

REPORT ON MACHINERY.

No. 3553.

Received at London Office

JUL. 4 JUL. 1922

Date of writing Report 24th July 1921 When handed in at Local Office

19 Port of Kobe

No. in Survey held at Osaka
Reg. Book.Date, First Survey 21st July 1919 Last Survey 8th July 1921

(Number of Visits 40)

Gross 4146.99

Net 2540.54

When built 1921

on the Steel Single Screw Steamer "BANDAI MARU"

Master Built at Osaka

By whom built Nitta Shipbuilding Yard

Engines made at Osaka

By whom made Fujimura Machine Works

when made 1921

Boilers made at Osaka

By whom made Sappo Iron Works

when made 1921

Registered Horse Power

Owners Nitta Kisen Kabushiki Kaisha

Port belonging to Kobe

Nom. Horse Power as per Section 28 348

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion

No. of Cylinders Three No. of Cranks 3

Dia. of Cylinders 23½ : 37½ : 65 Length of Stroke 48 Revs. per minute 60 Dia. of Screw shaft as per rule 13.91 as fitted 15½ 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 Yes 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'-3" ✓

Dia. of Tunnel shaft as per rule 12.376 as fitted 12½ Dia. of Crank shaft journals as per rule 12.995 as fitted 13½

Dia. of Crank pin 13½ Size of Crank webs 8½ x 24½ Dia. of thrust shaft under

collars 13½ Dia. of screw 17'-0" Pitch of Screw 18'-0"

No. of Blades 4 State whether moveable Yes Total surface 90.8 ft

No. of Feed pumps Two Diameter of ditto 4½ Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4½ Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps Balled - 10 x 13 x 13 x 1 duplex and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three @ 3½ Yamamoto Fed P - 11½ x 8 x 18 x 2 In Holds, &c. No 1, 2, 3 and 4 Two @ 3½

Tunnel Well one 3½, Tunnel Forward one 3½

No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump Cir. pp. 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 ✓

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 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 Top platform in Engine Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel The Carnegie Steel Co. Thos. Piggott & Co.

Total Heating Surface of Boilers 5650.8 Is Forced Draft fitted No No. and Description of Boilers Three Single Ended

Working Pressure 190 lbs. Tested by hydraulic pressure to 380 lbs. Date of test 7.10.13-5-21 No. of Certificate 7.5.21:10.5.21:13.5.21

Can each boiler be worked separately Yes Area of fire grate in each boiler 46.4 ft No. and Description of Safety Valves to

each boiler Two spring loaded Area of each valve 5.94 sq. ft Pressure to which they are adjusted 195 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork About 6'-0" Mean dia. of boilers 12'-10" Length 12'-0" Material of shell plates Steel

Thickness 1¼ Range of tensile strength 2725-31 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double riveted

Long. seams Double riveted Diameter of rivet holes in long. seams 1½ Pitch of rivets 8" x 4" Lap of plates or width of butt straps 19 x 1½ (in.)

Per centages of strength of longitudinal joint rivets 99.6 Working pressure of shell by rules 208 lbs. Size of manhole in shell 12" x 16"

Size of compensating ring 2'-7" x 2'-11" x 1¼ No. and Description of Furnaces in each boiler 3 Morrison's Plain Material Steel Outside diameter 3'-2"

Length of plain part top 2'-7" Thickness of plates crown 5/8 Description of longitudinal joint Welded No. of strengthening rings 1 Adamson ring.

Working pressure of furnace by the rules 211 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 3/4

Pitch of stays to ditto: Sides 9 x 7¼ Back 9 x 6¾ Top 8½ x 7½ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 202 lbs

Material of stays Steel Area at smallest part 2.10 Area supported by each stay 65.25 Working pressure by rules 289 lbs End plates in steam space:

Material Steel Thickness 1 Pitch of stays 16" x 18" How are stays secured Brackets & 2 nuts Working pressure by rules 194 lbs Material of stays Steel

Area at smallest part 6.33 Area supported by each stay 288 Working pressure by rules 228 lbs Material of Front plates at bottom Steel

