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**T. C. BAILLIE**

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# ELECTRICAL ENGINEERING

BY

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VOL. I

INTRODUCTORY

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## PREFACE

**T**HIS volume is designed to serve as a text-book for Elementary Courses in Electrical Engineering in technical institutions. Naturally one of the main purposes of such a book is to teach first principles and while matters of practical utility have been included, an endeavour has been made to avoid overloading it with descriptive details which are more appropriate to oral than to written exposition.

In view of the increasing use which is being made of potentiometer methods, a somewhat fuller treatment of the potentiometer is given than is usual in elementary text-books. The author has found the use of the potentiometer at an early stage a valuable means of correcting the tendency of students to be content with rough experimental results; this tendency is only natural as much of the apparatus used by students in their earlier courses is of simple design in order that the principles involved may not be obscured by elaborate manipulative details.

The author wishes to express his indebtedness to the following firms for permission to use their illustrations and for the loan of blocks: Messrs Evershed and Vignoles for Figs. 22, 23, 70, 71, 72, 73; Kelvin, Bottomley and Baird for Figs. 17, 18, 36, 39; Nalder Bros. and Thompson for Figs. 15, 16, 19, 20, 21, 25, 28, 76, 77, 118, 119; W. G. Pye and Co. for Figs. 10, 29, 41, 42, 61, 63, 78, 89, 90, 94, 96, 97, 109; R. W. Paul for Figs. 24, 26, 27, 30, 31, 32, 33, 35, 37, 38, 40, 64, 67, 68, 74, 75, 95, 100, 103; H. Tinsley and Co. for Figs. 65, 66, 69, 91, 93, 99; the D. P. Battery Company for Figs. 112, 113; the Edison Accumulator Company for Figs. 121, 122, 123, 124, 125, 126, 127, 128, 129; the Electrical Power Storage Company for Figs. 114, 115, 116, 117; and to Messrs Gambrell Bros. and the Sunderland Forge and Engineering Company for the originals of the illustrations of their manufactures (Fig. 88 and Figs. 48, 49).

T. C. B.

20 January 1915.

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