

## REPORT ON MACHINERY

No. 2533

MON. DEC. 1 - 1919

Received at London Office

Date of writing Report 3rd Octr 1919 When handed in at Local Office

19 Port of Yokohama

No. in Survey held at Tokyo  
Reg. Book.

Date, First Survey Decr 12th

Last Survey 2nd Octr, 1919

(Number of Visits 33)

on the Steel Single Screw Steamer "Boston Maru"

Tons { Gross 5438  
Net 3388

Master Built at Tsurumi

By whom built Asano Shipbuilding Co. Ltd.

When built 1919

Engines made at Tokyo

By whom made Ishikawajima Shipbuilding &amp; E. Co. Ltd.

when made 1919

Boilers made at Tokyo

By whom made Ishikawajima Shipbuilding &amp; E. Co.

when made 1919

Registered Horse Power

Owners Kokusai Kisen Kaisha

Port belonging to Yokohama

Nom. Horse Power as per Section 28 513

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 26 - 43½ - 72

Length of Stroke 48

Revs. per minute 79

Dia. of Screw shaft as per rule 15  
as fitted 16 Material of screw shaft S

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 1 length 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 tight fit If two

liners are fitted, is the shaft lapped or protected between the liners

xxxx

Length of stern bush 63 ¾"

Dia. of Tunnel shaft as per rule 13.6  
as fitted 13 ¾Dia. of Crank shaft journals as per rule 14.25  
as fitted 14.5

Dia. of Crank pin 14 ½

Size of Crank webs 27x9 ½ Dia. of thrust shaft under

collars 14 ½ Dia. of screw 17'-9" Pitch of Screw 19'-1" No. of Blades 4 State whether moveable Yes Total surface 99-65 sq ft

No. of Feed pumps 2 Diameter of ditto 4 ½ Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 ½ Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 G.D. Sizes of Pumps 7" x 5" x 7" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 Woodeson feed pump 10 ½" x 8" x 8"

In Holds, &amp;c. No. 1, 1-3 ½", No. 2, 2-3 ½",

No. 3, 2-3 ½", No. 4, 2-3 ½", tunnel well 1 - 2 ½".

No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Cer. P. Is a separate Donkey Suction fitted in Engine room &amp; size Yes 5"

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 Both

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 No. 1-2 holds bilge suction How are they protected wood ceiling

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 Top platform

BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel Worth Bros, Illinois, Carnegie.

Total Heating Surface of Boilers 7376.4 Is Forced Draft fitted Yes No. and Description of Boilers 3 Multitubular

Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 17-5-19 No. of Certificate 50

Can each boiler be worked separately Yes Area of fire grate in each boiler 58.289 ft No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 11.04 sq in Pressure to which they are adjusted 205 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 22" Mean dia. of boilers 14'-3" Length 11'-6" Material of shell plates S

Thickness 13 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.

long. seams D.B.S.T.R. Diameter of rivet holes in long. seams 1 ½ Pitch of rivets 10 Lap of plates or width of butt straps 22

Per centages of strength of longitudinal joint rivets 91.4 Working pressure of shell by rules 223 Size of manhole in shell 16x12

Size of compensating ring 36 ½ x 32 ½ No. and Description of Furnaces in each boiler 3 Deighton Material S Outside diameter 3-10 ½

Length of plain part top xx Thickness of plates crown 5 Description of longitudinal joint Weld No. of strengthening rings xx

Working pressure of furnace by the rules 217 Combustion chamber plates: Material S Thickness: Sides 45/64 Back 44/64 Top 45/64 Bottom 15/16

Pitch of stays to ditto: Sides 10 ½ x 7 ½ Back 8 ¾ x 8 ¾ Top 9 ¼ x 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 207

Material of stays S Area at smallest part 2-03 Area supported by each stay 83 sq in Working pressure by rules 221 End plates in steam space:

Material S Thickness 1 3/16 Pitch of stays 18 ¾ x 16 ½ How are stays secured D. nuts Working pressure by rules 214 Material of stays S

