Rpt. 4.

REPORT ON MACHINERY.

No. 2072

Received at London Office 4 JAN 1918

Date of writing Report 10th Oct 1917 When handed in at Local Office ✓ 19 Port of Kobe

No. in Reg. Book. Survey held at Osaka & Imoshima Date, First Survey 23rd April Last Survey 10th Sept 1917 (Number of Visits 26)

on the Steel Single Screw Steamer "Meichi Maru" Tons Gross 3191·08 Net 1981·18

Master Y. Koike Built at Imoshima By whom built The Osaka Iron Wks. Imo. Br. When built 1917

Engines made at Osaka By whom made The Osaka Iron Works Ltd when made 1917

Boilers made at do By whom made do when made do

Registered Horse Power Owners Meiji Kaun K. Kaisha Port belonging to Yokkaichi

Nom. Horse Power as per Section 28 288 ✓ 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 22 : 37 : 61 ✓ Length of Stroke 42 ✓ Revs. per minute 70 ✓ Dia. of Screw shaft as per rule 12·8 ✓ as fitted 13·0 ✓ 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 Tightly fitted ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 4'-8 3/4" ✓

Dia. of Tunnel shaft as per rule 11·2 ✓ as fitted 11 3/8" Dia. of Crank shaft journals as per rule 11·77 ✓ as fitted 12 ✓ Dia. of Crank pin 12" ✓ Size of Crank webs 7 3/8 × 23 ✓ Dia. of thrust shaft under collars 12" ✓ Dia. of screw 16'-0" ✓ Pitch of Screw 16'-0" ✓ No. of Blades 4 ✓ State whether moveable No ✓ Total surface 43 1/2 □' ✓

No. of Feed pumps Two ✓ Diameter of ditto 3 1/4" ✓ Stroke 24" ✓ Can one be overhauled while the other is at work Yes ✓

No. of Bilge pumps Two Diameter of ditto 3 1/2" ✓ Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two ✓ Sizes of Pumps Bal. 7 × 8 1/2 × 9 Dupl. Gen. 4 × 6 × 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 3" ✓ in boiler room two 3" ✓ In Holds, &c. Two 3" in each hold. After well 3 1/2 · Tunnel well one 2 1/2" ✓

No. of Bilge Injections 1 ✓ sizes 4" ✓ Connected to condenser, or to circulating pump Cir. p. 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 Larger valves: Smaller Cocks. ✓

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 Upper platform in E. Rm.

BOILERS, &c.—(Letter for record S ✓) Manufacturers of Steel Imp. Yawata Seitetsusho, Deighton's patent Flue & Tube Co.

Total Heating Surface of Boilers 3824 □' ✓ Is Forced Draft fitted Yes ✓ No. and Description of Boilers Two Single Ended ✓

Working Pressure 180 lbs ✓ Tested by hydraulic pressure to 360 lbs ✓ Date of test 10th & 16 Aug/17 ✓ No. of Certificate LLOYDS TEST 360 LBS. HYD. 10/8/17 & 16/8/17 ALJ. ✓

Can each boiler be worked separately Yes ✓ Area of fire grate in each boiler 45 □' ✓ No. and Description of Safety Valves to each boiler Two, direct spring ✓ Area of each valve 3 1/2 dia ✓ 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 10" ✓ Mean dia. of boilers 13'-6" ✓ Length 11'-6" ✓ Material of shell plates Steel ✓

Thickness 1 3/32" ✓ Range of tensile strength 28 3/4 - 32 tons ✓ Are the shell plates welded or flanged No ✓ Descrip. of riveting: cir. seams Double ✓ long. seams Double straps treble riveted ✓ Diameter of rivet holes in long. seams 1 3/16" ✓ Pitch of rivets 8 1/8" × 4 1/16" ✓ Lap of plates or width of butt straps 17 3/4 × 1" ✓

Per centages of strength of longitudinal joint rivets 92·9 × 88·5 plate 85·4 × 86·4 ✓ Working pressure of shell by rules 184 lbs ✓ Size of manhole in shell 12 × 16 in End plate ✓

Size of compensating ring Flanged End pl. ✓ No. and Description of Furnaces in each boiler Three Deighton ✓ Material Steel ✓ Outside diameter 40 1/4" ✓

Length of plain part top ✓ bottom ✓ Thickness of plates crown 1/2" ✓ bottom ✓ Description of longitudinal joint Weld ✓ No. of strengthening rings ✓

Working pressure of furnace by the rules 184 lbs ✓ Combustion chamber plates: Material Steel ✓ Thickness: Sides 23/32" ✓ Back 23/32" ✓ Top 23/32" ✓ Bottom 7/8" ✓

Pitch of stays to ditto: Sides 9" × 10" ✓ Back 8 3/4 × 10" ✓ Top 9" × 10 1/2" ✓ If stays are fitted with nuts or riveted heads Nuts ✓ Working pressure by rules 187 lbs ✓

