

REPORT ON MACHINERY.

No. 1779

Received at London Office MON. 22 MAY. 1916

Date of writing Report 30 Mar 1916 When handed in at Lloyd's Office

Port of Kobe

No. in Survey held at Osaka

Date, First Survey Aug 18 1915 Last Survey 16 March 1916

Reg. Book.

New on the Steamer "Rotsu Maru"

(Number of Visits 3)

Master J. Kasai

Built at Osaka

By whom built The Osaka Iron Works Ltd.

Gross 3185.85

Net 2001.01

When built 1916-3

Engines made at Osaka

By whom made The Osaka Iron Works Ltd.

when made 1916-3

Boilers made at do

By whom made do

when made do

Registered Horse Power

Owners N. Hiroumi Shoji Kabushiki Kaisha

Port belonging to Nishinomiya

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" 34" 61" Length of Stroke 42" Revs. per minute 40

Dia. of Screw shaft as per rule 12.8 Material of 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

Is 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 11.44

Collars 12" Dia. of screw 16" 0" Pitch of Screw 16" 0"

No. of Feed pumps Two Diameter of ditto 3 1/4" Stroke 24"

No. of Bilge pumps Two Diameter of ditto 3 1/2" Stroke 24"

No. of Donkey Engines Two Sizes of Pumps 7" 8 1/2" 9" duplex

In Engine Room Two 3" in Bilge room two 3"

Tunnel well suction 23"

No. of Bilge Injections 1 sizes 4"

Connected to condenser, or to circulating pump

Are all the bilge suction pipes fitted with roses Yes

Are the roses in Engine room always accessible Yes

Are all connections with the sea direct on the skin of the ship Yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes

What pipes are carried through the bunkers None

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 24 Feb 16 of Stern Tube 24 Feb 16

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

Is the Screw Shaft Tunnel worked from Upper grating in Eng. Rm.

MILERS, &c.—(Letter for record S)

Manufacturers of Steel Beardmore, Colville, & Leeds Forge

Total Heating Surface of Boilers 3824

Is Forced Draft fitted Yes

No. and Description of Boilers Two Single Ended

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Can each boiler be worked separately Yes

Area of fire grate in each boiler 45

Each boiler Two Spring loaded Area of each valve 3 1/2" dia

Smallest distance between boilers or uptakes and bunkers or woodwork 10"

Thickness 1 3/32 Range of tensile strength 28 to 32 tons

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Double

Pitch of rivets 8 1/4" 11 1/4" Lap of plates or width of butt straps 17 3/4" 1"

Percentage of strength of longitudinal joint rivets 92.9 x 88.5 comb

Working pressure of shell by rules 184 lbs

Size of manhole in shell 12" x 16" in end plate

No. and Description of Furnaces in each boiler 3 Brighton

Material Steel Outside diameter 40 1/4"

Length of plain part top bottom

Thickness of plates crown 1 1/2" bottom 1 1/2"

Description of longitudinal joint Weld

No. of strengthening rings

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

Diameter at smallest part 2 1/4"

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 184 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" 1/2"

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 3/4" 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" (top) Length as per rule 32"

Distance apart 10 1/2"

Number and pitch of stays in each 2 @ 9"

Working pressure by rules 202 1/2 lbs

Superheater or Steam chest; how connected to boiler

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

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

If so, is a report now forwarded?

The foregoing is a correct description,

OSAKA IRON WORKS, LTD.

BEAKA IRON WORKS, LTD.
H. Yamaguchi Manufacturer.

		MANAGING DIRECTOR	
Dates	During progress of work in shops --	Aug 18. 21 st 24. 28. Sept 2 15. 17. 22. Oct 5. 7. 12. 21. 28. Nov 19. 26. 29. Dec 6. 9. 13-21 + 25. 1915	
of Survey while building	During erection on board vessel --	Jan 12. 14. Feb 3. 9. 11. 18. 24. Mar 4 (launched) 5 th 8 th 16. 1916.	
	Total No. of visits	31.	
		Is the approved plan of main boiler forwarded herewith <i>Approved</i>	

Is the approved plan of main boiler forwarded herewith *forwarded*
 " " " donkey " " *with report No 1737*
 " " " " " *on 4/5 "Tensho marn"*

Dates of Examination of principal parts—Cylinders 5/10/15 *ALJ* Slides 19/11/15 *ALJ* Covers 19/11/15 *ALJ* Pistons 6/12/15 *ALJ* Rods 9/12/15 *ALJ*
Connecting rods 9/12/15 *ALJ* Crank shaft 21-10-15 *ALJ* Thrust shaft 15-12-15 *ALJ* Tunnel shafts 15, 18, 21/12/15 *ALJ* Screw shaft 15/12/15 *ALJ* Propeller 24/2/16 *ALJ*
Stern tube 18/2/16 *ALJ* Steam pipes tested 8/3/16 *ALJ* Engine and boiler seatings 18/2/16 *ALJ* Engines holding down bolts 8/3/16 *ALJ*
Completion of pumping arrangements 16/3/16 *ALJ* Boilers fixed 8/3/16 *ALJ* Engines tried under steam 15/3/16 *ALJ*
Main boiler safety valves adjusted 16/3/16 *ALJ* Thickness of adjusting washers $\frac{1}{2}$ " & $\frac{7}{16}$ " *ALJ*
Material of Crank shaft *Steel* Identification Mark on Do. *R* 21-10-15 *ALJ* Material of Thrust shaft *Steel* Identification Mark on Do. *R* 15-12-15 *ALJ*
Material of Tunnel shafts *Steel* Identification Marks on Do. *R* 15-12-15 *ALJ* Material of Screw shafts *Steel* Identification Marks on Do. *R* 15-12-15 *ALJ*
Material of Steam Pipes *Steel* ✓ " 18-12-15 *ALJ* " 21-12-15 *ALJ* Test pressure 540 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 Yes If so, state name of vessel Hankin Marn Peking Marn Tientsin Marn
Robt. Reps. Nos. 1550. 1497 1737
 General Remarks (State quality of workmanship, opinions as to class, &c. Yanki Marn Rosok Marn)
Robt. Reps. Nos. 1758 1759

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

The machinery has been made & fitted under Special Survey in accordance with the Rules. The workmanship has been found good. The shafting has been made under Survey at The Robt Steel Works. A report on the Electric Lighting is forwarded. The Machinery in my opinion renders the vessel eligible for the record + LMC 3.16

It is submitted that
this vessel is eligible for
THE RECORD + LMC

THE RECORD + LMC 3.16. E.D.

The amount of Entry Fee	... <i>4m</i> 20	: When applied for,
Special	... <i>4m</i> 516	: 24. 3. 1916
Donkey Boiler Fee	... £	: When received,
Travelling Expenses (if any) £	:	: 31. 3. 1916

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. MAY. 23. 1916

Assigned

MACHINERY CERTIFICATE
WATTON.

Lloyd's Register
Foundation