

## REPORT ON MACHINERY.

No. 1797

Received at London Office

MON. 12 JUN. 1916

Date of writing Report 30<sup>th</sup> April 1916 When rendered at Lloyd's Office 10 Port of Kobe  
No. in Survey held at Osaka Date, First Survey 5<sup>th</sup> Oct. 1915 Last Survey 26<sup>th</sup> April 1916  
Reg. Book. on the Steel Single Screw Steamer "Rifunzan Maru" (Number of Visits 33) Gross 3187  
Master H. Inenda Built at Osaka By whom built The Osaka Iron Works, Ltd. When built 1916-4  
Engines made at Osaka By whom made The Osaka Iron Works, Ltd. when made do  
Boilers made at do By whom made do when made do  
Registered Horse Power Owners R. Nashimoto Port belonging to Nagasaki  
Nom. Horse Power as per Section 28 288 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 : 37 : 61 Length of Stroke 42 Revs. per minute 70 Dia. of Screw shaft as per rule 12.8 Material of screw shafts Steel  
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 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 4" 8 3/4"  
Dia. of Tunnel shaft as per rule 11.2 Dia. of Crank shaft journals as per rule 11.77 Dia. of Crank pin 12 Size of Crank webs 7 3/8 : 23 Dia. of thrust shaft under  
collars 12 Dia. of screw 16 : 0 Pitch of Screw 16 : 0 No. of Blades 4 State whether moveable No Total surface 73 1/2  
No. of Feed pumps Two Diameter of ditto 3 1/4 Stroke 24 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps Two Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines Two Sizes of Pumps Bal. 7 x 8 1/2 : 9 Dup No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room Two 3" in Boiler room two 3" In Holds, &c. Two 3" in each hold. After well 3 1/2"  
Tunnel well 2 1/2"  
No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump Air p. 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 Non  
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 Non How are they protected  
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 14/4/16 of Stern Tube 16/3/16 Screw shaft and Propeller 31/3/16  
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper grating in Eng. Rm.  
BOILERS, &c.—(Letter for record S) Manufacturers of Steel Parkhead & Leeds Forge

Total Heating Surface of Boilers 3824 Is Forced Draft fitted Yes No. and Description of Boilers Two S.E.  
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 8<sup>th</sup> Mar. 1916 No. of Certificate LLOYDS TEST 360 LBS  
Can each boiler be worked separately Yes Area of fire grate in each boiler 45 sq. ft. No. and Description of Safety Valves to  
each boiler Two, Spring loaded Area of each valve 3 1/2 dia Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers 13 : 6 Length 11 : 6 Material of shell plates Steel  
Thickness 1 3/32 Range of tensile strength 28 3/4 : 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double  
long. seams Riv. tw 4 lap Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 1/4 x 4 1/6 Lap of plates or width of butt straps 17 3/4 x 1"  
Per centages of strength of longitudinal joint rivets 92.9 : 88.5 comb Working pressure of shell by rules 184 lbs Size of manhole in shell 12 x 16 in end pl.  
Size of compensating ring Flanged end pl. No. and Description of Furnaces in each boiler 3 Brighton's Material Steel Outside diameter 40 1/2"  
Length of plain part top Thickness of plates crown 1/2 Description of longitudinal joint Weld No. of strengthening rings  
bottom Working pressure of furnace by the rules 187 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 7/8  
Pitch of stays to ditto: Sides 9 x 10 Back 8 3/4 x 10 Top 9 x 10 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 187 lbs  
Material of stays Steel Area Diameter at smallest part 2 : 1 Area supported by each stay 94 1/2 Working pressure by rules 200 lbs End plates in steam space  
Material Steel Thickness 1 3/8 Pitch of stays 25 x 19 How are stays secured Nut nuts Working pressure by rules 181 lbs Material of stays Steel  
Diameter at smallest part 3 1/4 Area supported by each stay 25 x 19 Working pressure by rules 180 lbs Material of Front plates at bottom Steel  
Thickness 1 Material of Lower back plate Steel Thickness 15/16 Greatest pitch of stays 14 wide, 4 Working pressure of plate by rules 180 lbs  
Diameter of tubes 3 Pitch of tubes 4 3/8 x 4 1/4 Material of tube plates Steel Thickness: Front 1 1/8 Back 13/16 Mean pitch of stays 10 1/2  
Pitch across wide water spaces 14 Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and  
thickness of girder at centre 9 1/2 x 13 (thin) Length as per rule 32 Distance apart 10 1/2 Number and pitch of stays in each 2 @ 9"  
Working pressure by rules 202 lbs Superheater or Steam chest; how connected to boiler None 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



