

# **MAXIMUM STRESSES IN FRAMED BRIDGES**

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Maximum Stresses in Framed Bridges by William Cain

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**WILLIAM CAIN**

**MAXIMUM  
STRESSES IN  
FRAMED BRIDGES**



1914



MAXIMUM STRESSES  
IN  
FRAMED BRIDGES,

BY

WILLIAM CAIN,

MEMBER AM. SOC. C. E.,

PROFESSOR OF MATHEMATICS IN THE UNIVERSITY OF  
NORTH CAROLINA.



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## PREFACE.

THE first edition of this work was published in Van Nostrand's Magazine for 1878, and was largely concerned with the comparison of the weights of bridges and their most economical depths. These subjects have now been practically solved by bridge engineers, and the result has been the elimination of many types of bridge truss once popular and the retention, by the principle of the "survival of the fittest," of certain leading forms that have proved most economical and otherwise desirable.

From these considerations, it was thought best to confine the present edition to the discussion of those types most used at present, and to leave out any comparison of weights and extended discussions as to minimum material. The work has therefore been entirely rewritten upon a new basis, the aim being to prepare an elementary treatise on the maximum stresses in bridge-



trusses of selected types, both for uniform and wheel loads, which might serve either as an independent short treatise on the subject or as an introduction to the larger treatises. The subject-matter has been given in more detail perhaps than usual, for experience in teaching has shown that in no other way can a student quickly and surely master its first principles. Attention is especially called to the exact treatment for wheel loads. The aim throughout has been to aid the student by presenting the subject in a simple, clear and, at the same time, thorough manner.

CHAPEL HILL, N. C.,

*April, 1897.*

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