The following investigation will show what effect the stays, if supporting a certain load, have on the shape of the cable. Forcing the cable to take the calculated shape actually, will at the same time force the stays to support the assumed load; or reversedly from the shape of the cable the tension of each stay can be computed. Therefore the first objection to the application of stays becomes futile. But there exists a second and more serious one, namely, that in different temperatures they do not work in unison with the cable. This objection is justified in a great measure, and various devices have been proposed to overcome the difficulty. E. W. Serrell (see Report of Board of Consulting Engineers of New York and Long Island Bridge, Feb., 1877) proposes to suspend a lever from the saddles over the tower, and to attach the stays to a series of pivots placed on the line of this lever, so arranged that its movements compensate for the different contractions and expansions of chain and stays. Charles Bender