

Rpt. 4.

REPORT ON MACHINERY.

No. 2398.

Date of writing Report **2nd Sept 1918** When handed in at Local Office

Received at London Office

8th Oct 1918

Port of **Yokohama**

No. in Survey held at **Tokyo**
Reg. Book.

Date, First Survey **8th February** Last Survey **22nd August 1918**
(Number of Visits **22**)

on the **S. S. "Shinryu Maru"**

Master **Built at Tokyo** By whom built **Ishikawajima S. B. & E Co Ltd** When built **8 - 18**
Tons } Gross **3175.66**
 } Net **1958.29**

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

Boilers made at **Tokyo** By whom made **Ishikawajima S. B. & 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 **12.8** Material of screw shaft **Steel**
as fitted **13**

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 1/2** 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 1/2** 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** No. and size of Suctions connected to both Bilge and Donkey pumps
7 x 5 x 7
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 1/2"

No. of Bilge Injections **1** sizes **5 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 **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, &c.—(Letter for record **S.**) Manufacturers of Steel **Worth Bros**

Total Heating Surface of Boilers **3640 sq ft** 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 **I 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** Working pressure of shell by rules **206** Size of manhole in shell **16 x 12** plate **85.5**

Size of compensating ring **36"x32"x1 1/4"** No. and Description of Furnaces in each boiler **3 Morr** Material **S** Outside diameter **40 1/2**

Length of plain part top **x** Thickness of plates crown **17/32** Description of longitudinal joint **Weld** No. of strengthening rings **None** bottom **x** 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 **219**

Material of stays **S** Area at smallest part **1.79** Area supported by each stay **66.5 sq ft** 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 ft** 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 **34.5** 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 **xx** Diam. of rivet holes **xx**

Pitch of rivets **xx** Working pressure of shell by rules **xx** Crown plates **xx** Thickness **xx** How stayed **xx**

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 _____

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 - - Feb 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 1/2, f 3/8, Starb boiler a 1/2, f 3/8

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. 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 lbs

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 JRR

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

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

Jas. Cairns Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Assigned FRI 1-NOV 1913 + LMC 8.18 F.D.

