

REPORT ON MACHINERY.

No. 4606

Received at London Office

13 NOV 1924

Date of writing Report 5th Aug. 1924 When handed in at Local Office

10 Port of Kobe

No. in Survey held at Inosshima & Osaka

Date, First Survey 5th June 1920 Last Survey 24th July 1924

Reg. Book.

on the S.S. "KOSHIN MARU"

(Number of Visits 49)

Gross 6057

Net

Master Built at Osaka By whom built Osaka Iron Works When built 1924

Engines made at Osaka By whom made Osaka Iron Works when made 1924

Boilers made at Osaka By whom made Osaka Iron Works when made 1924

Registered Horse Power Owners Hiroimi Shoji Kabushiki Kaisha Port belonging to Kobe

Nom. Horse Power as per Section 28 553 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27, 45, 75 Length of Stroke 51 Revs. per minute 77 Dia. of Screw shaft as per rule 15.19" Material of Steel as fitted 15.4" screw shaft

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 5'-4 3/4"

Dia. of Tunnel shaft as per rule 13.68" Dia. of Crank shaft journals as per rule 14.37" Dia. of Crank pin 14 7/8" Size of Crank webs 9 1/4 x 2 1/2" Dia. of thrust shaft under

collars 14 7/8" Dia. of screw 18'-3" Pitch of Screw 18'-3" No. of Blades 4 State whether moveable Yes Total surface 100 sq

No. of Feed pumps 2 Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps 2 Ballan 10 x 13 x 13 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four 3 1/2" In Holds, &c. Two 3 1/2" in each hold,

one 2 1/2" in tunnel well

No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes, 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 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 Tank air & filling pipes How are they protected wooden canings

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 E.R. top platform.

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

Total Heating Surface of Boilers 8110 sq Is Forced Draft fitted Yes No. and Description of Boilers 3 S.E. multitubular

Working Pressure 180 lbs. Tested by hydraulic pressure to 320 lbs. Date of test {21-2-22. 8-8-22. 13-10-22.} No. of Certificate 23 Y.S.

Can each boiler be worked separately Yes Area of fire grate in each boiler 63.9 sq No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 12.5 sq Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers on woodwork 3'-0" Mean dia. of boilers 15'-0" Length 12'-0" Material of shell plates Steel

Thickness 1/16" Range of tensile strength 26-30 lbs. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. Lap

long. seams TR.D.B.S. Diameter of rivet holes in long. seams 1/16" Pitch of rivets 9" Lap of plates or width of butt straps 19 1/2 x 1/16 outer

Per centages of strength of longitudinal joint rivets 85.4 Working pressure of shell by rules 184 lbs. Size of manhole in shell 21" x 17"

Size of compensating ring 38 x 34 x 1/16 No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 4'-0 3/4"

Length of plain part top Thickness of plates crown 21/32 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 219 Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 7/8

Pitch of stays to ditto: Sides 8 1/2 x 8 1/4 Back 8 1/2 x 8 1/2 Top 9 x 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 186 lbs.

Material of stays Steel Area at smallest part 1.79 sq Area supported by each stay 72 sq Working pressure by rules 224 lbs. End plates in steam space:

Material Steel Thickness 1/32 Pitch of stays 18 x 20 How are stays secured D.N.O.W. Working pressure by rules 196 lbs. Material of stays Steel

Area at smallest part 7.5 sq Area supported by each stay 18 x 20 Working pressure by rules 216 Material of Front plates at bottom Steel

Thickness 3/4 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 13 3/4 x 8 1/2 Working pressure of plate by rules 264

Diameter of tubes 3 Pitch of tubes 4 1/4 x 4 1/8 Material of tube plates Steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9.44"

Pitch across wide water spaces 13 1/4 Working pressures by rules 204 lbs. Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 3/4 x 1/2 x 2 Length as per rule 2'-9 5/8 Distance apart 9 Number and pitch of stays in each 3 @ 8"

Working pressure by rules 228 Steam dome: description of joint to shell 96 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 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

008641-008649-0050

IS A DONKEY BOILER FITTED?

No

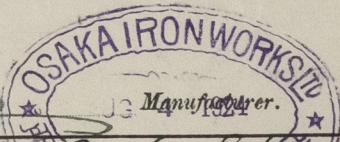
If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:—

2 connecting rod tip end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, one set of spare piston rings complete, assorted bolts & nuts.

The foregoing is a correct description,



Dates of Survey while building
During progress of work in shops -- 1920 June 5, 23. July 12. Aug. 6. Sept. 4, 8, 9, 20, 28. Oct. 6, 8, 17. Nov. 12, 15, 22, 30.
During erection on board vessel -- Dec. 14, 23, 27. 1921 Oct. 7, 10, 24. Nov. 5. 1922 Feb. 21. May 29. July 18. Aug. 3, 8. Sept. 26. Oct. 14.
Total No. of visits 49

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " " "

Yes

Dates of Examination of principal parts—Cylinders 29-7-20. Slides 6-10-20. Covers 6-10-20. Pistons 6-10-20. Rods 12-7-20. Connecting rods 2-9-20. Crank shaft 9-9-20. Thrust shaft 30-11-20. Tunnel shafts 30-11-20. Screw shaft 6-10-20. Propeller 11-1-24. Stern tube 11-1-24. Steam pipes tested 28-4-24. Engine and boiler seatings 8-4-24. Engines holding down bolts 11-4-24. Completion of pumping arrangements 5-7-24. Boilers fixed 11-4-24. Engines tried under steam 21-7-24. Completion of fitting sea connections 25-3-24. Stern tube 6-10-24. Screw shaft and propeller 24-1-24. Main boiler safety valves adjusted 21-7-24. Thickness of adjusting washers Lock nuts

Material of Crank shaft O.H. Steel Identification Mark on Do. 9-9-20. Material of Thrust shaft O.H. Steel Identification Mark on Do. 25-11-18. Material of Tunnel shafts O.H. Steel Identification Marks on Do. R.O.B. Material of Screw shafts O.H. Steel Identification Marks on Do. 21-9-18. Material of Steam Pipes S.D. Steel Test pressure 540 lbs.

Is an installation fitted for burning oil fuel

Yes

Is the flash point of the oil to be used over 150°F.

Yes

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

Yes

Is this machinery duplicate of a previous case

Yes

If so, state name of vessel "Taibu Maru" (Kobe Reg. 2293)

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

"Koyeisan Maru" (" " 2405)

"Usuri Maru" (" " 3257)

The machinery of this vessel has been constructed and fitted on board in accordance with the requirements of the Rules and the approved plans. The materials and workmanship are good. The oil fuel piping has been tested as required by the Rules. The machinery has been tried under full working conditions and found satisfactory, and is in our opinion eligible for the record + L.M.C. - 7.24, and the notation Fitted for Oil Fuel 7.24, F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.24. FD. CL.

Fitted for oil fuel 7.24. F.P. above 150°F.

The amount of Entry Fee ... £ 60

Special ... £ 1540

Donkey Boiler Fee ... £ :

Travelling Expenses (if any) £ see full report

When applied for,

25 July 1924.

When received,

19

Committee's Minute

FRI. 14 NOV 1924

Assigned

+ L.M.C. 7.24. F.D. CL

Fitted for oil fuel 7.24
F.P. above 150°F.

CERTIFICATE WRITTEN

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation