

THE ELECTRIC MOTOR AND ITS APPLICATIONS

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The Electric Motor and Its Applications by Thomas Commerford Martin & Joseph Wetzler

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THOMAS COMMERFORD MARTIN & JOSEPH WETZLER

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AND ITS APPLICATIONS.

BY

THOMAS COMMERFORD MARTIN

AND

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PREFACE.

NO department of applied electricity has undergone greater development during the last two years than that which concerns the use of electricity as a motive power. In America, a remarkable interest in the subject has been manifested, leading from mere experiment in the laboratory to practical work and the opening up of a new occupation for electricians. As a result, several thousand motors are now in successful operation all over the country, while on numerous street railways electricity has become the sole agency of locomotion.

Under these circumstances, it is natural that a demand should arise for books dealing with the principles involved in the use of dynamo-electric machines as motors, and giving some account of the most noteworthy and important types. With the object of meeting the want, the authors have prepared this work. It is based largely upon the articles that they have contributed to *The Electrical World* or that have been translated and reproduced by them in that journal from a variety of foreign contemporaries. In their original plan, it was intended to give far more space to earlier motors than has now been devoted to them; but in view of the fact that so much activity has been displayed in the motor field during 1886, and that all the standard works on dynamo machines include the older and better known motors, it has been thought wise to treat of the modern motor with the utmost fulness possible, even at the expense of the theoretical and historical parts of the work. The nature of the contents has, therefore, been slightly changed since the book was taken in hand, but only, it is hoped, with an increase in its immediate value and usefulness.

In addition to revising and rewriting their own articles, the authors have in a few instances availed themselves of contributions to *The Electrical World* by Mr. C. O. Mailloux and Mr. N. S. Keith, as well as of a special analysis of motor patents, prepared for the same journal by Mr. F. B. Brock. They are also under many obligations for assistance rendered by motor inventors and designers, and may here thank Mr. Leo Daft, Mr. Frank J. Sprague, Mr. Stephen D. Field, and Mr. C. J. Van Depoele for special facilities. They have, moreover, had frequent occasion to consult the electrical and other scientific publications of Europe, including *La Lumière Electrique*, *L'Electricien*, *La Nature*, the *Elektrotechnische Zeitschrift*, the *London Electrician*, the *London Electrical Review*, the *Mechanical World*, *Engineering*



