

REPORT ON MACHINERY.

No. 1634

Port of Kobe

MON. JUN. 28. 1915
Received at London Office

No. in Survey held at Kobe

Date, first Survey 15 Jan'y 1914 Last Survey 12 May 1915

Reg. Book.

34 Sup on the Steel Twin Screw Steamer "Toyohashi Maru"

(Number of Visits 60)

Gross 7298.47
Net 4557.84

Master T. Date

Built at Kobe

By whom built The Kawasaki Dockyard Co. Ltd. When built 1915-5

Engines made at Kobe

By whom made The Kawasaki Dockyard Co. Ltd. when made 1915-5

Boilers made at "

By whom made do

when made do

Registered Horse Power

Owners The Nippon Yusen K. Kaisha Port belonging to Tokio

Nom. Horse Power as per Section 28 628

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion. Twin Screws No. of Cylinders 6 No. of Cranks 6
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 screw shaft as fitted 13¾ 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 Liner Solid. 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 8¼ Dia. of thrust shaft under
collars 12½ Dia. of screw 16" 0" Pitch of Screw 17" 6" to 20" 0" No. of Blades 4 State whether moveable Yes Total surface 78" Each propeller
No. of Feed pumps / Each eng. Diameter of ditto 3½" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Bilge pumps / Each eng. 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" 12" 12" 12" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three 3½" & one 3½" to tunnel & bilges In Holds, &c. Two 3½" to each hold.

No. of Bilge Injections 2 sizes 4½" Connected to condenser, or to circulating pump Cir p. Is a separate Donkey Suction fitted in Engine room & 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 Yes
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 19/9/14 of Stern Tubes 10/9/14 Screw shaft and Propeller 16/9/14
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper platform in Eng. Rm

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Wm. Beardmore & Co. Colville & Co. Consett Iron Co. Leeds Forge Co.

Total Heating Surface of Boilers 9108 Is Forced Draft fitted Yes No. and Description of Boilers Four Sing. Inded.
Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 6.9.13 Oct No. of Certificate 70.71.72.73
Can each boiler be worked separately Yes Area of fire grate in each boiler 55' Are they fitted with easing gear Yes
each boiler Two Direct Sprays Area of each valve 3½" dia Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 18" S.W. 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 Double
long. seams Double straps Diameter of rivet holes in long. seams 13/8 Pitch of rivets 8¾ Lap of plates or width of butt straps 1" 7/4
Per centages of strength of longitudinal joint rivets 96.00 Working pressure of shell by rules 202 lbs Size of manhole in shell 12" 16"
Size of compensating ring 7½ x 15/16 No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 45 5/8
Length of plain part top Thickness of plates crown 9/16 Description of longitudinal joint Welded No. of strengthening rings
bottom Working pressure of furnace by the rules 214 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 7/8
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 230 lbs End plates in steam space:
Material of stays Steel Diameter at smallest part 2.1 Area supported by each stay 76.5 Working pressure by rules 200 lbs Material of stays Steel
Material Steel Thickness 13/16 Pitch of stays 17½ x 18¾ How are stays secured Double nuts Working pressure by rules 200 lbs Material of Front plates at bottom Steel
Diameter at smallest part 7.66 Area supported by each stay 18¾ x 17½ Working pressure by rules 242 lbs Material of Front plates at bottom Steel
Thickness 13/16 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 15" Double Working pressure of plate by rules 200 lbs
Diameter of tubes 3¼ Pitch of tubes 4¾ x 4 7/16 Material of tube plates Steel Thickness: Front 13/16 Back 3/4 Mean pitch of stays 8¾
Pitch across wide water spaces 13¾ Working pressures by rules 238 lbs Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 8¾ x 13/16 (two) Length as per rule 2' 6 9/16 Distance apart 8¾ Number and pitch of stays in each 3 @ 7¾
Working pressure by rules 216 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
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

VERTICAL DONKEY BOILER—Manufacturers of Steel

No. _____ Description None

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Say _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— One set crank pin bolts & nuts. One set crosshead bolts & nuts. Two main bearing bolts & nuts. Set coupling bolts & nuts. Set of feed & bly pump valves. Packing rings & springs for each piston. Assorted bolts & nuts. Iron various sizes. 1. Propeller shaft. 1/3 Crank shaft. 4 bronze propeller blades. Piston rod. 2 guide shoes. Air pump rod. The foregoing is a correct description, Centrif. pump fan. Slide valve rod each size. Brasses etc

M. J. Bennett Manufacturer.

Dates of Survey while building { During progress of work in shops - 15 Jan'y 1914 to Sep 22nd 1914
During erection on board vessel - 3rd Oct 1914 to 12th May 1915
Total No. of visits 60

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " None

Dates of Examination of principal parts—Cylinders 21/11/14 9/12/14 Slides 30/11/14 14/4/15 Covers 1/12/14 10/2/15 Pistons 24/10/14 etc Rods 24/10/14 26/10/14

Connecting rods 21/11/14 22/11/14 Crank shaft 14/1/15 etc Thrust shaft 10/9/14 etc Tunnel shafts 10/9/15 etc Screw shaft 26/10/14 etc Propeller 5/4/15 etc

Stern tube 3/8/14 3/9/14 Steam pipes tested 26/3/15 27/3/15 Engine and boiler seatings 6/11/15 etc Engines holding down bolts 26/3/15

Completion of pumping arrangements 5/4/15 Boilers fixed 26/3/15 Engines tried under steam 13/4/15 19/4/15

Main boiler safety valves adjusted 13/4/15 Thickness of adjusting washers For St. Bl. f 1 1/2 a 1 1/2. F.P.B. f 22 a 22 A.S.B. f 25 a 25 A.P. f 37 a 37

Material of Crank shaft Steel Identification Mark on Do. LLOYDS 3766 W.D.H. Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 3766 W.D.H.

Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 3766 W.D.H. Material of Screw shafts Steel Identification Marks on Do. LLOYDS 3766 W.D.H.

Material of Steam Pipes Steel Test pressure 600 lbs. per sq in. ✓

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

The machinery has been made & fitted under Special Survey & the requirements of the Society's Rules have been complied with. & the workmanship found good. A report on the Electric lighting is forwarded. The machinery in my opinion renders the vessel eligible for the Record + L.M.C.S.

It is submitted that this vessel is eligible for THE RECORD + L.M.C.S. 15. F.D.

J.W.R.

28/6/15

A. L. Jones

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

The amount of Entry Fee... £ YEN 30.00 When applied for, 28. May 1915

Special ... £ YEN 771.00

Donkey Boiler Fee ... £ : : When received, 28. May 1915

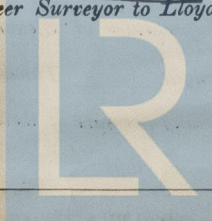
Travelling Expenses (if any) £ : :

Committee's Minute TUE. JUN. 29. 1915

Assigned

L.M.C.S. 15

F.D.



Lloyd's Register Foundation

Certificate (if required) to be sent to None

(The Surveyors are requested not to write on or below the space for Committee's Minute.)