

## REPORT ON MACHINERY.

No. 1759

Received at London Office THU. 20 APR. 1916

Date of writing Report 21<sup>st</sup> Feb. 1916 When handed in at Local Office

10 Port of Kobe

No. in Survey held at Osaka  
Reg. Book.

Date, First Survey 13 July 1915 Last Survey 18 Feb. 1916

New on the Steel Single Screw Steamer "Kosoku Maru"

(Number of Visits 28)

Gross 3187

Master K. Kitaoaka Built at Osaka

By whom built The Osaka Iron Works, Ltd.

When built 1916-2

Engines made at Osaka

By whom made The Osaka Iron Works, Ltd.

when made 1916-2

Boilers made at do

By whom made do

when made do

Registered Horse Power

Owners 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, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 22" 34" 61" Length of Stroke 42" Revs. per minute 70

Dia. of Screw shaft as per rule 12.8 Material of screw shaft 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 Fitted solid 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 x 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. 7.82, 9 duplex

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 3" &amp; in Boiler Rm. two 3"

In Holds, &amp;c. Two 3" in each hold

In after well 3 1/2"

No. of Bilge Injections 1 sizes 4"

Connected to condenser, or to circulating pump Cir. p.

Is a separate Donkey Suction fitted in Engine room &amp; 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 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 None

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 Jan. 1916

of Stern Tube 28 Dec 1915

Screw shaft and Propeller 14 Jan. 1916

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper E. Rm platform

BOILERS, &amp;c.—(Letter for record S)

Manufacturers of Steel Parkhead &amp; Leeds Forge

Total Heating Surface of Boilers 3824

Is Forced Draft fitted Yes

No. and Description of Boilers Two Single End

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 29 Nov 1915

No. of Certificate

Can each boiler be worked separately Yes

Area of fire grate in each boiler 45

No. and Description of Safety Valves to

each boiler Two Spring loaded

Area of each valve 3 1/4 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 to 32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Double

long. seams Int. riv.

Diameter of rivet holes in long. seams 1 3/16"

Pitch of rivets 8 1/8 x 4 1/16"

Lap of plates or width of butt straps 17 3/4 x 1"

Per centages of strength of longitudinal joint

rivets 92.9 &amp; 88.5

Working pressure of shell by rules 184 lbs

Size of manhole in shell end plate 12' 16"

Size of compensating ring Flanged end pl.

No. and Description of Furnaces in each boiler 3 Brightons

Material Steel

Outside diameter 40 1/4"

Length of plain part top

Thickness of plates crown 1/2"

Description of longitudinal joint Weld

No. of strengthening rings

Working pressure of furnace by the rules 187 1/2

Combustion chamber plates: Material Steel

Thickness: Sides 23/32"

Back 23/32"

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

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

Material Steel

Thickness 1 3/8"

Pitch of stays 25 x 19"

How are stays secured Double nuts

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 1 5/16"

Greatest pitch of stays 14" and 14 1/2"

Diameter of tubes 3"

Pitch of tubes 4 3/8" x 4 1/4"

Material of tube plates Steel

Thickness: Front 1"

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 (two)

Length as per rule 32"

Distance apart 10 1/2"

Number and pitch of stays in each Two @ 9"

Working pressure by rules 202 1/2

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

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

How stayed

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two cross head bolts & nuts. Two crank pin bolts & nuts. Two main bearing bolts & nuts. Set Coupling bolts & nuts. Red & blue 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 -- July 13. Aug 18. 21. 28 Sep 2. 22. Oct 5. 14. 21. Nov. 11. 19. 26. 29. Dec 1. 6. 9. 15. 21. 22. 25. 28. 1916  
During erection on board vessel -- Jan 12. 14. Feb 3. 9. 11. 18. 1916  
Total No. of visits 28

Is the approved plan of main boiler forwarded herewith *Forwarded with Reg 1737 "Tensho Maru"*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 28/9, 2/9, etc Slides 16/9, 1/15, etc Covers 16/9, 5/10, etc Pistons 29/11, etc Rods 2/9, 5/10, etc  
Connecting rods 2/9, 5/10, etc Crank shaft 24/12, 1/15, etc Thrust shaft 24/12, 1/15, etc Tunnel shafts 15/12, 1/15, etc Screw shaft 15/12, 1/15, etc Propeller 25/12, 1/15, etc  
Stern tube 29/11, 1/15, etc Steam pipes tested 14/1, 1/16 Engine and boiler seatings 12/1, 1/16 Engines holding down bolts 3/2, 1/16  
Completion of pumping arrangements 3/2, 1/16 Boilers fired 3/2, 1/16 Engines tried under steam 9/2, 1/16  
Main boiler safety valves adjusted 9/2, 1/16 Thickness of adjusting washers 7/16  
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS R 21.10.15* Material of Thrust shaft *Steel* Identification Mark on Do. *R 18/12/15*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYDS R 15.12.15* Material of Screw shafts *Steel* Identification Marks on Do. *R 15/12/15*  
Material of Steam Pipes *Steel* 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 *Pekin Maru Nankang Maru Tensho Maru*  
*Noke Rpts 1498 1520 1737*

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

*This vessel has been built & the machinery made & fitted in accordance with the Rules & under Special Survey & the workmanship has been found good through the shafting has been made at the Kobe Steel Works.  
A report on the Electric Lighting is forwarded.  
The machinery in my opinion renders the vessel eligible for the record \*LMC 2.16.*

*It is submitted that this vessel is eligible for THE RECORD + LMC 2.16. F.D.*

*JWD 25/4/16.*

*Arthur L Jones*

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

The amount of Entry Fee ... *Yen 20* : When applied for, *23 Feb 1916*  
Special ... *Yen 5.16* :  
Donkey Boiler Fee ... *£* : When received, *26 Feb 1916*  
Travelling Expenses (if any) *£* :

Committee's Minute WED. 26 APR. 1916

Assigned

*+ L.M.C 2.16 F.D.*

MACHINERY CERTIFICATE  
WRITTEN.



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