A preference will be had for those shapes, in compression members, which are most accessible for inspection, cleaning and painting.

Designers who propose to employ steel in compression will be required to furnish evidence based upon reliable experiments, that the strains which they propose to impose upon it are relatively as safe as those herein provided for wrought-iron, and of the absolute certainty of uniformity in its strength, as ascertained by experiment.

In the absence of such proof, strains allowed upon steel shall not be more than 20 per cent in excess of those which would be allowed upon wrought-iron.

Cast-iron shall not be used for the principal members of the trussed spans. It shall be proportioned for compression by Rankine’s modification of Gordon’s formula,* with a factor of safety of 4 for the dead load, and of 8 for the live load. No cast-iron part shall be designed to be less than \( \frac{3}{4} \) of an inch thick, nor shall it be used where it is liable to receive a transverse or a tensile strain, or where there is any probability that the shape of the parts will cause imperfections in the castings, such as floating of cores, blow-holes, &c.

Strain sheets are to be furnished for the examination of the engineers, showing separately the strains due to the dead and to the live load, as well as those due to the wind, and to changes of temperature.

Estimates of weights and cost shall be required in sufficient detail to admit of their accuracy being tested, showing both the quantities of each kind of materials, and the prices at which the designers propose to furnish them erected in place.

**DETAILS OF CONSTRUCTION.**

The erection of the structure shall be so designed as not to interrupt the navigation of the East River, or the use of any public road, street or avenue.

A preference will be given to those designs which, at an equal cost, occupy the least width on the ground on the New York side, so as to reduce the cost of land damages.

The designs shall be based upon the use of the best quality of materials.

Cast-iron may be used in towers, bed-plates, pedestals and washers. It shall be of the best quality of soft gray iron.

A preference will be had for upset ends in all tension members. Where welds are proposed to be used by the designers, a statement will

\[ P = \frac{30,000}{1 + \frac{4}{3200 r^2}} \]

*Note.—