thickness 1 13/32 Range of tensile strength 28. 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 10 Lap of plates or width of butt straps 2 2
 Per centages of strength of longitudinal joint rivets 92 Working pressure of shell by rules 2 2 3 Size of manhole in shell 16 x 12 plate 85
 Size of compensating ring 36 1/2 x 32 1/2 No. and Description of Furnaces in each boiler 3 Deighton Material S Outside diameter 3 - 10 1/2
 Length of plain part xxx Thickness of plates 5/8" Description of longitudinal joint Weld No. of strengthening rings None
 Working pressure of furnace by the rules 2 1 7 Combustion chamber plates: Material S Thickness: Sides 45/64 Back 44/64 Top 45/64 Bottom 15/16
 Pitch of stays to ditto: Sides 10 1/2 x 7 1/2 Back 8 5/8 x 8 3/4 7 1/2 x 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 207
 Material of stays S Area at smallest part 2.03 Area supported by each stay 83 Working pressure by rules 221 End plates in steam space: Material S Thickness 1 3/16 Pitch of stay 16 1/2 x 18 3/4 How are stays secured D. Nuts Working pressure by rules 214 Material of stays S
 Area at smallest part 7. 7 Area supported by each stay 311 Sq in Working pressure by rules 249 Material of Front plates at bottom S
 Thickness 3/4 Material of Lower back plate S Thickness 3/4 Greatest pitch of stays 8 1/2 Working pressure of plate by rules 276
 Diameter of tubes 3' Pitch of tubes 4 1/2 x 4 1/8 Material of tube plates S Thickness: Front 3/4 Back 3/4 Mean pitch of stays 8 3/8
 Pitch across wide water spaces 13 1/2 Working pressures by rules 225 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 x 1 1/2 Length as per rule 29 3/4 Distance apart 8 Number and pitch of stays in each 2 x 9 1/2
 Working pressure by rules 280 Steam dome: description of joint to shell xxx % of strength of joint

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
 Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
 Diameter of Safety Valves _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Screw shaft, 1 crank shaft, 2 propeller blades, 2 sets main bearings, piston valve packing rings, packing for piston and valve rods, 2 connecting rod top end belts and nuts, 2 main bearing belts, 1 set coupling belts, 1 set feed and bilge pump valves, a quantity of assorted belts and nuts.

Bottom end bolts

The foregoing is a correct description,

R. Izumi. Manufacturer.

Dates of Survey: During progress of work in shops -- Decr 11, Jan 24, March 27, April 16, 24, May 2, 19, 23, 31, June 14, 26, 28, July 14, 26, 28, Aug 6, 7, 11, 17, 24, 27, 28, Sep 3, 6, Aug 14, Sept 7, 14, Oct 3, 6, 8, 13, 14, 17, 20th. Total No. of visits 34.

Is the approved plan of main boiler forwarded herewith No

retained for dup

Dates of Examination of principal parts: Cylinders 23-5-17, Slides 6th July, Covers 23-5-17, Pistons 6th July, Rods 26-4-17, Connecting rods 16-5-17, Crank shaft 27-4-17, Thrust shaft 1-5-17, Tunnel shafts 17-4-17, Screw shafts 2, 9, 13, 16, 23-7-17, Propeller 6-6-17, Stern tube 26-6-17, Steam pipes tested 5, 6, 8, 10-17, Engine and boiler seatings 23th Aug, Engines holding down bolts 3-10-17, Completion of pumping arrangements 17-10-17, Boilers fixed 1st Sept, Engines tried under steam 20-10-17, Completion of fitting sea connections 1st July, Stern tube 12th July, Screw shaft and propeller 17th July 14th Oct, Main boiler safety valves adjusted 17-10-17, Thickness of adjusting washers Starb " " F15/16A 5/8, Port aft blr F15/16A 7/8, Starb " " F15/16A 7/8, Material of Crank shaft S, Identification Mark on Do. A. L. J., Material of Thrust shaft S, Identification Mark on Do. A. L. J., Material of Tunnel shafts S, Identification Marks on Do. A. L. J., Material of Screw shafts S, Identification Marks on Do. A. L. J., Material of Steam Pipes Steel, Test pressure 600 lbr

Is an installation fitted for burning oil fuel No, Is the flash point of the oil to be used over 150°F. No, Have the requirements of Section 49 of the Rules been complied with xxx, Is this machinery duplicate of a previous case No, If so, state name of vessel xxx

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special survey in accordance with the approved plans and the Society's Rules, the materials and workmanship are good. The machinery has been satisfactorily tried under steam. The vessel being eligible in my opinion for record LMC 10-17.

It is submitted that this vessel is eligible for THE RECORD. + LMC 10.17. F.D.

Handwritten signatures and dates: JWD, 13/10/17, JLM

The amount of Entry Fee ... £ 30.00, Special ... £ 760.00, Donkey Boiler Fee ... £, Travelling Expenses (if any) ... £ 101.00, When applied for, 25.10.17, When received, 1.11.17

James Cairns, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute, Assigned, TUE JAN 17 1918, + LMC 1017



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