

Received at London Office

WFR. 18 MAY 1910

Date of writing Report 28. 4. 1910 When handed in at Local Office 29. 4. 1910. Port of *Nagasaki*.
 No. in Survey held at *Nagasaki* Date, First Survey 5. 3. 09. Last Survey 26. 4. 1910.
 Reg. Book. 50. S. on the *T. S. S. "Panama Maru"* (Number of Visits 182.)
 Master *T. Ogata*. Built at *Nagasaki* By whom built *Mitsui Bishi & Co. Ltd.* When built 1910.
 Engines made at *Nagasaki* By whom made " " " when made 1910
 Boilers made at " By whom made " " " when made 1910
 Registered Horse Power 604 Owners *Osaka Shosen Kaisha* Port belonging to *Osaka*.
 Nom. Horse Power as per Section 28 604 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *yes*.

ENGINES, &c.—Description of Engines *Two sets Triple Expansion* No. of Cylinders *Six* No. of Cranks *Six*
 Dia. of Cylinders *19 1/4. 32. 54* Length of Stroke *48* Revs. per minute *80* Dia. of Screw shaft as per rule *12. 9/16* Material of *Steel*
 as fitted *13. 1/2* screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *No* 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 *ends lapped* Length of stern bushes *5. 3 1/2*
 Dia. of Tunnel shaft as per rule *11. 22* Dia. of Crank shaft journals as per rule *11. 79*
 as fitted *11. 25* Dia. of Crank pin *12 1/2* Size of Crank webs *16 x 8* Dia. of thrust shaft under
 collars *12. 0* Dia. of screw *14. 9* Pitch of Screw *17. 9* No. of Blades *4* State whether moveable *yes* Total surface *68. 4* *sq ft*
 EACH ENGINE.
 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 *See next page* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *3 at 3 1/2*, Boiler Room *2 at 3 1/2* In Holds, &c. *Two at 3 1/2 in each hold*
One 3 in each tunnel, and one 3 in Tunnel well.
 No. of Bilge Injections *2* sizes *7* Connected to condenser, or to circulating pump *✓* Is a separate Donkey Suction fitted in Engine room & size *yes 7*
 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 valves & 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 *Bilge & Winch Exhaust* How are they protected *Strong wood casings.*
 IN TWEEN DECK.
 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.*
 Dates of examination of completion of fitting of Sea Connections *14. 1. 10* of Stern Tube *11. 1. 10* Screw shaft and Propeller *11. 1. 10.*
 Is the Screw Shaft Tunnels watertight *yes* Is it fitted with a watertight door *yes* worked from *Bridge deck.*
 W. Deane & Co. & Colville & Sons.
 Manufacturers of Steel *Lanarkshire & Co. Ltd. Glasgow* 3 Large. *Engels* 1 Small. *Scotch.*

BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *1548. 8* Is Forced Draft fitted *yes* No. and Description of Boilers *3 Large. ~~Engels~~ 1 Small. ~~Scotch.~~*
 Working Pressure *200 lbs* Tested by hydraulic pressure to *400 lbs* Date of test *21. 1. 10* No. of Certificate *40.*
 Can each boiler be worked separately *yes* Area of fire grate in each boiler *58. 2* *sq ft* No. and Description of Safety Valves to
 each boiler *2 Spring 3 1/2 dia* Area of each valve *9. 62* *sq in* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *yes*
 Smallest distance between boilers or uptakes and bunkers *15* *in* Mean dia. of boilers *14. 3* Length *11. 6* Material of shell plates *Steel*
 Thickness *1 3/32* Range of tensile strength *28-32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *2 R Lap.*
 long. seams *2 S. 3 R.* Diameter of rivet holes in long. seams *1 1/2* Pitch of rivets *10. 5* Lap of plates or width of butt straps *22*
 Per centages of strength of longitudinal joint *93* *%* Working pressure of shell by rules *224* Size of manhole in shell *16 x 12*
 Size of compensating ring *36 1/2. 32 1/2. 1 3/2* No. and Description of Furnaces in each boiler *3 L.F. Bull* Material *Steel* Outside diameter *34 1/4*
 Length of plain part *top 5. 8* Thickness of plates *bottom 5. 8* Description of longitudinal joint *Welded.* No. of strengthening rings *15*
 Working pressure of furnace by the rules *241* Combustion chamber plates: Material *Steel* Thickness: Sides *45* Back *16* Top *64* Bottom *16*
 Pitch of stays to ditto: Sides *10 x 7 1/2* Back *8 5/8 x 8 1/4* Top *9 x 8* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *216.*
 Material of stays *Steel* Diameter at smallest part *1 5/8* Area supported by each stay *72* *sq in* Working pressure by rules *253* End plates in steam space:
 Material *Steel* Thickness *1 3/16* Pitch of stays *18 1/4. 16 1/2* How are stays secured *2N + W S* Working pressure by rules *215* Material of stays *Steel*
 Diameter at smallest part *3 1/8* Area supported by each stay *309* *sq in* Working pressure by rules *257* Material of Front plates at bottom *Steel*
 Thickness *4* Material of Lower back plate *Steel* Thickness *3/4* Greatest pitch of stays *14 x 9* Working pressure of plate by rules *260*
 Diameter of tubes *3 Ex* 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 *8 3/8*
 Pitch across wide water spaces *13 1/2* Working pressures by rules *250* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *10 x 1 3/4* Length as per rule *29 5/16* Distance apart *8* Number and pitch of stays in each *2 at 9*
 Working pressure by rules *300* Superheater or Steam chest; how connected to boiler *✓* Can the superheater be shut off and the boiler worked
 separately *✓* Diameter *✓* Length *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivet
 holes *✓* Pitch of rivets *✓* Working pressure of shell by rules *✓* Diameter of flue *✓* Material of flue plates *✓* Thickness *✓*
 If stiffened with rings *✓* Distance between rings *✓* Working pressure by rules *✓* End plates: Thickness *✓* How stayed *✓*
 Working pressure of end plates *✓* Area of safety valves to superheater *✓* Are they fitted with easing gear *✓*

