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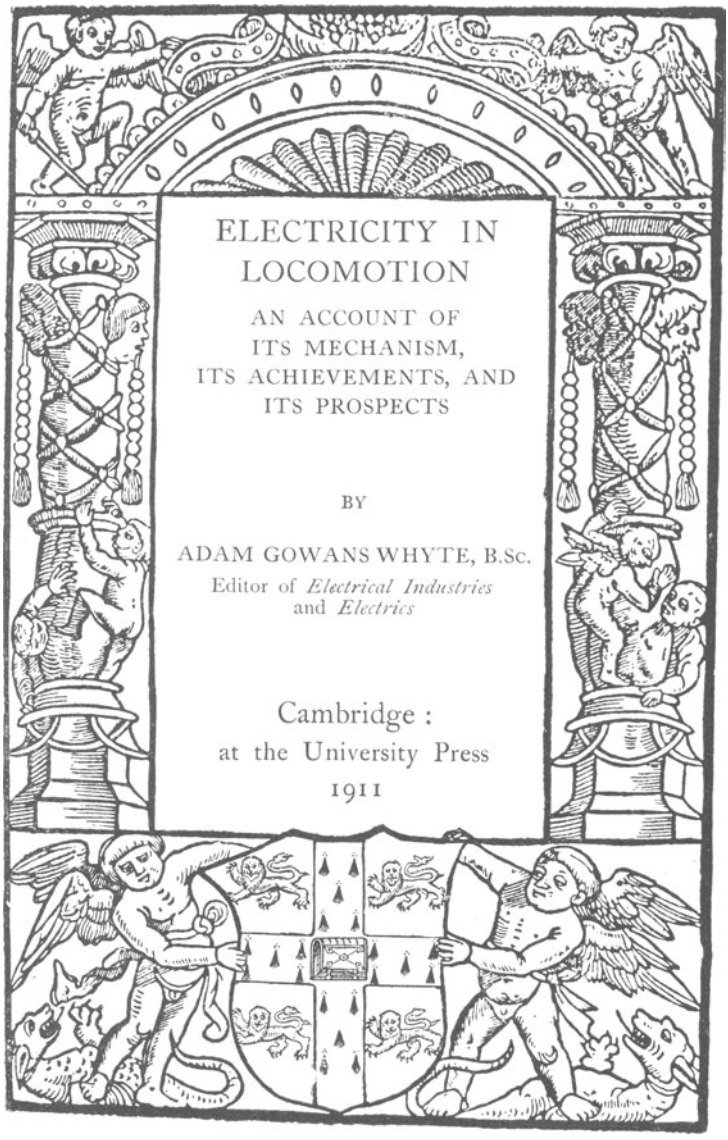
ELECTRICITY IN LOCOMOTION



ELECTRICITY IN LOCOMOTION

AN ACCOUNT OF ITS MECHANISM, ITS ACHIEVEMENTS, AND ITS PROSPECTS

BY

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PREFACE

IN the following pages an attempt is made to give a clear picture of the part which electricity has taken and will continue to take in the development of locomotion.

Some of the aspects of electric traction are highly technical; others are purely financial. It is impossible to understand the achievements and possibilities of electricity in locomotion without a certain amount of discussion of both these points of view; but it is not necessary to go deeply into either in order to catch some of the enthusiasm which inspires the electrical engineer in his efforts to extend electric traction everywhere on road and rail. The hopes of electrical conquest extend, indeed, to locomotion on the sea and in the air as well as on the land. At the root of these hopes there lies a firm faith in the superior economies and flexibility of electricity as a mode of motion.

In the explanations which are given of electric tramways, electric railways, electric automobiles, electric propulsion on ships, and the other phases of electric traction, nothing but the most elementary knowledge of electricity is presupposed. A certain amount of technical description is unavoidable, but I have restricted it as far as possible to essential matters which throw light upon the meaning of the various systems of electric traction and explain the economic and physical reasons for their adoption.

Anyone who glances over the history of electric traction will be struck by the absence of outstanding names. There is no man who occupies the same position in the sphere of electric locomotion as Watt does in the world of steam, or Stephenson in the world of railways. As a pioneer, Dr Wernher von Siemens perhaps deserves more honour than any other. But the leading ideas embodied in electric traction systems were contributed by engineers who worked in the general field of electrical engineering; and they have been applied and developed by a numerous band of men who have added one brick of experience and ingenuity to another until the imposing structure was made visible to the world.

Nevertheless, I hope the story as told briefly in the following chapters will not be found devoid of human interest. It has the advantage, at any rate, of the attraction which anything pertaining to electricity holds for all sections of the public. This attraction deepens upon closer acquaintance with the mechanism and the history of electricity in action; and if any of the descriptions and forecasts are found to be prejudiced in favour of a single instrument of locomotion, the fault may be considered to rest with the spell which electricity throws upon everyone who is concerned in any way with its applications in the service of man.

I have to acknowledge the kind assistance of Mr Frank Broadbent, M.I.E.E., in looking over the proofs of this volume.

A. G. W.

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