RAILROAD CURVES AND EARTHWORK

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Railroad Curves and Earthwork by C. Frank Allen

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C. FRANK ALLEN

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BY

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THIRD EDITION

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PREFACE.

This book was prepared for the use of the students in the author's classes. It has been used in lithographed sheets for a number of years in very nearly the present form, and has given satisfaction sufficient to suggest putting it in print. An effort has been made to have the demonstrations simple and direct, and special care has been given to the arrangement and the typography, in order to secure clearness and conciseness of mathematical statement. Much of the material in the earlier part of the book is necessarily similar to that found in one or more of several excellent field books, although the methods of demonstration are in many cases new. This will be found true especially in Compound Curves, for which simple treatment has been found quite possible. New material will be found in the chapters on Turnouts and on "Y" Tracks and Crossings. The Spiral Easement Curve is treated originally. The chapters on Earthwork are essentially new; they include Staking Out; Computation, directly and with Tables and Diagrams; also Haul, treated ordinarily and by Mass Diagram. Most of the material relating to Earthwork is not elsewhere readily available for students' use.

The book has been written especially to meet the needs of students in engineering colleges, but it is probable that it will be found useful by many engineers in practice. The size of page allows it to be used as a pocket book in the field. It is difficult to avoid typographical and clerical errors; the author will consider it a favor if he is notified of any errors found to exist.

C. FRANK ALLEN.

Boston,
September, 1899.

PREFACE TO THIRD EDITION.

In this edition the chapter on the Spiral Easement Curve has been entirely re-written and enlarged; the treatment is largely new as to detail. The author desires, however, to acknowledge his indebtedness to the paper on Transition Curves, by W. B. Lee, in the Transactions of the American Society of Civil Engineers, December, 1901. Two pages have been added to the chapter on Special Problems in Earthwork. The references to Tables have been changed so as to apply to the newly published Tables by the author of this book.

C. FRANK ALLEN.

July, 1903.

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