and the design not only possesses great merits intrinsically, but has been so nearly perfected as to leave but little room for improvement.

It may be objected that it does not leave throughout its entire length an unobstructed head room of the full height required by the charter for the middle of the river (130 feet). In the plan presented the lowest part of the bridge is 135 feet above mean high tide at the middle; at a distance of 200 feet from the centre it is 130 1-10 feet; at the shores it is 108 feet. The arrangement is stated by the firm not to be indispensable to the success of the design, and that the arches can be raised if thought to obstruct navigation. In accordance with this last suggestion a modified design has been prepared and sent to us, on which the clear height at the shores is 120 feet, or the same as for the Brooklyn Bridge. This change is stated to require no modification in the estimates.

This plan of a hinged arch would be an admirable one for a deep sunken stream, with precipitous rocky sides, as at the Niagara Suspension Bridge. The topography of such a location, and the absence of all navigation, would also greatly facilitate and cheapen its erection; for, in a span of 700 or 800 feet, one of the chief problems to be solved is, how to get it into place without inadmissible expense and without danger of wreck during its construction.

Messrs. Clarke, Reeves & Co. propose to adopt a method somewhat similar to that employed at the St. Louis Bridge, and to project each semi-arch, panel by panel, from the shore, suspending it, as it progresses, from a series of inclined stays fastened to temporary towers at the piers, and anchored back to the shores. Each semi-arch would thus project beyond the stays until both meet in the centre of the river, where the central hinge could be inserted, and the weight taken off from the stays. This method proved successful at St. Louis for spans of 515 feet. Whether it could as successfully be applied to this one of 749 feet admits, perhaps, of some question, as the weights to be controlled are larger, and their leverage greater, while the circumstances of the case are somewhat different.

Although the erection would, at first sight, appear to be difficult, expensive, and perhaps hazardous, we are informed by the projectors that they have convinced themselves of its entire