

# REPORT ON MACHINERY.

No. 2982

Received at London Office

Date of writing Report Oct. 11<sup>th</sup> 1920 When handed in at Local Office

Port of Kobe

Survey held at Jima, Okayama prefecture Date, First Survey June 16<sup>th</sup> 1920 Last Survey Sept. 22<sup>nd</sup> 1920  
No. of Visits 22

on the Steel Single Screw Steamer "KASHIN MARU" Tons { Gross 2427.75  
Net 1425.06

Master J. Ota Built at Jima Yard, Uno By whom built Mitsui Bussan Kaisha When built 1920

Engines made at Jima Yard, Uno By whom made Mitsui Bussan Kaisha when made 1920

Boilers made at do By whom made do when made 1920

Registered Horse Power Owners Hokkai Tanko Kaisha, Tokio Port belonging to Horaki

Net Horse Power as per Section 28 272 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

No. of Cylinders 21:34:57 Length of Stroke 42" Revs. per minute 91 Dia. of Screw shaft as per rule 12.02" as fitted 12 3/8" Material of steel

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

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 yes If two

boilers are fitted, is the shaft lapped or protected between the liners Continuous Liner Length of stern bush 56 1/4"

Dia. of Tunnel shaft as per rule 10.797" as fitted 10 7/8" Dia. of Crank shaft journals as per rule 11.337" as fitted 11 5/8" Dia. of Crank pin 12 1/4" Size of Crank webs 7 1/2" x 16 1/2" Dia. of thrust shaft under

flanges 11 5/8" Dia. of screw 14'-6" Pitch of Screw 16'-0" mean No. of Blades 4 State whether moveable yes Total surface 71.50' + 22 1/4" at pin + journal

No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3 3/4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines Three Sizes of Pumps 8 1/2" x 12" x 10" 7" x 5" x 9" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Three @ 3 1/2" Tunnel Well One @ 2 1/2" In Holds, &c. Fore Peak One @ 3; Fore Hold 2 @ 3; aft. Hold 2 @ 3

No. of Bilge Injections 1 sizes 7" 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 yes

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

That 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 Engine Room top platform

Suppliers, &c.—(Letter for record S. Manufacturers of Steel The Imperial Steel Works, Yawata

Total Heating Surface of Boilers 3823.8' Is Forced Draft fitted yes No. and Description of Boilers Two Single Ended Scotch

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 4-9-20 No. of Certificate Lloyd's Test W.P. 180 lbs. 4-1-20

Can each boiler be worked separately yes Area of fire grate in each boiler 44.4' No. and Description of Safety Valves to

each boiler Two Spring loaded Area of each valve 15.7' Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 13'-6" Length 11'-4" Material of shell plates steel

Thickness 1 3/16" Range of tensile strength 26-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Double riveted

g. seam Double riveted Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 17 1/4" x 1 1/8"

Percentages of strength of longitudinal joint rivets 85.34 Working pressure of shell by rules 197 lbs. Size of manhole in shell 16" x 12"

plate 85.38 No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 40"

Length of plain part top 5 1/8" bottom 5 1/8" Description of longitudinal joint Weld Suspension No. of strengthening rings

Working pressure of furnace by the rules 251 lbs. Combustion chamber plates: Material steel Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 7/8"

Pitch of stays to ditto: Sides 9" x 10" Back 8 3/4" x 10" Top 9" x 10 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 203 lbs.

Material of stays steel Area at smallest part 2.10' Area supported by each stay 95.625' Working pressure by rules 197 lbs. End plates in steam space:

Material steel Thickness 1 3/8" Pitch of stays 19" x 25" How are stays secured Washers 2 3/4" Working pressure by rules 181 lbs. Material of stays steel

Area at smallest part 10.12' Area supported by each stay 494' Working pressure by rules 213 lbs. Material of Front plates at bottom steel

Thickness 1" Material of Lower back plate steel Thickness 1 5/16" Greatest pitch of stays 18" x 12" Working pressure of plate by rules 191 lbs.

