

Received at London Office 20 JUN. 1916

Date of writing Report 3<sup>rd</sup> May 1916 When handed in at Local Office 10

Port of Kobe

No. in Survey held at Kobe

Date, First Survey 30<sup>th</sup> April 1915 Last Survey 27<sup>th</sup> April 1916

Reg. Book.

on the Steel Iron Screw Steamer "Tajima Maru"

Number of Vents 57

Gross 7295.71

Master S. Nagasuye

Built at Kobe

By whom built The Kawasaki Dockyard Co. Ltd.

When built 1916

Engines made at Kobe

By whom made

The Kawasaki Dockyard Co. Ltd.

when made 1916

Boilers made at Kobe

By whom made

do

when made do

Registered Horse Power

Owners The Nippon Yusen Kaisha

Port belonging to To Rio

Nom. Horse Power as per Section 28 628

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders 6

Each engine

No. of Cranks Three

Dia. of Cylinders 21 : 33½ : 56

Length of Stroke 48

Revs. per minute 84

Dia. of Screw shaft

as per rule 13.13

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

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 5' 1½"

Dia. of Tunnel shaft as per rule 11.72

Dia. of Crank shaft journals as per rule 12.3

Dia. of Crank pin 12¾"

Size of Crank webs 17½ x 8½"

Dia. of thrust shaft under

collars 12½"

Dia. of screw 16" 0"

Pitch of Screw 14.6 to 20.0"

No. of Blades 4

State whether moveable Yes

Total surface 48' Each propeller

No. of Feed pumps On

Diameter of ditto 3½"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps On

Diameter of ditto 3½"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines Four

Sizes of Pumps

10 x 12 x 12 disp. bal. pump

Gen. brk.

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

In Engine Room Three 3½" On 3½" Gun well

5½ x 3½ x 8 Water brk.

10½ x 8 x 21 Water brk.

In Holds, &amp;c. Two 3½" to each hold

No. of Bilge Injections 2

sizes 4½"

Connected to condenser, or to circulating pump Air p.

Is a separate Donkey Suction fitted in Engine room &amp; size Yes 3½"

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 Forward bilge suction

How are they protected Strong wood casings

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

17 Jan 1916 of Stern Tube 20 Dec 1915

Screw shaft and Propeller 17 Jan 1916

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper grating in E. Rm.

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

Manufacturers of Steel

Beardmore

Colville

Leeds Forge

Total Heating Surface of Boilers 9108

Is Forced Draft fitted Yes

No. and Description of Boilers

4 Single Ended

Working Pressure 200 lbs

Tested by hydraulic pressure to 400 lbs

Date of test

17/1/16 31/1/16 3/2/16

No. of Certificate

LLOYDS TEST 400 LBS

(DATE) A.L.S.

Can each boiler be worked separately Yes

Area of fire grate in each boiler

55'

No. and Description of Safety Valves to

each boiler Two Direct Spring

Area of each valve

35' dia

Pressure to which they are adjusted

205 lbs

Smallest distance between boilers or uptakes and bunkers or woodwork 18"

Mean dia. of boilers

14' 3"

Length

11' 6"

Material of shell plates

Steel

Thickness 15/16"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams

Drut riv.

long. seams Drut. straps

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

8 3/4"

Lap of plates or width of butt straps

1' 7/4"

Per centages of strength of longitudinal joint

rivets 96 (comp. 87.7. Spec 82)

plate 84.28

Working pressure of shell by rules

202 lbs

Size of manhole in shell

12 x 16"

Size of compensating ring 7½ x 15/16"

No. and Description of Furnaces in each boiler

3 Morrison ball

Material

Steel

Outside diameter

41½"

Length of plain part top

Thickness of plates

crown 9/16"

Description of longitudinal joint

Weld

No. of strengthening rings

Yes

Working pressure of furnace by the rules

214

Combustion chamber plates: Material

Steel

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Pitch of stays to ditto: Sides

9¼ x 7¾"

Back

8½ x 9"

Top

8¾ x 7¾"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

214 lbs

Material of stays Steel

Diameter at smallest part

2.1"

Area supported by each stay

46.5"

Working pressure by rules

230 lbs

End plates in steam space

Yes

Material Steel

Thickness

1 3/16"

Pitch of stays

14½ x 18¾"

How are stays secured

Drut nuts

Working pressure by rules

200 lbs

Material of stays

Steel

Diameter at smallest part

7.66"

Area supported by each stay

18¾ x 17½"

Working pressure by rules

242

Material of Front plates at bottom

Steel

Thickness

13/16"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

15" (5/8 dia)

