

REPORT ON MACHINERY.

No. 2899

Received at London Office

TUE. OCT. 5 1920

Date of writing Report July 15th 1920 When handed in at Local Office

to Port of Kobe

No. in Survey held at Tama Dockyard, Uno. Date, First Survey 6th Nov. 1919 Last Survey 1st June 1920

Reg. Book. on the Steel Single Screw Steamer "KISO MARU"

(Number of Visits 34)

Tons } Gross 4065.51
Net 2527.01

Master Y. Ichiro Built at Tama Yd. By whom built Mitsui Bussan Kaisha When built 1920

Engines made at Tama Dockyard. By whom made Mitsui Bussan Kaisha when made 1920

Boilers made at Kobe By whom made Kobe Steel Works when made 1920

Registered Horse Power 350 Owners Tokio Kaun Kabushiki Kaisha Port belonging to Hosaki

Nom. Horse Power as per Section 28 349.43 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 23" : 38" : 64" Length of Stroke 48" Revs. per minute 85.25 Dia. of Screw shaft as per rule 13 13/16 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 ✓

If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 4'-10"

Dia. of Tunnel shaft as per rule 12.49 Dia. of Crank shaft journals as per rule 13.15 Dia. of Crank pin 14" Size of Crank web 25 1/2" x 23 1/2" Dia. of thrust shaft under collars 13.375 Dia. of screw 16'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable yes Total surface 900'

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 24 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines 4 Sizes of Pumps WEIRS Feed 10 1/2" x 8" x 21" two BALLAST 9" x 12" x 10" GEN. SER. 7" x 5" x 9" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 @ 3 1/2" In Holds, &c. Nos. 1, 2, 3 + 4 2 @ 3 1/2"

Tunnel Well 1 @ 3"

No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump in pp. Is a separate Donkey Suction fitted in Engine room & size 1'-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 ✓

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 yes

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 4 Bilge Suction How are they protected Wood casing

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 Eng. Rm. platform

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Carnegie Steel Co. Pa. U.S.A.

Total Heating Surface of Boilers 4557.63 Is Forced Draft fitted yes No. and Description of Boilers 2 Single ended Scotch

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 22-12-1919 No. of Certificates 10-2-1920

Can each boiler be worked separately yes Area of fire grate in each boiler 54.995 No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 9.621 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 1'-1 1/2" Mean dia. of boilers 14'-0" Length 11'-6" Material of shell plates steel

Thickness 1 5/16" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double rivet.

long. seams Treh riveted Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 5/8" Lap of plates or width of butt straps 31"

Per centages of strength of longitudinal joint 07.40 Working pressure of shell by rules 209 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 48 x 36 x 1 5/16" No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 44 1/4"

Length of plain part top Thickness of plates bottom 1 3/32" Description of longitudinal joint Weld No. of strengthening rings ✓

Working pressure of furnace by the rules 213 lbs. Combustion chamber plates: Material steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 5/16"

Pitch of stays to ditto: Sides 7 1/4" x 10 1/16" Back 8 1/2" x 8 1/2" Top 9" x 8 3/8" If stays are fitted with nuts or riveted heads others N+W Working pressure by rules 209 lbs.

Material of stays steel Area at smallest part 2.03 Area supported by each stay 80.75 Working pressure by rules 226 lbs. End plates in steam space:

Material steel Thickness 1 3/16" Pitch of stays 16 3/4" x 19" How are stays secured Double nuts + washers Working pressure by rules 208 lbs. Material of stays steel

Area at smallest part 8.12 Area supported by each stay 318.25 Working pressure by rules 265 lbs. Material of Front plates at bottom steel

Thickness 3/4" Material of Lower back plate steel Thickness 1 1/16" Greatest pitch of stays 17" x 10" Working pressure of plate by rules 230 lbs.

