THINGS A BOY SHOULD KNOW ABOUT ELECTRICITY

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Trieste

Things A Boy Should Know About Electricity

BY

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TO THE READER

For the benefit of those who wish to make their own electrical apparatus for experimental purposes, references have been made throughout this work to the "Apparatus Book;" by this is meant the author's "How Two Boys Made Their Own Electrical Apparatus."

For those who wish to take up a course of elementary electrical experiments that can be performed with simple, home-made apparatus, references have been made to "Study;" by this is meant "The Study of Elementary Electricity and Magnetism by Experiment."

THE AUTHOR.

Things A Boy Should Know About Electricity

CHAPTER I.

ABOUT FRICTIONAL ELECTRICITY.

1. Some Simple Experiments. Have you ever shuffled your feet along over the carpet on a winter's evening and then quickly touched your finger to the nose of an unsuspecting friend? Did he jump when a bright spark leaped from your finger and struck him fairly on the very tip of his sensitive nasal organ?

Fig. 1.

Did you ever succeed in proving to the pussy-cat, Fig. 1, that something unusual occurs when you thoroughly rub his warm fur with your hand? Did you notice the bright sparks that passed to your hand when it was held just above the cat's back? You should be able to see, hear, and feel these sparks, especially when the air is dry and you are in a dark room.

Did you ever heat a piece of paper before the fire until it was real hot, then lay it upon the table and rub it from end to end with your hand, and finally see it cling to the wall?

Were you ever in a factory where there were large belts running rapidly over pulleys or wheels, and where large sparks would jump to your hands when held near the belts?

If you have never performed any of the four experiments mentioned, you should try them the first time a chance occurs. There are dozens of simple, fascinating experiments that may be performed with this kind of electricity.

2. Name. As this variety of electricity is made, or generated, by the friction of substances upon each other, it is called *frictional* electricity. It is also called *static* electricity, because it generally stands still upon the surface of bodies and does not "flow in currents" as easily as some of the other varieties. Static electricity may be produced by induction as well as by friction.

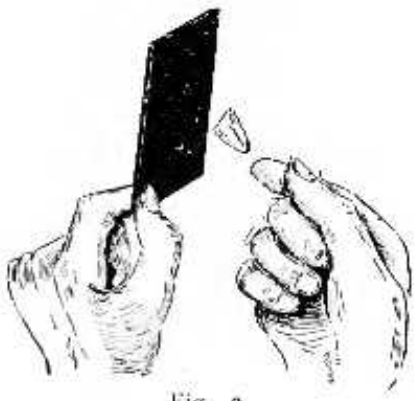

Fig. 2.

3. History. It has been known for over 2,000 years that certain substances act queerly when rubbed. Amber was the first substance upon which electricity was produced by friction, and as the Greek name for amber is *elektron*, bodies so affected were said to be *electrified*. When a body, like ebonite, is rubbed with a flannel cloth, we say that it becomes *charged with electricity*. Just what happens to the ebonite is not clearly under-