

Rpt. 4.

## REPORT ON MACHINERY.

No. 2142

Received at London Office TUE. APR. 23 1918.

Date of writing Report

19

When handed in at Local Office

19

Port of Kobe

No. in Survey held at  
Reg. Buhl.

Osaka

Date, First Survey 24 March Last Survey 19 Novem 1917

(Number of Visits 29

on the Single Screw Steamer "Kohso maru"

Tons Gross 3179  
Net

Master

Built at Osaka

By whom built The Osaka Iron Works, Ltd

When built 1917

Engines made at Osaka

By whom made The Osaka Iron Works, Ltd

when made 1917

Boilers made at do

By whom made do

when made do

Registered Horse Power

Owners The Osaka Shosen Kaisha

Port belonging to Osaka

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 22:37:61

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 tightly 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

as fitted 11 3/8"

Dia. of Crank shaft journals as per rule 11.77

as fitted 12

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 sq ft.

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. 7.8 1/2 x 9 Dup.

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

In Engine Room Two 3" 1/2 in Blt in two 3" 1/2 in

In Holds, &amp;c. Two 3" in each hold. After side 3 1/2"

No. of Bilge Injections 1

sizes 4"

Connected to condenser, or to circulating pump At 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

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper platform in ERM

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

Manufacturers of Steel Parkhead.

Sth Durham.

Beighton Glues.

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

Date of test 28 July 1917

No. of Certificate 1104 DS

360 LBS

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 1/2 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 1/2

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Double

long. seams 2 1/8 in.

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

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

Length of butt straps 17 3/4 x 1"

Per centages of strength of longitudinal joint rivets 92.9 88.5

plate 85.4 86.4

Working pressure of shell by rules 184 lbs

Size of manhole in shell 12 x 16 in end plate

Size of compensating ring Flanged End pl.

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 1/2

bottom

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

Top 23/32

Bottom 7/8

Working pressure by rules 187 1/2

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 1/2

Material of stays Steel

Area at smallest part 2.1

Area supported by each stay 94 1/2

Working pressure by rules 200 1/2

End plates in steam space:

Material Steel

Thickness 1 3/8

Pitch of stays 25 x 19

How are stays secured Arab. nut

Working pressure by rules 181 1/2

Material of stays Steel

Area at smallest part 3 1/4

Area supported by each stay 25 x 19

Working pressure by rules 180 1/2

Material of Front plates at bottom Steel

Thickness 1

Material of Lower back plate Steel

Thickness 15/16

Greatest pitch of stays 14" at bow

Working pressure of plate by rules 180 1/2

Sp. Ser. stays 13/16

Mean pitch of stays 10 1/2

Diameter of tubes 3

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

Material of tube plates Steel

Thickness: Front 1

Back 13/16

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 13/16 (2)

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

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

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

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Is Easing Gear fitted

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Date of Test

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IS A DONKEY BOILER FITTED? No. ✓

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 Crank pin bolts + nuts ✓  
2 Crosshead bolts + nuts. ✓  
2 Main bearing bolts + nuts. ✓  
1 Set Coupling bolts + nuts. ✓  
Set piston springs. ✓  
Assorted bolts + nuts. ✓  
Iron of various sizes. ✓

The foregoing is a correct description,

G. Yennida  
Manufacturer.  
Manager. J. W. L.

Dates of Survey while building { During progress of work in shops -- 24 Mar. 2. 9. 11. 18. 27 April 1. 8. 30 May 4. 12. 30 June 6. 10. 28 July  
During erection on board vessel -- 11. 16. 29 Aug. 3. 13. 29 Sept. 2. 9. 20. 29 Oct 1. 11. 13. 19 Nov.  
Total No. of visits 29

Is the approved plan of main boiler forwarded herewith? Sent with Rpt No 173 on 5.5.17

Is the approved plan of main boiler forwarded herewith? Sent with Rpt No 173 on 5.5.17

Dates of Examination of principal parts—Cylinders 1.5.17 U.C. Slides 4.6.17 U.C. Covers 4.6.17 U.C. Pistons 10.7.17 Rods 30.5.17  
Connecting rods 30.5.17 Crank shaft 11.4.17 Thrust shaft 2.4.17 Tunnel shafts 12.6.17 Screw shaft 9.4.17 Propeller 29.8.17  
Stern tube 29.8.17 Steam pipes tested 29/10/17 Engine and boiler seatings 29.9.17 Engines holding down bolts 29.10.17  
Completion of pumping arrangements 4.11.17 Boilers fixed 20.10.17 Engines tried under steam 1.11.17  
Completion of fitting sea connections 9.10.17 Stern tube 9.10.17 Screw shaft and propeller 9.10.17  
Main boiler safety valves adjusted 1.11.17 Thickness of adjusting washers Locknuts  
Material of Crank shaft Steel Identification Mark on Do. LLOYDS 11.4.17 Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 2.4.17  
Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 18.23/4/17: 30.5.17 12/6/17 Material of Screw shafts Steel Identification Marks on Do. LLOYDS 9.4.17  
Material of Steam Pipes Steel Test pressure 540 lbs. ALJ R

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 "Yogu Maru" (Robt Rpt No 1932)  
"Peking Maru" "Nanlung Maru" etc

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

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

On the trial trip the crowns of the port wing furnace of the port boiler & starboard wing furnace of the starboard boiler collapsed & these two furnace flues have been renewed. Slight depression occurred in the crowns of the two other flues of the port boiler & in the port flue of the starboard boiler & the crowns have been heated & set up fair. After these renewals & repairs the boilers were hypd. tested to 270 lbs (= 90 lbs above the W.P.) & found tight. There was indication that oil had found its way into the boilers & brought about the collapse.

The vessel is in my opinion eligible for the notation +LMC in the Register Book with date 11.17

It is submitted that this vessel is eligible for THE RECORD. + LMC 11.17.

F.D.

APR 11 1918

The amount of Entry Fee ... 4/6 20 :  
Special ... 4/6 5/6 :  
Donkey Boiler Fee ... 4/6 :  
Travelling Expenses (if any) 4/6 25 :  
When applied for, 20 Nov 1917  
When received, 26 Nov 1917

Arthur L. Jones

3/4/18.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

WED. APR. 3 1918.

Assigned

+ J. M. 11.17. J. J.

CERTIFICATE WRITTEN



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