Diameter of tubes 3" Pitch of tubes 4 1/8" x 4 1/4" Material of tube plates steel Thickness: Front 1 3/16" Back 3/4" Mean pitch of stays 8.375"

Pitch across wide water spaces 13 3/8" Working pressures by rules 230 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9" x 1 1/2" Length as per rule 28 3/4" Distance apart 8 3/8" Number and pitch of stays in each 2 @ 9 1/2"

Working pressure by rules 279 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

UPERHEATER. 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?

SPARE GEAR. State the articles supplied :-

- 4 Connecting rod top end bolts + nuts. Iron of various sizes
- 2 Connecting rod bottom end bolts + nuts. 1 Valve spindle
- 2 Main bearing bolts + nuts. 2 Eccentric rods.
- 1 Set of coupling bolts + nuts. 1 Set crosshead brasses.
- 1 Set of Feed + Bilge pump valves. 1 Set Crank-pin brasses.
- 1 Set of Packing rings for each piston. a quantity of spare gear for the various auxiliary engine.
- 1 Propeller blade

The foregoing is a correct description

FOR MITSUBISHI BOSSAN KAISHA, LTD.

T. Kubo

For Manager.

Manufacturer.

SHIP BUILDING DEPARTMENT.

Dates of Survey while building { During progress of work in shops - 1919 Nov. 6, 24, 27; Dec. 1, 4, 8, 9, 10, 11, 12, 15, 16, 19, 23, 26; 1920 Feb. 3; Mar. 17, 31; Apr. 2, 3, 6, 13, 15, 16, 29; May 3rd.
 { During erection on board vessel - 1920 May 12, 15, 24, 27; June 4, 8, 9, 17.
 Total No. of visits 34.

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey "

Dates of Examination of principal parts - Cylinders 13-4-20 Slides 3-5-20 Covers 3-5-20 Pistons 16-4-20 Rods 15-5-20
 Connecting rods 3-5-20 Crank shaft 26-12-19 Thrust shaft 23-12-19 Tunnel shafts 12-12-19 Screw shaft 12-12-19 Propeller 8-5-20
 Stern tube 3-5-20 Steam pipes tested 22-5-20 Engine and boiler seatings 3-5-20 Engines holding down bolts 20-5-20
 Completion of pumping arrangements 28-5-20 Boilers fixed 10-5-20 Engines tried under steam 27-5-20
 Completion of fitting sea connections 12-5-20 Stern tube 12-5-20 Screw shaft and propeller 12-5-20
 Main boiler safety valves adjusted 9-6-20 Thickness of adjusting washers Lock nuts
 Material of Crank shaft steel Identification Mark on Do. LLOYDS 26-12-19 Y.J.R. Material of Thrust shaft steel Identification Mark on Do. LLOYDS 23-12-19 Y.J.R.
 Material of Tunnel shafts steel Identification Marks on Do. LLOYDS 12-12-19: 23-12-19: 19-12-19: 12-19: 26-12-19: 9-12-19: 3-2-20 Material of Screw shafts steel Identification Marks on Do. LLOYDS 12-12-19: 23-12-19: 19-12-19: 12-19: 26-12-19: 9-12-19: 3-2-20 LINER FITTED 3-2-20 Y.J.R.
 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.

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 machinery of this vessel has been made + fitted under Special Survey in accordance with the requirements of the Rules and the materials + workmanship are good.

The machinery is eligible in my opinion for the notation **L.M.C. 6-20**

It is submitted that this vessel is eligible for **+ L.M.C. 6-20. FD**

Roll
7/10/20
J.M.

The amount of Entry Fee ... **Yen 30.-** When applied for, 19
 Special ... **£ 655.-** When received, 19
 Donkey Boiler Fee ... **£** : :
 Travelling Expenses (if any) **£** : : 19

Engineer Surveyor to Lloyd's Register of Shipping.

J.G. Gray

Committee's Minute

TUE. 7 MAR. 1921

Assigned

+ Feb 6 20
J.D.



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