Working pressure of plate by rules

200 lbs

Diameter of tubes

3¼"

Pitch of tubes

4½ x 4 7/16"

Material of tube plates

Steel

Thickness: Front

13/16"

Back

¾"

Mean pitch of stays

8¾"

Pitch across wide water spaces

13¾ 5/8"

Working pressures by rules

238 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8¾ x 13 (1/16 dia)

Length as per rule

2.6 9/16"

Working pressure by rules

216

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

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Lloyd's Register

Foundation

008728-008733-0010



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:—

Set crank pin bolts & nuts. Crosshead bolts & nuts.  
Main bearing bolts & nuts. Set coupling bolts & nuts. Set feed & bilge pump valves.  
Packing rings & springs each piston. Assorted bolts & nuts. Iron various sizes.  
1 Propeller shaft. One third crank shaft. 4 bronze propeller blades.  
Piston rod. Two guide shoes. Air pump rod. Centrif. pump impeller. Slide & rods.  
Brasses, etc. etc.

The foregoing is a correct description,

*J. O. Takanue*

Manufacturer.

Dates of Survey while building { During progress of work in shops 30 Apr. 3<sup>rd</sup> 14<sup>th</sup> 21<sup>st</sup> 25<sup>th</sup> 31<sup>st</sup> May 2<sup>nd</sup> 4<sup>th</sup> 8<sup>th</sup> 9<sup>th</sup> 12<sup>th</sup> 16<sup>th</sup> 22<sup>nd</sup> 30<sup>th</sup> June 2<sup>nd</sup> 12<sup>th</sup> 14<sup>th</sup> 21<sup>st</sup> 23<sup>rd</sup> 26<sup>th</sup> 28<sup>th</sup> July  
During erection on board vessel 5<sup>th</sup> 8<sup>th</sup> Aug. 3<sup>rd</sup> 20<sup>th</sup> 23<sup>rd</sup> Sept. 7<sup>th</sup> 8<sup>th</sup> 12<sup>th</sup> 15<sup>th</sup> 16<sup>th</sup> 21<sup>st</sup> 28<sup>th</sup> Oct. 12<sup>th</sup> 22<sup>nd</sup> Nov. 4<sup>th</sup> 8<sup>th</sup> 14<sup>th</sup> 20<sup>th</sup> 27<sup>th</sup> Dec. 1915  
Total No. of visits 54

Is the approved plan of main boiler forwarded herewith With the Rep No 1634 "Toyohashi"

Dates of Examination of principal parts—Cylinders 12/10/15 etc Slides 15/10/15 etc Covers 8/8/15 etc Pistons 8/10/15 etc Rods 15/10/15 etc  
Connecting rods 15/10/15 etc Crank shaft 3/9/15 etc Thrust shaft 21/11/15 etc Tunnel shafts 21/11/15 etc Screw shaft 8/1/16 etc Propeller 2/2/16  
Stern tube 17/1/16 Steam pipes tested 8<sup>th</sup> Mar. 1916 Engine and boiler seatings 17/1/16 Engines holding down bolts 16/2/16  
Completion of pumping arrangements 2/3/16 Boilers fixed 8/3/16 Engines tried under steam 1<sup>st</sup> April 1916  
Main boiler safety valves adjusted 13/3/16 Thickness of adjusting washers For Star Bolt 11/16 F.P. Bolt 13/16 A.S. Bolt 13/16 Aft P. Bolt 13/16  
Material of Crank shaft Steel Identification Mark on Do. R. A.L.J. Material of Thrust shaft Steel Identification Mark on Do. R. 23/6/15  
Material of Tunnel shafts Steel Identification Marks on Do. R. A.L.J. Material of Screw shafts Steel Identification Marks on Do. R. 24/8/15  
Material of Steam Pipes Steel 12/6/15: 22/6/15 Test pressure 600 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 Toyohashi Maru. Kobe Rep No. 1  
Tokuyama Maru

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 whole of the shafting was made under survey at The Kobe Steel Works & a copy of the Certificate is enclosed.

A report upon the Electric Lighting is forwarded.

The machinery in my opinion renders the vessel eligible for the notation + LMC 4.16.

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

*Arthur L. Jones*  
20/6/16

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

The amount of Entry Fee ... Yes 30.00 When applied for, 29<sup>th</sup> Apr. 1916  
Special ... Yes 7.10  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When received, 30<sup>th</sup> Apr. 1916

Committee's Minute. FRI. 7-JUL. 1916

Assigned.

*L.M.C. 4.16*

*F.D.*

MACHINERY CERTIFICATE WRITTEN.



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