LABORATORY MANUAL: DIRECT AND ALTERNATING CURRENT

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BY

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SECOND EDITION, REVISED

SECOND THOUSAND

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PREFACE TO SECOND EDITION

After the practical use of this manual in a number of representative schools and colleges during the past year, it has been revised and certain material has been added in line with suggestions made by those who have had experience with the book.

Numerous items in the procedure of the experiments have been modified to better adapt them to the uses of the average laboratory.

The co-operation of those who have aided in the revision is herewith acknowledged with the appreciation of the author.

C. E. C.

New York City,
July, 1914.

PREFACE TO FIRST EDITION

THIS book is an elementary course comprising a brief amount of work in the fundamental principles of electricity, and is adapted for use with any of the usual text-books.

The object of the laboratory work is to aid in the understanding of the theoretical and practical items given in the recitation and lecture room. It is the purpose, therefore, to eliminate as far as possible all features in the actual work of the laboratory which would tend to lessen or detract from concentration upon the underlying principles involved in the experiment in hand.

In a part of the experiments, diagrams of the electrical connections will be found, together with simple forms which may be followed in the recording of observations. These forms are somewhat more complete in the first than in the advanced experiments in order to serve at the outset as a guide in the preparation of the data sheets. In the latter experiments this general scheme of ruling up the data sheet is to be followed by each group of men in the preparation of data sheets before the laboratory exercise.

The difficulties encountered by the student have been observed and the aim is to present the subject from his standpoint. The emphasis placed on such practical items as constant potential supply mains in the wiring diagrams, and the points connected with direct and alternating current generators and motors and power transmission in the text, are intended to familiarize the

student with the principles underlying the operation of standard apparatus which he may encounter after graduation.

Appreciation for many suggestions and helpful advice in the make-up of this book is due Professor Chas. F. Scott, Sheffield Scientific School of Yale University.

C. E. C.

New Haven, Conn.,
July, 1913.

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