Diameter of tubes 3" Pitch of tubes 4 1/4" + 4 3/8" Material of tube plates steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 8 1/2" + 8 3/4"

Pitch across wide water spaces 14" Working pressures by rules 182 lbs. Girders to Chamber tops: Material steel Depth and

Thickness of girder at centre 9 1/2" x 1 5/8" Length as per rule 32" Distance apart 10 1/2" Number and pitch of stays in each 2 @ 9"

Working pressure by rules 202 lbs. Steam dome: description of joint to shell % of strength of joint

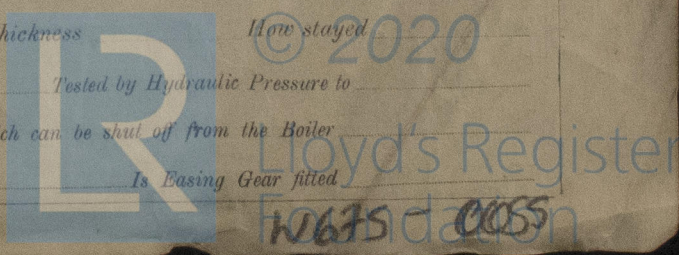
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

PERHEATER. 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.     | 1 Set Crank pin brasses.    |
| 2 Connecting rod bot. end bolts + nuts.    | 1 Propeller shaft.          |
| 2 Main bearing bolts + nuts.               | 1 Valve spindle             |
| 1 Set of coupling bolts.                   | 1 Eccentric rod.            |
| 1 Set of feed + bilge pump valves + seats. | 1 Air pump rod.             |
| 1 Set each piston packing rings            | 2 Safety valve springs      |
| a quantity of assorted bolts + nuts.       | 1/4 total number fire bars. |

a quantity of assorted steel plates + round bars.

The foregoing is a correct description,

MITSUI BUSSAN KAISHA, LTD.

SHIPBUILDING DEPARTMENT.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - June 16, 24; July 2, 6, 15, 23, 27; Aug. 10, 12, 19, 24, 26, 28, 31  
During erection on board vessel - - Sept. 1, 9, 11, 14, 18, 21, 25, 28.  
Total No. of visits 22 visits.

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 11-9-20 Slides 11-9-20 Covers 19-8-10 Pistons 24-8-20 Rods 19-8-20  
Connecting rods 19-8-20 Crank shaft 17-7-20 Thrust shaft 21-7-20 Tunnel shafts 21-7-20 Screw shaft 31-7-20 Propeller 28-8-20  
Stern tube 28-8-20 Steam pipes tested 18-9-20 Engine and boiler seatings 9-9-20 Engines holding down bolts 21-9-20  
Completion of pumping arrangements 21-9-20 Boilers fixed 11-9-20 Engines tried under steam 25-9-20  
Completion of fitting sea connections 28-8-20 Stern tube 28-8-20 Screw shaft and propeller 28-8-20  
Main boiler safety valves adjusted 21-9-20 Thickness of adjusting washers Lock nuts.  
Material of Crank shaft steel Identification Mark on Do. 3W1, 20-7-20; 3W4, 17-7-20; 3W5, 22-7-20  
Material of Thrust shaft steel Identification Mark on Do. 21-7-20  
Material of Tunnel shafts steel Identification Marks on Do. LLOYDS 31-7-20; 31-2-21-7-20; 31-3-31-4-24-7-20; 31-5-29-7-20  
Material of Steam Pipes steel Identification Marks on Do. LLOYDS 31-7-20; 31-2-21-7-20; 31-3-31-4-24-7-20; 31-5-29-7-20  
Test pressure 540 lbs. 29-7-20

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 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 is eligible in my opinion for the record L.M.C 9-20

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9.20 FI.

R. M. 15/12/20  
J.M.

J. G. Fry  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... Yen 30.-  
Special ... £ 588.-  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ :  
When applied for, Sept. 30<sup>th</sup> 1920  
When received, 20/10/20

Committee's Minute FRI. 17 DEC. 1920

Assigned + L.M.C. 9.20

CERTIFICATE WRITTEN.



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