

"Ashburne"

Lloyds Register of British
and Foreign Shipping.

Bristol 29th July 1880

The Secretary
Lloyds Register of Shipping.
Sir

With reference to my Report
of the 29th May 1880 on the case of the S.S.
"Ashburne" - 1613 tons, which was considerably
damaged by a blow from a sea when on a
voyage from Bristol to Baltimore early in this
year:-

I beg further to report for the information
of the Committee that in accordance with
the proposal therein contained I have caused
tests of the broken angle iron frames of the
"Ashburne" to be made, in order to ascertain
the nature and qualities of the iron.

Six samples of the iron have been submitted
to hot and cold bending tests, under my
directions at this Port, and two samples have
been broken at the Butte Proving House, Cardiff.

Owing to the tests at Cardiff being delayed
until now I have been unable to forward this
report so early as I desired.

Of the six bending tests, three were hot.

(cherry redness) and three cold. Each test was made so as to ascertain the qualities of the iron both with and across the grain; the hot tests across the grain being of the nature here shown :-



The cold tests consisted in opening and closing the angle and bending a flange, longitudinally, upon itself, when cold.

The cold tests, both with and across the grain, were very unsatisfactory, the iron breaking at the third or fourth blow of a smith's hammer, without bending to any noticeable extent, and exhibiting a highly crystalline fracture, which was clean and free from scale and lamination.

The hot tests were, however, satisfactory; the iron showing good ductile and malleable qualities at a cherry redness.

The result of the tensile tests made at Cardiff are given in Mr Penn's report, attached hereto. Bath tests were, necessarily, made with the grain.

The brand on the angle iron tested

was: "Hopkins & Co^l.. Middleboro."

With reference to the results of these tests, I beg respectfully to state that I am of opinion they show the iron used in the frames of the S.S. Tollburne, at the damaged point, to be, what is termed, "Cold short", a quality due to an excess of phosphorus in the iron, and which, while not detrimental to the working qualities of the iron when hot, renders it brittle and crystalline when cold.

The iron was probably made from the Cleveland ores which contain a more than usually large percentage of phosphorus.

I am.

Sir

Your obedient servant

L. Hearle.



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For the report of the Chief
Surveyor
1830 7/80

1880
Bristol 29 July
Mr Theodor
Rea 30
Ans

"Ashburne"



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