ELEMENTS OF ELECTRICITY: A PRACTICAL DISCUSSION OF THE FUNDAMENTAL LAWS AND PHENOMENA OF ELECTRICITY AND THEIR PRACTICAL APPLICATIONS IN THE BUSINESS AND INDUSTRIAL WORLD

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INTRODUCTION

THE subject of electricity is so fascinating and it covers so many important and interesting applications that a study of the laws under which this mysterious force moves is not only attractive but is fundamental in its character. Since the beginnings of our electrical knowledge the great minds of science have struggled to determine the nature and origin of electricity but the problem is not yet solved. We know, however, how electricity behaves and we can harness it and make it do our will as is evidenced by the fact that our electric lights burn with perfect reliability; our street and interurban cars carry thousands of people day after day; our countless motors turn the wheels of our factories week in and week out, while our telephones and telegraphs perform their wonderful service in our business and social lives without interruption.

¶ This work is not intended as an unsystematic and popularized treatise on electricity but is worked out in a thorough and careful manner. Many problems are given under the various topics and copious illustrations have been used to make the points clear. In order to show how the various laws and principles have been applied to our everyday life, practical applications have been made throughout the treatise such as the commercial current measuring instruments, telegraphy both wire and wireless, X-Ray and radioactivity. Another unique feature of the book is the elementary presentation of the laws of the alternating-current circuit.

¶ The authors are authorities in the electrical field, not only from the scientific but also from the teaching standpoint. It is the hope of the publishers that the volume will prove valuable as a text and as a source of interesting information for the general reader.

ELECTRIC-LIFTING MAGNET HANDLING WIRE SCRAP

The Magnet is Swung over a Pile of Scrap, and When the Current is Turned on the Scrap Literally Jumps up to the Magnet. It is Then Carried over a Car and the Circuit Broken, Releasing the Wire Scrap.

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