

# REPORT ON MACHINERY.

No. 847

Port of **NAGASAKI**

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No. in Survey held at **NAGASAKI**

Date, first Survey 1<sup>st</sup> March 1912 Last Survey 20<sup>th</sup> Sept 1913

Book. on the Combination Triple s.s. "Katori Maru"

(Number of Vlets 208)

Master **J. Murai** Built at **Nagasaki**

By whom built **Mitsui Bishi Dockyard Engine Works** When built **1913**

Tons } Gross 10326  
Net 6526

Engines made at **Nagasaki** By whom made **Mitsui Bishi Dockyard Engine Works** when made **1913**

Boilers made at **Nagasaki** By whom made **Mitsui Bishi Dockyard Engine Works** when made **1913**

Registered Horse Power Owners **Nippon Yusen Kaisha** Port belonging to **Tokio**

Horse Power as per Section 28 **1669** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

Engines, &c.—Description of Engines **Triple screws: 2 sets of Triple expansion Engines, One set of Parsons Exhaust Turbine** No. of Cylinders **6** No. of Cranks **6**

No. of Cylinders **27** Length of Stroke **48** Revs. per minute **92** Dia. of Screw shaft **14.75** Material of forged steel 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

Is the propeller boss **Yes** If the liner is in more than one length are the joints burned **Yes** 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

screws are fitted, is the shaft lapped or protected between the liners **Yes** Length of stern bush **6' 0"**

Dia. of Tunnel shaft **13.61** Dia. of Crank shaft journals **14.29** Dia. of Crank pin **15** Size of Crank webs **9.5 x 22.6** Dia. of thrust shaft under

carriage **14.5** Dia. of screw **16.6** Pitch of Screw **19' 0"** No. of Blades **4** State whether moveable **Yes** Total surface **74.8 sq. ft. each**

No. of Feed pumps **4** Diameter of ditto **5** Stroke **24** Can one be overhauled while the other is at work **Yes**

No. of Bilge pumps **4** Diameter of ditto **5** Stroke **24** Can one be overhauled while the other is at work **Yes**

No. of Donkey Engines **3 sets Duplex** Sizes of Pumps **10 1/2 x 13 1/2 x 10 1/2, 8 x 9 x 9, 12 x 8 x 10** No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room **3 e 3 1/2** In Boiler Room **2 e 3 1/2** In Holds, &c. No. 1 Hold **2 e 3 1/2**, No. 2 Hold **2 e 3 1/2**, No. 3 Hold **2 e 3 1/2**,

No. 4 Hold **2 e 3 1/2**, No. 5 Hold **2 e 3 1/2**, No. 6 Hold **2 e 3 1/2**, Cross Bunker **2 e 3 1/2**, 2 Wing Shaft Tunnel **8 e 2 1/2**, Centre Tunnel **1 e 3 1/2** & **1 e 2 1/2**

No. of Bilge Injections **2** sizes **8** Connected to condenser, or to circulating pump **Yes** Is a separate Donkey Suction fitted in Engine room & size **10 1/2 x 10 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 **Others 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**

Are the pipes carried through the bunkers **Bilge Pipes** How are they protected **Through bilge under the ceiling**

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**

Time of examination of completion of fitting of Sea Connections **28<sup>th</sup> March, 1913** of Stern Tube **25<sup>th</sup> March, 1913** Screw shaft and Propeller **10<sup>th</sup> June 1913**

Is Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **Upper deck**

Suppliers, &c.—(Letter for record **S**) Manufacturers of Steel **Swid. Alville & Sons**

Heating Surface of Boilers **16921 sq. ft.** Is Forced Draft fitted **Yes** No. and Description of Boilers **6 single ended Scotch**

Working Pressure **200 lbs.** Tested by hydraulic pressure to **400 lbs.** Date of test **22<sup>nd</sup> July, 1913** No. of Certificate **55**

Can each boiler be worked separately **Yes** Area of fire grate in each boiler **63.25 sq. ft.** No. and Description of Safety Valves to

each boiler **2 Spring loaded** Area of each valve **9.62 sq. in.** Pressure to which they are adjusted **205 lbs.** Are they fitted with easing gear **Yes**

Least distance between boilers or uptakes and bunkers or woodwork **1' 7 1/2"** Mean dia. of boilers **15' 6"** Length **11' 9"** Material of shell plates **Steel**

Thickness **1 7/16"** Range of tensile strength **28 to 32 tons** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **Double lap**

seams **Double riveted** Diameter of rivet holes in long. seams **1 1/2"** Pitch of rivets **10 x 5"** Lap of plates or width of butt straps **22"**

Percentages of strength of longitudinal joint **91.44** Working pressure of shell by rules **211 lbs.** Size of manhole in shell **16" x 12"**

of compensating ring **36 1/2 x 32 1/2 x 1 1/2** No. and Description of Furnaces in each boiler **3 Lube Fire Ball** Material **Steel** Outside diameter **47 1/2"**

Height of plain part **5"** Thickness of plates **5"** Description of longitudinal joint **Welded** No. of strengthening rings **None**

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"**

No. of stays to ditto: Sides **9 1/2 x 7 1/2** Back **8 1/2 x 9** Top **8 x 8 1/2** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **213 lbs.**

Material of stays **Steel** Diameter at smallest part **1.6"** Area supported by each stay **76.4 sq. in.** Working pressure by rules **239 lbs.** End plates in steam space:

Material **Steel** Thickness **1 3/4"** Pitch of stays **17 x 20** How are stays secured **at both ends** Working pressure by rules **225 lbs.** Material of stays **Steel**

Water at smallest part **3 1/8"** Area supported by each stay **3140 sq. in.** Working pressure by rules **235 lbs.** Material of Front plates at bottom **Steel**

Thickness **3/4"** Material of Lower back plate **Steel** Thickness **3/4"** Greatest pitch of stays **9 x 8 1/2** Working pressure of plate by rules **210 lbs.**

Number of tubes **3** Pitch of tubes **4 1/8 x 4 1/2** Material of tube plates **Steel** Thickness: Front **3/4"** Back **3/4"** Mean pitch of stays **8 1/2"**

Working pressures across wide water spaces **13 1/2"** Working pressures by rules **248 lbs.** Girders to Chamber tops: Material **Steel** Depth and

Thickness of girder at centre **10 x 7** Length as per rule **2' 8 1/2"** Distance apart **8"** Number and pitch of stays in each **3 e 8 1/2"**

Working pressure by rules **300 lbs.** Superheater or Steam chest; how connected to boiler **Yes** Can the superheater be shut off and the boiler worked

separately **Yes** Diameter **15"** Length **15"** Thickness of shell plates **1/2"** Material **Steel** Description of longitudinal joint **Welded** Diam. of rivet

Pitch of rivets **10 x 5"** Working pressure of shell by rules **211 lbs.** Diameter of flue **15"** Material of flue plates **Steel** Thickness **1/2"**

Are they stiffened with rings **Yes** Distance between rings **15"** Working pressure by rules **211 lbs.** End plates: Thickness **1/2"** How stayed **Welded**

