

London 46212

London 28th May 1886
B. Weymouth Esq
Sir

Steel S.S. Lydian Monarch

In submitting the accompanying report of repairs just executed on the above named Steel Vessel, we also beg to lay before you a historical sketch of the case, as there are several points of interest connected with it, which we feel assured the Committee will be glad to be possessed of.

She was lying at the quayside at New York when a fire broke out in the sheds, and as she was then aground and could not be moved, the fire soon communicated itself to the ship, burning the rigging, spars, boats, rigging and deck &c. The Starboard side of the vessel was subjected to great heat, and at first, the fire engines played on the burning deck &c. but when the vessel floated and was moved astern & off from the quay, the marine fire engine, played on the whole side of the vessel. The heating and cooling of the plates caused buckling to take place between the frames in six courses of plating and at one part, the frames were

bent inwards. Two plates were at that time found broken amiss ships one of them was renewed at New York and the other temporarily repaired with a covering or doubling plate, in order to allow of the vessel proceeding to the United Kingdom, a few cracks in the upper strake of plating of the shelter deck had also short covering pieces worked over them as a temporary repair.

She left New York on the 17th March, and on the 19th - the ship then plunging heavily, a loud report was heard, and on an examination being made, the sheerstrake and two plates immediately below were found broken (see accompanying sketch) on the 20th another report was heard, and then about 24 feet further aft, the doubling strake at lower part of the shelter deck plating was found broken, the butt of the sheerstrake immediately below the break, open, & the strakes below broken at the upper edge about 6 in down.

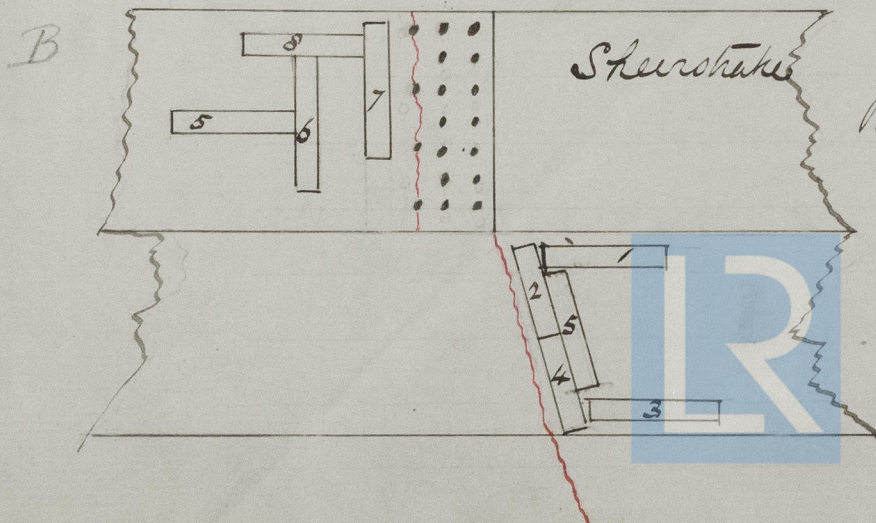
Some curious matters developed themselves during the removal of the buckled plates. - In the main bulk plating of the shelter deck 3 plates

6 D. 12 D. & 14 D. (see sketch) - were found broken under the butt straps of the thick doubling strake. and 2 plates of the sheerstrake 13 C & 18 C were discovered to be broken, as also shown on the sketch, while in process of un-riveting. No sign of a fracture being observable before the un-riveting commenced.

It will also be seen on reference to the sketch, that the breaks in the plating are in immediate proximity to the butts of adjacent strakes or the butts of stringer plates.

With two exceptions the breaks in upper course of sheer deck plating took place at the side scuttles.

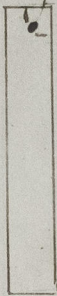
After the broken plates were removed we subjected 8 C and 9 B to tests and had the pieces cut off as close as possible to the fractures as here shown.



Breaks of the
19th March.

© 2021

Lloyd's Register
Foundation

Section of
test piece3/16 diam²

The first piece tested was (no 7) Sheer stake, cut close to the fracture and unannealed - This piece broke at 20 Tons per square inch, with no elongation. There was a flaw in it, as here shown

2nd piece - no 8 - not annealed, breaking strain 30.6 Tons per square in and the elongation 25.6 %

3rd piece - no 6 - annealed - breaking strain 30 Tons per sq in, elongation 26.5 %

4th piece - no 5 - also annealed, breaking strain 30.54 Tons per sq in elongation 29.6 %

Pieces 6 & 8 accompany this
The next tested the plate just below the Sheer stake with the following results no 1 Annealed - breaking strain 30.58 Tons per sq in elongation 26 %
no 2 close to fracture - annealed breaking strain 30.5 Tons per sq in elongation 26 %

no 4 close to fracture, not annealed breaking strain 30.75 Tons per sq in elongation 25.5 %

no 3 annealed. breaking strain 30.66 Tons per sq in elongation 25.5 %

no 5 not annealed - breaking strain 30.25 Tons per sq in elongation 30 %

It will here be seen that the breaking strain is practically the same in the annealed and the unannealed pieces.

The temper and cold tests have also proved satisfactory.

In conclusion we beg to state that all the plates which have been removed and replaced have been annealed. Thereby in our opinion disposing of any doubt which may have otherwise arisen as to their efficiency.

All the new plates have also been annealed after punching and countersinking.

We are

Sir

Your obedient servant

W. E. C. Dancy
J. H. Truscott.

P.S. A sketch illustrating the broken and damaged plating herewith



© 2021

R. E. D.
Lloyd's Register
Foundation

31/5/26 S.G.C.

Ask Dr Martell any
remarks to make on this
Case? B.M.

Drawing



© 2021

Lloyd's Register
Foundation