

# **LONG-SPAN RAILWAY BRIDGES**

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Long-Span Railway Bridges by B. Baker

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**B. BAKER**

**LONG-SPAN  
RAILWAY BRIDGES**



**LONG-SPAN  
RAILWAY BRIDGES.**

# LONG-SPAN RAILWAY BRIDGES;

COMPRISING

INVESTIGATIONS OF THE COMPARATIVE THEORETICAL  
AND PRACTICAL ADVANTAGES OF THE VARIOUS ADOPTED OR  
PROPOSED TYPE SYSTEMS OF CONSTRUCTION.

WITH

NUMEROUS FORMULÆ AND TABLES,

GIVING

THE WEIGHT OF IRON OR STEEL REQUIRED IN BRIDGES  
FROM 300 FEET TO THE LIMITING SPANS.

BY

B. BAKER.

*(Reprinted from ENGINEERING. The whole carefully revised and  
extended.)*



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## P R E F A C E.

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THE contents of the following pages have already appeared in the columns of *Engineering*. The purpose of this "*replica*" is to present the revised results, and tables, in a more accessible form than they could attain scattered in a desultory manner through successive numbers of a periodical.

The subject, in its present form, was suggested by the discussion, at the Institution of Civil Engineers, following Mr. Barlow's paper on the Clifton Suspension Bridge; when the absence of any simple generalisation of the question was evidenced. Prior to that time, however, the consideration of "Long-span Railway Bridges" devolved upon the author in the course of his professional duties, and some valuable data had accumulated. On proceeding with the investigation, it was at once seen that a strictly mathematical treatment of the subject would entail lengthy and involved formulæ, and absorb



far greater space than was available for the purpose; indeed, the works of Gaudard and Schwedler, treating on the same subject, but within very narrow limits, plainly illustrated this fact. Accordingly, the various hypotheses, which it is absolutely necessary to make in an inquiry of this nature, are framed as comprehensively as possible; and in many instances the result of a careful balancing of probabilities is given without exhibiting the process by which it has been evolved. In short, elimination, and not elaboration, has been the aim throughout.

B. B.

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