Material of stays Steel ✓ Area at smallest part 21 □" ✓ Area supported by each stay 94 1/2 □" ✓ Working pressure by rules 199 lbs ✓ End plates in steam space:

Material Steel ✓ Thickness 1 3/8" ✓ Pitch of stays 25" × 19" ✓ How are stays secured Doub. nuts ✓ Working pressure by rules 180 lbs ✓ Material of stays Steel ✓

Area at smallest part 8·29 □" ✓ Area supported by each stay 25 × 19 ✓ Working pressure by rules 180 lbs ✓ Material of Front plates at bottom Steel ✓

Thickness 1" ✓ Material of Lower back plate Steel ✓ Thickness 15/16 ✓ Greatest pitch of stays 14" at bottom ✓ Working pressure of plate by rules 180 lbs ✓

Diameter of tubes 3" ✓ Pitch of tubes 4 3/8 × 4 1/4" ✓ Material of tube plates Steel ✓ Thickness: Front Sp. sq. stay 1" ✓ Back 13/16" ✓ Mean pitch of stays 10 1/2" ✓

Pitch across wide water spaces 14" ✓ Working pressures by rules 180 lbs ✓ Girders to Chamber tops: Material Steel ✓ Depth and thickness of girder at centre 9 1/2 × 13/16 (2) ✓ Length as per rule 32" ✓ Distance apart 10 1/2" ✓ Number and pitch of stays in each Two @ 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

SUPERHEATER. Type None ✓ 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

Water Capacity. Tons. 111·5 20·0 534·0

Visits 23

IS A DONKEY BOILER FITTED? No ✓ *If so, is a report now forwarded?*

SPARE GEAR. *State the articles supplied:—* Two crosshead bolts & nuts ✓. Two crank pin bolts & nuts ✓. Two main bearing bolts & nuts ✓. Set coupling bolts & nuts ✓. Feed & bilge pump valves ✓. Set piston springs ✓. Assorted bolts & nuts ✓. Iron of various sizes ✓.

The foregoing is a correct description.

Please sign here

G. Yamada *Manufacturer.*

OSAKA IRON WORKS LTD NOV 20 1917 大阪鐵工所株式會社

Dates of Survey while building — *During progress of work in shops* — 23rd April 7, 8, 16, 27. 30 May. 4, 14, 19 June 6, 7, 10, 18, 26, 28, 30 July. *During erection on board vessel* — 10, 11, 13, 16, 24, 25, 29 Aug 3, 9, 10 Sept. 1917. *Total No. of visits* 26. (4 visits to Sumitomo Steel Works for inspecting shafting (Copies of certificates already sent))

Is the approved plan of main boiler forwarded herewith Yes

" " *donkey* " " "

Dates of Examination of principal parts—*Cylinders* 4/6/17 etc *Slides* 7/7/17 etc *Covers* 7/7/17 etc *Pistons* 10/7/17 etc *Rods* 19/6/17

Connecting rods 19/6/17 etc *Crank shaft* 8/6/17 etc *Thrust shaft* 16/4/17 *Tunnel shafts* 23/4/17 *Screw shaft* 11/5/17 *Propeller* 10/8/17

Stern tube 10/8/17 etc *Steam pipes tested* 29/8/17 *Engine and boiler seatings* 16/8/17 *Engines holding down bolts* 3/9/17

Completion of pumping arrangements 9/8/17 *Boilers fixed* 29/8/17 *Engines tried under steam* 9/9/17

Completion of fitting sea connections 16/8/17 *Stern tube* 13/8/17 *Screw shaft and propeller* 24/8/17

Main boiler safety valves adjusted 9/9/17 *Thickness of adjusting washers* Locknuts

Material of Crank shaft Steel *Identification Mark on Do.* LLOYDS 21.5.17 (3) 8.6.17 (1) R A.L.J. *Material of Thrust shaft* Steel *Identification Mark on Do.* LLOYDS 16.4.17 A.L.J.

Material of Tunnel shafts Steel *Identification Marks on Do.* LLOYDS 18.4.17 (2) 23.4.17 (1) 30.5.17 (1) 12.6.17 (1) R A.L.J. *Material of Screw shafts* Steel *Identification Marks on Do.* LLOYDS 11.5.17 A.L.J.

Material of Steam Pipes Steel *Test pressure* 540 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 Yes ✓ *If so, state name of vessel* "Seiun Maru" "Zuisho Maru" "Yuki Maru" "Seikow Maru" etc

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

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

The machinery is eligible in my opinion for the record + LMC 9.17

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.17. F.D.

J.W.D. 5/1/18.

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of Shipping.

Certificate (if required) to be sent to _____

The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee	...	Yen	20	:
Special	...	Yen	516	:
Donkey Boiler Fee	...	£	:	:
Travelling Expenses (if any)		£	:	:

When applied for, 13th Sep 1917

When received, 1st Oct 1917

Committee's Minute TUE. 8-JAN. 1918

Assigned + LMC. 9.17

MACHINERY CERTIFICATE WITTEN.