

# REPORT ON MACHINERY

No. 6843  
No. in Survey held at Glasgow Date, first Survey 30<sup>th</sup> Novem<sup>r</sup> 1883 Last Survey February 1884  
Reg. Book. on the S. S. "Lopis Maru" (Number of Visits 33) Tons 1350.99  
Master George Buedis Built at Glasgow By whom built James Howden & Co When built 1884  
Engines made at Glasgow By whom made James Howden & Co when made 1884-5  
Boilers made at " By whom made " when made 1884-5  
Registered Horse Power 280 Owners Mitsui Bishi Mail S.S. Coy Port belonging to Tokio Japan

## ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting  
Diameter of Cylinders 38" x 40" Length of Stroke 40" No. of Rev. per minute 40 Point of Cut off, High Pressure .6 Low Pressure .60  
Diameter of Screw shaft 12 3/4" Diam. of Tunnel shaft 11 1/2" Diam. of Crank shaft journals 12 1/2" Diam. of Crank pin 12 1/2" size of Crank webs 15" x 8"  
Diameter of screw 15" x 4" Pitch of screw 19" x 6" No. of blades Low state whether moveable yes total surface 69 ft  
No. of Feed pumps Two diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes  
No. of Bilge pumps Two diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes  
Where do they pump from All compartments  
No. of Donkey Engines Two Size of Pumps one 9" x 5" x 6" one 6" x 4" x 9" Where do they pump from Sea Pipe + Hotwell Ballast Tanks  
Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes  
No. of bilge injections One and sizes 5 1/4" Are they connected to condenser, or to circulating pump To Circulating  
How are the pumps worked By Levers  
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 Bilge pipes to forehold How are they protected By wood casing  
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes  
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock On Slip before launching  
Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform

## BOILERS, &c.—

Number of Boilers Two Description Round Horizontal Whether Steel or Iron Steel  
Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 4/12/84  
Description of superheating apparatus or steam chest Round Longitudinal Receiver  
Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes  
No. of square feet of fire grate surface in each boiler 97.5 ft<sup>2</sup> Description of safety valves Direct Spring No. to each boiler Two  
Area of each valve 19.63" Are they fitted with easing gear yes No. of safety valves to superheater 2 area of each valve —  
Are they fitted with easing gear — Smallest distance between boilers and bunkers or woodwork 18" Diameter of boilers 13' 0"  
Length of boilers 14' 6" description of riveting of shell long. seams Double riveted circum. seams Double riveted Thickness of shell plates .66  
Diameter of rivet holes 1 1/8" whether punched or drilled Drilled pitch of rivets 4 1/4" Lap of plating Shaps  
Per centage of strength of longitudinal joint 44 working pressure of shell by rules 81 lbs size of manholes in shell 16" x 12"  
Size of compensating rings Doubling plate No. of Furnaces in each boiler Six  
Outside diameter 3' 3" length, top 6' 9" bottom per face thickness of plates 1/16" description of joint Welded if rings are fitted cocks  
Greatest length between rings 3' 4 1/2" working pressure of furnace by the rules 89 lbs combustion chamber plating, thickness, sides .45 back — top .45  
Pitch of stays to ditto, sides 8 3/4" x 8 3/4" top 8' 4" x 8 3/4" stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 80 lbs Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 100 lbs plates in steam space, thickness .85  
Pitch of stays to ditto 14" x 14" how stays are secured By double nuts working pressure by rules 88 lbs diameter of stays at smallest part 2 1/2" working pressure by rules 104 lbs Front plates at bottom, thickness 1/16" Back plates, thickness —  
Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 1/2" brass pitch of tubes 4 1/8" thickness of tube plates, front 1/16" back 1/16" how stayed By tubes pitch of stays 11 3/4" x 9 3/4" width of water spaces —  
Diameter of Superheater or Steam chest 2' 8 1/4" length 16 ft thickness of plates 1/16" description of longitudinal joint Lap joint diam. of rivet holes 3/16"  
of rivets 2 1/4" working pressure of shell by rules 89 lbs diameter of flue — thickness of plates — if fitted with rings —  
between rings — working pressure by rules — end plates of superheater, or steam chest; thickness — how connected to boiler —



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**DONKEY BOILER**— Description *Round Vertical*  
 Made at *Cardiff* by whom made *Clarke Chapman & Coy* when made *1884* where fixed *Llanelli*  
 Working pressure *7 1/2 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *1483* *Subt 12 ft 2 1/2 in* fire grate area *12 1/2 sq ft* description of safety  
 valves *Light Spring* No. of safety valves *one* area of each *4 sq in* if fitted with easing gear *yes* if steam from main boilers can  
 enter the donkey boiler *no* diameter of donkey boiler *4' 6"* length *10' 6"* description of riveting *Lap*  
 Thickness of shell plates *5/16"* diameter of rivet holes *1 1/16"* whether punched or drilled *punched* pitch of rivets *2 9/16"* lap of plating *3/4"*  
 per centage of strength of joint *73* thickness of crown plates *7/16"* stayed by *3 stays 1 1/2" dia*  
 Diameter of furnace, top *3' 2 3/4"* bottom *3' 10"* length of furnace *4' 6"* thickness of plates *8/16"* description of joint *Lap single*  
 Thickness of furnace crown plates *8/16"* stayed by *as above* working pressure of shell by rules *8 1/2 lbs*  
 Working pressure of furnace by rules *8 1/2 lbs* diameter of uptake *12"* thickness of plates *6/16"* thickness of water tubes *6/16"*

**SPARE GEAR.** State the articles supplied:— *Half Crank Shaft, HP piston Complete, propeller shaft, Boss, & four blades, Valve spindle, Eccentric Strap & rod, Air & Circ pump & rod, Crank pin brasses, also top end connecting rod, two main bearing brasses, Connecting rod bolts top & bottom, two main bearing bolts, one set Coupling bolts set of Thrust shoes, Steam valve, Pump valves and seat, Boiler tubes 80 per dozen, also a large assortment of bolts, nuts, washers*  
 The foregoing is a correct description,  
*James Rowland & Co* Manufacturer S.

**General Remarks** (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers are of good workmanship & materials and are now in good order and in working condition, & eligible in my opinion to be noted in the Register Book.* *Lloyd's M.C. 2/85*

*As no entry has been made in the vessel is eligible to have her registration + sum £ 2.55. recorded.*

*17/2/85*

The amount of Entry Fee .. £ *2* : : received by me,  
 Special .. .. £ *3/4* : :  
 Donkey Boiler Fee .. .. £ : :  
 Certificate (if required) .. £ : : *14/2/1885*  
 (Travelling Expenses, if any, £ - *8/-*)

Committee's Minute

DAY 17 FEB 1885

*James Morrison*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

