

\* 16665

# Report of Survey for Repairs of Engines and Boilers.

(Rec 1877/96)

Survey held at Senegal Date, first Survey May Last Survey July 12<sup>th</sup> 1876

on the "Moncalieri" ex Shetis Tons 420.9

Owners Messrs R. Rubattino & Co Port belonging to Senegal Classified 9 Years assigned 9 Character in Register Book A1 (exposed)  
12. 61

Diameter of Cylinder H.P. 28" Engines made at When made  
Length of Stroke L.P. 53" 30"  
Pressure of Steam 60 lbs By whom made Messrs Scott of Grimsby & Co compounded in Senegal  
Nominal Horse Power 120 by Messrs Rio Furo & Co

## Particulars of Repairs and Examination

The Boilers are 9<sup>ft</sup> 5" internal diameter of 5/8 plates & double rivetted  
Diameter of rivets 7/8 - Pitch 2 1/2" - Distance of rows 1 1/2"  
Each Boiler has two furnaces 38 1/2" diameter and 7<sup>ft</sup> 4" long  
of 7/16 plates - The fire boxes are of 7/16 plates, well stayed to  
the back plate, which is 5/8 thick - The front plates of the Boilers  
are also 5/8 thick - The Tube plates are 3/4 thick

Each Boiler has 15 1/2 iron tubes 3" diameter & 7<sup>ft</sup> 5" long  
The stay tubes are tapped & rivetted in the back tube plate & secured  
in the front plate with a nut on each side - Each Boiler  
has a steam dome 4' 8" x 4' 8" x 1 1/2" plates from which the  
steam is taken <sup>doubt</sup> to the Engine - There are 2 Safety Valves to  
each boiler, loaded by means of a lever & weights -

By the Society's formulas the strength of the rivetted joints  
of the shell is 65 % of the solid plate & the working pres-  
sure of the boilers would be 57 lbs. and of the flues 60 lbs  
pressure per square inch - The workmanship of these boilers  
is fair & they were found tight at 120 lbs of hydraulic pres-  
sure & 65 lbs of steam - The area of the Grate is 38.4 square  
feet. There are 2 Safety Valves to each boiler and their  
diameter is 4 1/4 inches equal to 14.18 square each or 28.36  
square inches of combined area, which is above the require-  
ments of the rules. These valves are loaded by means of  
a lever & weights - Each Boiler is properly fitted with a  
stop valve, water gauge, scum cock, sea cock, main & donkey  
feed valves and a separate steam gauge & therefore each one can  
be worked separately if required

All pipes connected with the sea have either a Kingston Valve  
or a cock fitted to the skin of the ship by strong cast iron boxes or  
sockets about 8" high placed between the brass flanges & the <sup>iron</sup> plates  
these sockets are also well cemented - All the Kingston Valves &  
Cocks

The amount of Fee ... £ 6.0.0 received by me,  
(Certificate (if required) ... £ 5.0.0 July 1876)  
(Travelling Expenses, if any, £ ...)

Committee's Minute 18

Francis Wislizenus  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



& cocks are under the Stakehold plates, but are easy to get at, at times, but the "Cocks" are not made so that the spanner can only be put on or taken off when shut, as required by the Circular ~~no~~ 3. This excellent contrivance has not yet been introduced in the merchant steamers here, even in the latest engines out from England. The Boilers are covered with felt & wood lagging.

"Engines": The original engines of this ship which are described in the <sup>first</sup> Certificate ~~xx~~ were made by Mess<sup>rs</sup> Rowan & Co of Glasgow in 1861. These proving unsatisfactory were replaced by Mess<sup>rs</sup> Scott of Greenock before the ship came out to Italy with engines having cylinders of 42" dia and 30 stroke and also new Boilers working to 20 lbs pressure. Lately the Ship's Engine requiring thorough repair, it was decided to compound the engine made by Mess<sup>rs</sup> Scott & to put in new high pressure boilers, working at 60 <sup>lbs</sup> pressure. Mess<sup>rs</sup> P. & S. Ferro & Co took the job in hand & made two new cylinders, a surface condenser which was fitted at the back of the engine, took out one air pump and made a new circulating instead, made new feed pumps, new eccentrics & rods, link motion, slides & slide rods, the pistons, all the main and connecting rod brasses, all the cocks, valves & copper piping connected with engine & boilers. The Stern bush & screw propeller are new. The Donkey Boiler & connections are also new. Of the old engine there is only the Bed plate, columns, one air pump with the <sup>four</sup> beams & links for working the same, & Crank Shaft, connecting rods, line shaft, thrust block & pedestals and two bilge pumps. The work was well done as the Company spared no expense to get a good & solid job & the trial trip proved satisfactory.

Francis Westerman  
Surveyor.