

Rpt. 4.

## REPORT ON MACHINERY.

No. 2398.

Received at London Office

Date of writing Report 2nd Sept 19 18 When handed in at Local Office

Port of Yokohama

SAT OCT 26 1918

No. in Survey held at Tokyo  
Reg. Book.Date, First Survey 8th February Last Survey 22nd August 19 18  
(Number of Visits 22)

on the S. S. "Shinryu Maru"

Master Built at Tokyo By whom built Ishikawajima S. B. & E Co Ltd Tons Gross 3175.66  
Net 1958.29

Engines made at Tokyo By whom made Ishikawajima S. B. &amp; E Co Ltd when made 8 - 18

Boilers made at Tokyo By whom made Ishikawajima S. B. &amp; E Co Ltd when made 8 - 18

I.H.P. Registered Horse Power 1670 Owners Kishimoto Kisen Kaisha Port belonging to Uraga

Nom. Horse Power as per Section 28 279 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 22-37-61 Length of Stroke 42 Revs. per minute 77 Dia. of Screw shaft as per rule 12.85 Material of Steel  
as fitted 13 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 x 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 tight If two  
liners are fitted, is the shaft lapped or protected between the liners x Length of stern bush 4 - 9 1/2  
Dia. of Tunnel shaft as per rule 11.21 Dia. of Crank shaft journals as per rule 11.77 Dia. of Crank pin 12 1/2 Size of Crank webs 16 1/2 x 7 3/4 Dia. of thrust shaft under  
collars 12 1/4 Dia. of screw 16'-0" Pitch of Screw 16'-0" No. of Blades 4 State whether moveable No Total surface 74 sq ft  
No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 22 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 4" Stroke 22 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines 3 Sizes of Pumps 6 x 4 x 6 7 x 5 x 7 No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 4 of 3" 7 1/2 x 9 x 10 In Holds, &c. No 1 hold 2 - 3", No 2 hold 2 - 3"  
No 3 hold 2 - 3", Shaft tunnel 1 - 2 1/4"  
No. of Bilge Injections 1 sizes 5 1/4 Connected to condenser, on to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/4  
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 Yes  
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 None How are they protected x  
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, &amp;c.—(Letter for record S.) Manufacturers of Steel Worth Bros

Total Heating Surface of Boilers 3640 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 Multitubular 2 S.B.  
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 7-6-18 No. of Certificate 1 312  
Can each boiler be worked separately Yes Area of fire grate in each boiler 46.5 sq ft No. and Description of Safety Valves to  
each boiler 2, Spring loaded Area of each valve 9.62 sq ft Pressure to which they are adjusted 185 Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 13'-6" Length 11'-6" Material of shell plates S  
Thickness 1 1/4 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 1/4 Pitch of rivets 8 5/8 Lap of plates or width of butt straps 18 3/8  
Per centages of strength of longitudinal joint rivets 84.5 plate 85.5 Working pressure of shell by rules 206 Size of manhole in shell 16 x 12  
Size of compensating ring 36"x32"x1 1/4 No. and Description of Furnaces in each boiler 3 Morr Material S Outer diameter 40 1/4  
Length of plain part top x bottom x Thickness of plates crown 17/32 Description of longitudinal joint Weld No. of strengthening rings None  
bottom 25/32 Back 21/32 Top 23/32 Bottom 25/32  
Working pressure of furnace by the rules 202 Combustion chamber plates: Material S Thickness: Sides 25/32 Back 21/32 Top 23/32 Bottom 25/32  
Pitch of stays to ditto: Sides 10x8 Back 8 1/2 x 8 1/2 Top 8x8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 242  
Material of stays S Area at smallest part 1.79 Area supported by each stay 66.5 sq in Working pressure by rules 242 End plates in steam space:  
Material S Thickness 1 1/8 Pitch of stays 16 1/2 x 18 How are stays secured D.Nuts Working pressure by rules 190 Material of stays S  
Area at smallest part 6.33 Area supported by each stay 298.5 sq in Working pressure by rules 220 Material of Front plates at bottom S  
Thickness 29/32 Material of Lower back plate S Thickness 27/32 Greatest pitch of stays 14x8 1/2 Working pressure of plate by rules 182  
Diameter of tubes 3 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 29/32 Back 7/8 Mean pitch of stays 4 3/8  
Pitch across wide water spaces 14 Working pressures by rules 276 Girders to Chamber tops: Material S. Depth and  
thickness of girder at centre 11 Length as per rule 36 Distance apart 10-5 Number and pitch of stays in each 3 x 8"  
Working pressure by rules 210 Steam dome: description of joint to shell xx % of strength of joint x  
Diameter x Thickness of shell plates x Material x Description of longitudinal joint Diam. of rivet holes  
Pitch 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  
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 Valve Pressure to which each is adjusted Is Easing Gear fitted

W1096-0107



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded

SPARE GEAR. State the articles supplied:— One propeller, 3 valve spindles, One air pump rod, One circulating pump rod, Each set of HP, IP, & LP packing rings, for piston, One complete set of top & bottom ends & bolts for one connecting rod, One quarter set of total number of jink ring bolts, One complete set of main bearing bolts for one bearing, One complete set of coupling bolts & nuts for one coupling, One safety valve spring for each main boiler, One half set of air pump valves, One half set of circulating pump valve, One set of ecc. rod & bolts, a quantity of assorted bolts & nuts.

The foregoing is a correct description,

R. Izumi.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - { Feby 8, March 15, April 4, May 13, 24, June 7, 14, 19, 27, July 3, 6, 10, 15, 20, 24.  
During erection on board vessel - - { July 27, 31, August 2, 12, 14, 17, 22.  
Total No. of visits 22

Is the approved plan of main boiler forwarded herewith No retained  
" " " donkey " " " for duplicate

Dates of Examination of principal parts—Cylinders 27-6-18 Slides 27-6-18 Covers 27-6-18 Pistons 15-7-18 Rods 6-11-17  
Connecting rods 1-12-17 Crank shaft 16-10-17 Thrust shaft 3-11-17 Tunnel shafts 17-4-18 Screw shaft 11-12-17 Propeller 9-8-18  
Stern tube 3-7-18 Steam pipes tested 12-8-18 Engine and boiler seatings 12-8-18 Engines holding down bolts 14-8-18  
Completion of pumping arrangements 17-8-18 Boilers fixed 2-8-18 Engines tried under steam 22-8-18  
Completion of fitting sea connections 24-8-18 Stern tube 24-8-18 Screw shaft and propeller 27-8-18  
Main boiler safety valves adjusted 17-8-18 Thickness of adjusting washers Port boiler  $a \frac{1}{8}$ ,  $f \frac{3}{8}$ , Starb boiler  $a \frac{1}{8}$ ,  $f \frac{11}{32}$   
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. R.O.B. Material of Screw shafts S Identification Marks on Do. R.O.B.  
Material of Steam Pipes Steel & Copper Test pressure 540 & 360 bls  
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 X  
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. 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, and the machinery has been satisfactorily tried under steam,

The vessel being eligible in my opinion for record X LMC 8 - 18.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 8.18 F.D.

29-10-18  
ARR

The amount of Entry Fee ... £ 30.00  
Special ... £ 510.00  
Donkey Boiler Fee ... : :  
Travelling Expenses (if any) ... : :  
When applied for, 4-9-18  
When received, 9-9-18

Committee's Minute

Assigned

FRI 1-NOV 1918

+ LMC 6.8.18

F.D.

J. Cairns

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation