

The work which failed was an ordinary suspension bridge, possessing no more strength than was proper for ordinary road purposes, and built, or applied, apparently without any knowledge of the principles upon which this whole question turns.

But what is curious in this matter is the fact, that the bridge by which this imperfect structure was replaced is itself a suspension bridge, but stronger, heavier, better secured, and throughout more judiciously planned for the locality.

The weak and slender bridge failed, because it had not material enough either in the flooring or chains, and because the chains hung too loosely to prevent hurtful oscillations.

The second work succeeded, because the structure is heavier, the chains drawn tighter, the iron girders well bolted down, and sensible measures taken to secure success.

The second bridge, though firm enough for security, also oscillates considerably under the heavy engines in use on that great road; but it might easily have been made still stronger, still heavier and still firmer.

Without meaning to justify the extravagant expenditure that is encountered in the tubular bridge over Menai—three-fourths of which could have been saved by a substantial suspension bridge—we must look with some indulgence upon the feeling that prompts an able man, conscious of his power, to strike out a new path to distinction and seek for argument to justify it. We