

THE A B C OF ELECTRICITY

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The A B C of Electricity by Wm. H. Meadowcroft

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WM. H. MEADOWCROFT

**THE A B C OF
ELECTRICITY**

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WM. H. MEADOWCROFT

NEW YORK
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cop. 1883.

FROM THE LABORATORY OF THOS. A. EDISON.
ORANGE, N. J., Sept. 4, 1888.

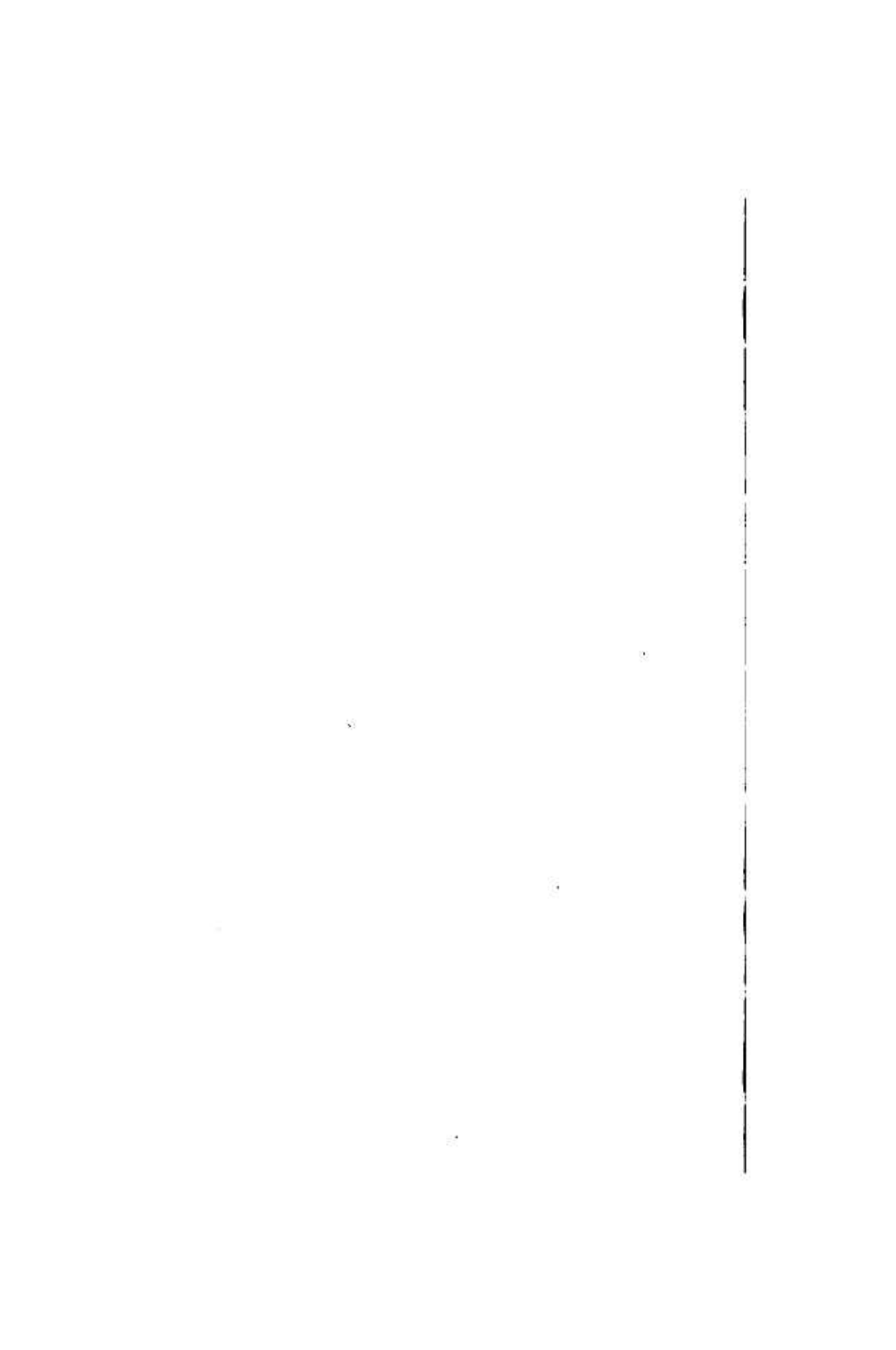
MR. W. H. MEADOWCROFT,
New York City.

DEAR SIR:—

I have read the MS. of your "A B C of Electricity," and find that the statements you have made therein are correct. Your treatment of the subject, and arrangement of the matter, have impressed me favorably.

Yours truly,

THOS. A. EDISON.



PREFACE.

WHILE there is no lack of most excellent text-books for the study of those branches of Electricity which are above the elementary stage, there is a decided need of text-books which shall explain, in simple language, to young people of, say, fourteen years and upwards, a general outline of the science, as well as the ground-work of those electrical inventions which are to-day of such vast commercial importance.

There is also a need for such a book among a large part of the adult population, for the reason that there have been great and radical changes in this science since the time they completed their studies, and they have not the time to follow up the subject in the advanced books.

As instances of those changes just spoken of, the electric light, telephone and storage batteries may be mentioned, which have been developed during the

PREFACE.

last ten or twelve years, with the result of adding very many features that were entirely new to electricians.

With these ideas in view I have prepared this little volume. It is not intended, in the slightest degree, to put it forward as a scientific work, but it will probably give to many the information they desire without requiring too great a research into books which treat more extensively and deeply of this subject.

W. H. M.

New York, May 1st, 1889.

THE
A B C OF ELECTRICITY.

WE now obtain so many of our comforts and conveniences by the use of electricity, that all young people ought to learn something of this wonderful force, in order to understand some of the principles which are brought into practice.

You all know that we have the telegraph, the telephone, the electric light, electric motors on street cars, electric bells, &c., besides many other conveniences which the use of electricity gives us.

Every one knows that, by the laws of multiplication, twice two makes four, and that twice two can never make anything but four. Well, these useful inventions have been made by applying the *laws of electricity* in certain ways, just as well known, so as to enable us to send in a few moments a message to our absent friends at any distance, to speak with them at a great distance, to light our houses

and streets with electric light, and to do many other useful things with quickness and ease.

But you must remember that we do not know what electricity itself really is. We only know how to produce it by certain methods, and we also know what we can do with it when we have obtained it.

In this little book we will try to explain the various ways by which electricity is obtained, and how it is applied to produce the useful results that we see around us.

We will try and make this explanation such that it will encourage many of you to study this very important and interesting subject more deeply.

In the advanced books on electricity there are many technical terms which are somewhat difficult to understand, but in this book it will only be necessary to use a few of the more simple ones, which it will be well for you to learn and understand before going further. These we will call