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description				
Made at	By whom made		When made	Where fixed	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler		Dia. of donkey boiler	Length	
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates		Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— *As per Rule, and in addition, one long in crank shaft, one Propeller shaft, four propeller blades, one eccentric Rod and shaft complete, Three Valve spindles, Condenser tubes &c.*

The foregoing is a correct description,

MITSU BISHI DOCKYARD & ENGINE WORKS.

Manufacturer.

Dates of Survey while building	During progress of work in shops—	1909. Dec 15. Total 142.
	During erection on board vessel—	March. 5. April 5. May 17. June 17. July 18. August 15. Sep 15. Oct 11. Nov. 21.
	Total No. of visits	182.

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders	9. 11. 09	Slides	11. 11. 09	Covers	5. 10. 09	Pistons	21. 10. 09	Rods	13. 10. 09.
Connecting rods	14. 6. 09	Crank shaft	10. 7. 09	Thrust shaft	7. 8. 09	Tunnel shafts	15. 5. 09 8. 2. 10	Screw shaft	1. 10. 09
Propeller	1. 10. 09	Stern tube	23. 12. 09	Steam pipes tested	7. 2. 10	Engine and boiler seatings	1. 3. 10	Engines holding down bolts	18. 2. 10
Completion of pumping arrangements	7. 4. 10	Boilers fixed	19. 2. 10	Engines tried under steam	16. 4. 10				
Main boiler safety valves adjusted	2. 4. 10	Thickness of adjusting washers	No washers, gamb nuts.						
Material of Crank shaft	Steel	Identification Mark on Do.	N ^o 38 A.C.H. 10. 7. 09.	Material of Thrust shaft	Steel	Identification Mark on Do.	N ^o 38 A.C.H. 7. 2. 09.		
Material of Tunnel shafts	Steel	Identification Marks on Do.	N ^o 38 D.F.R. 3. 5. 09	Material of Screw shafts	Steel	Identification Marks on Do.	N ^o 38 A.C.H. 11. 1. 10.		
Material of Steam Pipes	Lap welded iron	8. 2. 10 A.C.H.	Test pressure	600 lbs.					

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Engines and Boilers of this vessel, have been constructed in accordance with the Rules under special survey. The materials used and workmanship are of good quality. They have been securely and satisfactorily fitted on board, and have been seen working well under a full head of steam, and are now eligible in my opinion to be noted; L.M.C 4.10. in Register Book.*

Forced Draught and Electric Light.

Average speed on Trials 14.95 Knots.

Machinery fitted amidships.

The small Main Boiler reported on Special Form RPE, 5a, was an after consideration.

Weirs Feed Pumps Duplex 10 1/2 x 8 x 21". Ballast Duplex 9 x 12 x 10".

General Duplex Pump 7 x 5 x 6".

The amount of Entry Fee	£ 3 : 0 :	When applied for,	28. 4. 1910
Special	£ 75. 6 :	When received,	29. 4. 1910
Donkey Boiler Fee	£ — : — :		
Travelling Expenses (if any)	£ — : — :		

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 4.10

Engine Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES. 24 MAY 1910**

Assigned

+ hmc 4. 10



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