

Report of Survey for Repairs of Engines and Boilers.

No. 3

No. in Reg. Book. Survey held at *Genoa*

Date, first Survey *3^d/10/76* Last Survey *14th Nov 1876*

328 on the *"S" S. S. Italia late Stalo Plateuse*

Tons *1155*

Owners *R. Piaggio & Figli* Port belonging to *the port of Genoa*

Classed **A1*

Diameter of Cylinder *33"*

Length of Stroke *21" 1/2*

Pressure of Steam *45 lbs*

Nominal Horse Power *280*

Engines made at *London*

By whom made *J. & W. Dudgeon*

When made *1871*

Particulars of Repairs and Examination *The Engines have had a thorough overhaul. The four pistons have been taken out & two of the packing rings have been changed. All the four piston rods have been lengthened & made to pass through the top cylinder cover, thereby supporting the pistons & preventing the excessive wear of the cylinders as happened in the "Pampa". All the Condenser tubes were drawn & cleaned & newly packed. The slides and the valve faces on the cylinders have been filed up & scraped. All the cocks, Kingston valves, &c have been visited & cleaned and repaired when found necessary.*

Boilers. There are two Boilers fired fore and aft, with separate combustion chambers to each furnace. The dimensions of the Boilers are as follows - Diam 11' 6" x 18' 0" long x of 18 plates double rivetted. Each boiler has 4 furnaces 3' 1/2 in dia x 6' 6" long of 11/16 plates. There are 95 ^{brass} tubes 3 1/8 dia to each furnace. All the metal tubes were taken out and a sufficient number of good ones were found for 6 furnaces, the other two furnaces were supplied with iron tubes. On visiting the furnaces one was found perfectly sound, & one had a piece of the crown plate about 15" wide changed. In the other six furnaces, the crown plates were taken out altogether and new plates substituted only much wider, in order to bring the rivetted joint with the side plate, below the level of the bars, thereby doing away with all rivets exposed to the flame except at the ^{after} end where the furnaces join the tube plate. The plates and the rivets in the fire boxes above the bridges are remarkably good. This is no doubt owing in a great measure to the quality of the materials, as many of the plates still bear distinctly the "Harnley" & "Boulton" marks. There is only one fire box with a small patch on one side. It was found necessary to put some more stays in the back plates of the fire boxes, as some had

The Amount of Fee *£ 6 : 0 : 0* received by me,

Certificate (if required) *£ : 5 : 16/10* 1876

(Travelling Expenses, if any, £)

Committee's Minute

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

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

1936 8. Jan.

buckled under the pressure. The original stays were 11" x 9" pitch and by inserting an additional stay in the middle the pitch was reduced to about 4" pitch. Five of the firebox sides in make of the bridges were found much corroded, these were cut out and new plates 2 feet long put in instead. All the tube plates are perfectly sound except one which has 2 cracks, extending only from one tube to another, these are old cracks which had been repaired previously. As far as the furnaces, fire boxes, & tube plates and external shell of the boilers are concerned I consider these in a very efficient state, & the quality of the work done in repairing them very good. I should have preferred all new tubes, but as there was not a sufficient number of new iron tubes to be found here, the owners were compelled to make use of the old ones as far as they would go. A complete set of iron tubes are coming out from England & they will be used as the metal ones give away.

The safety valves were taken out & ground and the stop valves, main & donkey feed valves & glass gauge cocks were put in good working order.

Francis W. Lunn



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