saddles move, and the supporting chains of the bridge are necessarily lengthened. A movement here of only one inch on a side, produces a depression of five inches in the centre of the arch, in addition to the depression already considered.

The Menai bridge, although substantially built, and as the first great structure of the kind, a remarkable work, is by no means well adapted to conversion into a rail-way bridge—needing a considerable addition to its weight, heavy longitudinal girders for the purpose of distributing the pressure of concentrated loads over a greater length of platform, and a total change of the method of staying, to reduce the range of the movement of the saddles.

Another bridge, which has also acquired some little, but most undeserved notoriety, in consequence of the arguments which have been drawn from it adverse to the adoption of suspension bridges for rail-way purposes, is a small bridge over Tees, on the Stockton and Darlington rail-way.

This work was formerly used for the passage of rail-way trains, but was found to be utterly inadequate to the duty, and was replaced by another under the direction of Mr. Stevenson, an eminent English engineer.

In a report to the directors of the Hollyhead rail-way, Mr. Stevenson has attempted to justify the expenditure of some two millions of dollars in the erection of a tubular bridge over Menai, by an argument based on the failure of this insignificant structure.