Thickness 13/16 Material of Lower back plate Steel Thickness 13/16 Greatest pitch of stays 16" x 10" Working pressure of plate by rules 312 lbs

Diameter of tubes 3¼ Pitch of tubes 4½ x 4¾ Material of tube plates Steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 10"

Pitch across wide water spaces 13 Working pressures by rules 268 lbs Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 10" x 1¼ Length as per rule 28 9/16 Distance apart 8½ Number and pitch of stays in each 3, 4"

Working pressure by rules 254 lbs 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 V 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

W 1493-0027

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— 4 Connecting rod top end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts, 9 coupling bolts, 1 set of feed and bilge pump valves, 1 set of piston packing rings, 1 set of springs for L.P. piston, 1 pair of connecting^{rod} brasses, 1 pair of crosshead brasses, 1 eccentric straps complete, 1 air pump rod, 1 circulating pump impeller and shaft, 1 valve spindle for H.P., M.P. and L.P., 1 set of eccentric rods, 1 set of check valves, 8 junkring bolts, 4 dozen condenser tubes & 143 screw glands, 3 safety valve springs, 12 gauge glasses, 1 Expander and 12 tube stoppers, Assorted bolts and nuts, Iron of various sizes.

The foregoing is a correct description,

G. D. Fujimura

S. Sappa Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919 July 21, Aug 21, Oct. 23, Nov. 27, Dec. 19, 1920 April 15, May 29, June 10, 22, July 29, Aug 11, 1921 Jan 20, Feb. 4, 28, Mar. 16, 24, May 3, 4, 7, 10, 13, During erection on board vessel -- 30, Sept. 6, 30, Oct. 25, Nov. 20, Dec. 7, 18, 23, 16, 18, 21, June 5, 17, 21, 23, 29, July 2, 4, 8. Total No. of visits 40. Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 21-8-19 / 16-18-5-21 Slides 16-5-21 Covers 16-5-21 Pistons 3-5-21 Rods 3-5-21 Connecting rods 3-5-21 Crank shaft 4-5-21 Thrust shaft 4-5-21 Tunnel shafts 4-5-21 Screw shaft 3-5-21 Propeller 3-5-21 Stern tube 3-5-21 Steam pipes tested 17-6-21 Engine and boiler seatings 4-5-21 Engines holding down bolts 5-6-21 Completion of pumping arrangements 29-6-21 Boilers fixed 23-6-21 Engines tried under steam 2-7-21 Completion of fitting sea connections 21-5-21 Stern tube 21-5-21 Screw shaft and propeller 21-5-21 Main boiler safety valves adjusted 2-7-21 Thickness of adjusting washers Lock nuts Material of Crank shaft Steel Identification Mark on Do. F.I. 2, 3, 4, 7, 260 1/2 1 Material of Thrust shaft Steel Identification Mark on Do. F.S. 1 A LLOYDS 4.5.21 Y.J.R. Material of Tunnel shafts Steel Identification Marks on Do. 4.5.21 Y.J.R. Material of Screw shafts Steel Identification Marks on Do. 3.5.21 Y.J.R. Material of Steam Pipes Solid drawn Copper Test pressure 380 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 *No* If so, state name of vessel ☒

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

The crank, thrust and tunnel shafting was forged at Kobe Steel Works, except one tunnel shaft, which was forged at Nippon Steel Works, Muroran and turned and finished at Fujimura Machine Works, Osaka.

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

The Machinery of this vessel is eligible in our opinion for the notation **⬢ LMC 7-21.**

It is submitted that this vessel is eligible for THE RECORD.

⬢ L. M. C. - 7.21. C.L.

Two 48" length of sticks (84" girth in R.B.)

The machinery was partly surveyed by Mr Lawson.

A. L. Jones

Y. Jo

The amount of Entry Fee ... £/yen 50.00 When applied for, July 15 1921
Special ... £/yen 1208.00
Electric Light ... £ 180.- When received, Oct. 8 1921
Travelling Expenses (if any) £ 140

Committee's Minute

Assigned

*+ L.M.C. 7.21
C.L.*

Engineer Surveyor to Lloyd's Register of Shipping.



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