

Guies so arranged that they will draw evenly on the parts to which they are attached, are to be secured to the sides of the deck in such a manner that they may be fastened to blocks sunk in the river for that purpose: they are to be made of wire the same as small cables; a mechanical contrivance has been arranged by which the guies will be kept at the same strain at all temperatures.

By the proper machinery already used, a very even strain will be produced on every wire of the main cables, so that each may carry its own proportion of the weight of the bridge and the loads which may come upon it.

It will be observed that the cables at the points of support are seventy feet apart, while at the apex of the curve they will very nearly approach the parapets of the bridge, thus forming horizontal as well as vertical curves. This arrangement will materially stiffen the entire structure; light bracing rods are to be added to the suspending rods in such manner as to prevent heaving motions or vibrations which would otherwise arise in the very long ones from passing loads.

The main cables are to be tied together overhead by cross ones of smaller dimensions. This too will stiffen the work and tend to prevent pulsatory movement.

Most of the European suspension bridges have been built with the cables in parallel planes, and unconnected except by means of the roadway, and at the towers.

A series of cylinders on heavy plates will rest on the masonry of the towers and will carry the saddles that the cables pass over. They are more fully described at page 42 (1).

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(1) Here and elsewhere the page of reference is that of the manuscript.