

# REPORT ON MACHINERY.

820

No. 57

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No. in Survey held at Genoa Date, first Survey 19/5/82 Last Survey 19/7/84 1884  
Reg. Book. on the S.S. "S. Gottardo" (Number of Visits 2) Tons 1544  
2417 When built 1884

Master A. Bando Built at Sampierdarena By whom built Liv. Ansaldo & Co.

Engines made at Glasgow By whom made Alex. Stephen & Sons when made 1880

Boilers made at ditto By whom made ditto when made 1880

Registered Horse Power 240 Owners Dufour & Brugno Port belonging to Genoa

## ENGINES, &c.—

Description of Engines Compound, Inverted, Direct acting  
Diameter of Cylinders 38" - 68" Length of Stroke 45" No. of Rev. per minute 56 Point of Cut off, High Pressure 1/2 Low Pressure

Diameter of Screw shaft 13" Diam. of Tunnel shaft 12 1/4" Diam. of Crank shaft journals 13" Diam. of Crank pin 13 1/2" size of Crank webs 14 1/4 x 8 1/4

Diameter of screw 14 1/2" Pitch of screw 26 1/2" No. of blades 4 state whether moveable Yes total surface

No. of Feed pumps 2 diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work Yes

Where do they pump from all compartments & Engine room & Stakehold

No. of Donkey Engines Main Donkey Size of Pumps 9" x 8" x 5" pump Where do they pump from all holds & Engine room

Ballast Pump (Centrifugal) 8" x 7" x 6" dia of pipe

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 4" dia Are they connected to condenser, or to circulating pump to circulating pump

How are the pumps worked by lever

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both cocks & valves

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 Yes

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

What pipes are carried through the bunkers Steam pipes How are they protected by iron plate 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 15/7/84 in dry dock

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from top platform

## BOILERS, &c.—

Number of Boilers Two Description Cylindrical, double ended Hether Steel or Iron Iron

Working Pressure 85 lbs Tested by hydraulic pressure to 165 lbs Date of test 23/5/82

Description of superheating apparatus or steam chest Cylindrical lying fore & aft

Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately

No. of square feet of fire grate surface in each boiler 64 sq. ft. 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 area of each valve

Are they fitted with easing gear Smallest distance between boilers and bunkers or woodwork Diameter of boilers 71.9"

Length of boilers 15 ft. description of riveting of shell long. seams Butt double welded circum. seams lap double Thickness of shell plates 1 1/16

Diameter of rivet holes 1 3/16 whether punched or drilled pitch of rivets 4 3/4 Lap of plating 12 1/2 straps

Per centage of strength of longitudinal joint 70 mild working pressure of shell by rules 103 lbs size of manholes in shell 15 1/4 x 11 1/4

Size of compensating rings 6" x 5/8 ring riveted on No. of Furnaces in each boiler four

Outside diameter 41" length, top 6 1/2" bottom 6 1/4" thickness of plates 1/2 description of joint double butt if rings are fitted No

Greatest length between rings working pressure of furnace by the rules 91 lbs combustion chamber plating, thickness, sides 7/16 bottom 1/2 top 7/16

Pitch of stays to ditto, sides 8" x 7" back top 7" x 7" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 84 lbs Diameter of stays at smallest part 1 3/8 working pressure of ditto by rules 93 lbs end plates in steam space, thickness 13/16

Pitch of stays to ditto 15 1/4" how stays are secured Nuts & washers working pressure by rules 101 lbs diameter of stays at smallest part 2 3/8 working pressure by rules 101 Front plates at bottom, thickness 13/16 Back plates, thickness

Greatest pitch of stays working pressure by rules Diameter of tubes 3 1/4 in pitch of tubes 4 7/8 x 4 3/8 thickness of tube plates, front 13/16 back 11/16 how stayed Stay Tubes pitch of stays 14" x 9" width of water spaces 1 1/4 - 1 1/8 - 3 1/2 furnaces

Diameter of Superheater or Steam chest 30" length 13.6" thickness of plates 7/16 description of longitudinal joint lap double diam. of rivet holes 3/4

Pitch of rivets 2 1/2 working pressure of shell by rules 158 lbs diameter of flue thickness of plates If stiffened with rings

Distance between rings working pressure by rules end plates of superheater, or steam chest; thickness 1/2 how stayed One stay bolt 1" dia Superheater or steam chest; how connected to boiler no manhole tubes 7/8 thick

**DONKEY BOILER—** Description

Made at \_\_\_\_\_ by whom made \_\_\_\_\_ when made \_\_\_\_\_ where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ fire grate area \_\_\_\_\_ description of safety  
 valves \_\_\_\_\_ No. of safety valves \_\_\_\_\_ area of each \_\_\_\_\_ if fitted with easing gear \_\_\_\_\_ if steam from main boilers can  
 enter the donkey boiler \_\_\_\_\_ diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_  
 Thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_ pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_  
 per centage of strength of joint \_\_\_\_\_ thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_  
 Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_ thickness of plates \_\_\_\_\_ description of joint \_\_\_\_\_  
 Thickness of furnace crown plates \_\_\_\_\_ stayed by \_\_\_\_\_ working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ diameter of uptake \_\_\_\_\_ thickness of plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *two propeller blades — two top end & two bottom end  
 brasses — 2 top end & 2 bottom end bolts — one set of coupling bolts — feed &  
 bilge pump valves and one set piston springs.*

The foregoing is a correct description,  
 Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery & main Boilers  
 are those taken out of the <sup>late</sup> S.S. "Mount Hermon" which was lost here  
 on her first voyage.  
 The Cylinders and all the pumps and also the Condenser were  
 carefully examined and tested by hydraulic pressure to double the  
 working pressures in all cases and no defects were detected —  
 The Boilers were cleaned out & tested to 165 lbs & found tight  
 The Crank shaft and all the separate shafts were examined in the  
 lathe found to be in good order — The piston rods were turned up  
 and the pistons refitted — The slide valves & Cylinders faces were scraped  
 all the principal pieces of Machinery were saved in good condition  
 made use of — all defects were made good — Most of the sea cocks  
 & valves and all the piping are new — The propeller, Main Donkey  
 the Centrifugal pump and all the coupling bolts, &c, are new —  
 The trial trip took place on the 19<sup>th</sup> instant when the machinery  
 was found to be in good working order and is eligible in my  
 opinion to be noted in the Register Book & L.M.C in red  
 with the date of 7. 8. 84 recorded.*

The amount of Entry Fee . . . £ 2 : 0 : 0 received by me,  
 Special . . . £ 32 : 0 : 0  
 Donkey Boiler Fee . . . £ 2 : 0 : 0  
 Certificate (if required) . . . £ gratis 18  
To be sent as per margin.  
 (Travelling Expenses, if any, £ 10. 0. 0.)

*Submitted that this vessel  
 is eligible to be  
 M.C. 7. 8. 84  
 1884  
 24. 7. 84*  
**Francis Wellman**  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRIDAY 25 JULY 1884