

A MANUAL  
OF  
**LOCOMOTIVE ENGINEERING.**

*WITH AN HISTORICAL INTRODUCTION.*

A PRACTICAL TEXT-BOOK FOR THE USE OF ENGINE BUILDERS,  
DESIGNERS, AND DRAUGHTSMEN, RAILWAY  
ENGINEERS, AND STUDENTS.

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*WITH A SECTION ON AMERICAN AND CONTINENTAL ENGINES*

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\* This chapter and the one following, on Continental Locomotives, are contributed by Mr. A. F. Ravenshear.