Area at smallest part 7.7 Area supported by each stay 311 sq in Working pressure by rules 249 Material of Front plates at bottom S

Thickness ¾ Material of Lower back plate S Thickness ¾ Greatest pitch of stays 8.5 Working pressure of plate by rules 276

Diameter of tubes 3 Pitch of tubes 4 ½ x 4 ½ Material of tube plates S Thickness: Front ¾ Back ¾ Mean pitch of stays 8 ¾

Pitch across wide water spaces 13 ½ Working pressures by rules 225 Girders to Chamber tops: Material S Depth and

thickness of girder at centre 8 x 1 ½ Length as per rule 30 ¾ Distance apart 8 Number and pitch of stays in each 2x9 ¼

Working pressure by rules 225 Steam dome: description of joint to shell xxxx % of strength of joint xx

Diameter xx 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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? xx

SPARE GEAR. State the articles supplied:— One crank shaft, one propeller shaft, one propeller blade, two connecting rod top - end bolts and nuts, two connecting rod bottom - end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, one set of piston springs, a quantity of assorted bolts and nuts, iron of various sizes.

The foregoing is a correct description,

THE ISHIKAWAJIMA SHIP BUILDING  
AND ENGINEERING Co. Ltd, TOKYO.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Dec 12, Jan 10, 18, 25, Feb 12, 21, 24, Mar 3, 10, 17, 24, 31, Apr 4, 8, 14, 16, 23, 28, 30, May 2, 13, 17, July 5, 11, 14, 28, August 11, Sept 6  
During erection on board vessel -- Sept 18, 22, 26, 30, Oct 2.  
Total No. of visits 33

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders 14-7-19 Slides 11-8-19 Covers 11-8-19 Pistons 28-7-19 Rods 12, 28-7-18  
Connecting rods 16-8-18 Crank shaft 28-9-18 Thrust shaft 20-9-18 Tunnel shafts 18-7-18 Screw shaft 22-4-18 Propeller 5-7-19  
Stern tube 11-8-19 Steam pipes tested 22-9-19 Engine and boiler seatings 8-9-19 Engines holding down bolts 18-9-19  
Completion of pumping arrangements 30-9-19 Boilers fixed 18-9-19 Engines tried under steam 2-10-19  
Completion of fitting sea connections 8-9-19 Stern tube 8-9-19 Screw shaft and propeller 8-9-19  
Main boiler safety valves adjusted 30-9-19 Thickness of adjusting washers Lock nuts  
Material of Crank shaft S Identification Mark on Do. R.O.B. Material of Thrust shaft S Identification Mark on Do. R.O.B.  
Material of Tunnel shafts S Identification Marks on Do. R.O.B. Material of Screw shafts S Identification Marks on Do. R.O.B.  
Material of Steam Pipes steel 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. xxx

Have the requirements of Section 49 of the Rules been complied with xxx

Is this machinery duplicate of a previous case Yes If so, state name of vessel See below

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this

vessel has been built under special survey in accordance with the approved plans and the Society's Rules, the materials and workmanship are good, the machinery has been satisfactorily tried under steam, and is in my opinion eligible for the record L M C 10 - 19.

Duplicate vessels " Kureha Maru " Report No. 2382, " Yoshida Maru No. 1 " Report No. 2439, " Buyo Maru " Report No. 2452, Yayoi Maru " Report No. 2462, " Choyo Maru " Report No. 2481.

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 10-19. F.D.

The amount of Entry Fee ... £ 30.00 When applied for,  
Special ... £ 68.5.00 2-10-19  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ 40.0.0 7-10-19

Committee's Minute

Assigned

FRI. JAN. 4 1924

FRI. 10 AUG. 1923

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. AUG. 18 1922

FRI. JUL. 9 1920

FRI. JAN. 20 1923

FRI. JUL. 15 1921

FRI. MAY. 27 1921

FRI. FEB. 3 1922

TUE. OCT. 5 1920

TUE. FEB. 21 1922

Lloyd's Register  
Foundation