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:-

2 Gun head bolts & nuts. 2 Crank pin bolts & nuts.  
2 main bearing bolts & nuts. Set coupling bolts & nuts. Feed & bilge pump valves.  
Set piston springs. Assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,

OSAKA IRON WORKS, LTD.

*H. Yamaguchi*

Manufacturer.

Dates of Survey while building

(During progress of work in shops - - -  
During erection on board vessel - - -  
Total No. of visits - - -

Oct 5<sup>th</sup> 14<sup>th</sup> 21<sup>st</sup> 28<sup>th</sup> 29<sup>th</sup> Nov 5<sup>th</sup> 17<sup>th</sup> 19<sup>th</sup> 26<sup>th</sup> 29<sup>th</sup> Dec 6<sup>th</sup> 9<sup>th</sup> 15<sup>th</sup> 21<sup>st</sup> 25<sup>th</sup> 28<sup>th</sup> 1915  
Jan 12<sup>th</sup> 14<sup>th</sup> Feb 3<sup>rd</sup> 9<sup>th</sup> 11<sup>th</sup> 18<sup>th</sup> 24<sup>th</sup> Mar 5<sup>th</sup> 8<sup>th</sup> 16<sup>th</sup>  
Mar 23<sup>rd</sup> 28<sup>th</sup> 31<sup>st</sup> April 3<sup>rd</sup> 10<sup>th</sup> 14<sup>th</sup> 26<sup>th</sup> 1916  
33

Is the approved plan of main boiler forwarded herewith with Rep No 1734 on the 15<sup>th</sup> 1916

Dates of Examination of principal parts—Cylinders 5/11/15 etc Slides 6/12/15 etc Covers 6/12/15 etc Pistons 21/12/15 etc Rods 5/11/15 etc  
Connecting rods 5/11/15 etc Crank shaft Thrust shaft Tunnel shafts Screw shaft 16/3/16 Propeller 28/3/16

Stern tube 8/3/16 etc Steam pipes tested 14 April Engine and boiler settings 16/3/16 Engines holding down bolts 14/4/16

Completion of pumping arrangements 14/4/16 Boilers fired 10/4/16 Engines tried under steam 26<sup>th</sup> 4/16

Main boiler safety valves adjusted 26<sup>th</sup> 4/16 Thickness of adjusting washers 7/16

Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. L.R. 24/Total num

Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. A.L.

Material of Steam Pipes Steel Test pressure 540 lbs per sq in

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 Yes If so, state name of vessel

Is this machinery duplicate of a previous case Yes If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery has been made & fitted under Special Survey in accordance with the requirements of the Rules & the workmanship has been found good.

The shafting has been made under survey at the Kobe Steel Works

A report on the Electric lighting is forwarded.

The vessel is eligible in my opinion for the record + LMC 4.16.

It is submitted that this vessel is eligible for THE RECORD + LMC 4.16. E.D.

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of British & Foreign Ships

The amount of Entry Fee ... Yen 20

Special ... Yen 51.6

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for. 28/4/1916

When received. 29/4/1916

Committee's Minute TUE 13 JUN. 1916

Assigned + LMC 4.16

Machinery Certificate

Lloyd's Register Foundation