A short examination showed not only that these plans were fragmentary, but that they were based upon different assumptions; either as to the traffic to be accommodated, the loads to be provided for, or the safe limit of strength of the materials to be employed.

That, in fact, each plan was predicated on a different specification; some of them not being in accordance with the well-settled principles which govern the distribution of forces in bridge structures, and thus conducing to unsafe constructions.

It became evident, therefore, that the Board of Consulting Engineers must first state some general basis as to the arrangement of the bridge and its approaches, and lay down some general rules and principles to govern the designers, before the merits of their plans could be compared with each other.

Some additional surveys, which were found necessary, were accordingly made, and a set of specifications carefully prepared, a copy of which is hereto attached, marked Appendix No. 1.

A profile of the ground and grades was also published, which is herewith given as Appendix No. 2.

These provided not only for a railroad connection across the bridge, but for main and return approaches for carriage ways, and also for passenger elevators at the abutments, so as to give access to the bridge from all the points that seemed to promise traffic.

A circular was issued on the 1st of May inviting designs to be handed in by the 1st of July, 1876, a copy of which forms Appendix No. 3. This was sent to nineteen bridge builders and designers and to some forty other persons, most of whom are civil engineers or bridge experts.

Answers were received from some twenty persons expressing the intention to furnish plans; but the completeness of the information called for by the specifications, the shortness of the time allowed, and the uncertainty then thought to exist about the future construction of the bridge, deterred the designers from perfecting their plans by the specified time.

Upon our report to your board, a resolution was passed by you, on the 9th of August, extending the time for receiving designs to the 1st of December, 1876, and offering three premiums of $1,000, $500 and $250, respectively, for the first, second and third best plans to be presented. The circular issued by us in