

**THE STORY OF
ELECTRICITY
FOR AMATEURS
AND STUDENTS**

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The Story of Electricity for Amateurs and Students by James W. Steele

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JAMES W. STEELE

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BY
JAMES W. STEELE
AUTHOR OF
"Steam, Steel, and Electricity"

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THE STORY OF ELECTRICITY

THERE is a sense in which electricity may be said to be the youngest of the sciences. Its modern development has been startling. Its phenomena appear on every hand. It is almost literally true that the lightning has become the servant of man.



ERIPUIT CÆLO FULMEN, SCEPTRUMQUE TYRANNIS.

Steam is gross, material, understandable, noisy. Its action is en-

But it is also the oldest among modern sciences. Its manifestations have been studied for centuries. So old is its story that it has some of the interest of a mediæval romance; a romance that is true.

THE STORY OF ELECTRICITY

tirely comprehensible. The explosives, gunpowder, begriming the nations in all the wars since 1350, nitroglycerine, oxygen and hydrogen in all the forms of their combination, seem to be gross and material, the natural, though ferocious, servants of mankind. But electricity floats ethereal, apart, a subtle essence, shining in the changing splendors of the aurora yet existent in the very paper upon which one writes; mysteriously everywhere; silent, unseen, odorless, untouchable, a power capable of exemplifying the highest majesty of universal nature, or of lighting the faint glow of the fragile insect that flies in the twilight of a summer night. Obedient as it has now been made by the ingenuity of modern man, docile as it may seem, obeying known laws that were discovered, not made, it yet remains shadowy, mysterious, impalpable, intangible, dangerous. It is its own avenger of the daring ingenuity that has controlled it. Touch it, and you die.

Electricity was as existent when the splendid scenes described in Genesis were enacted before the poet's eye as it is now, and was entirely the same. Its very name is old. Before there were men there were trees. Some of these exuded gum, as trees do now, and this gum found a final resting place in the sea, either by being carried thither by the currents of the streams

STEAM, STEEL AND ELECTRICITY

beside which those trees grew, or by the land on which they stood being submerged in some of the ancient changes and convulsions to which the world has been frequently subject. In the lapse of ages this gum, being indestructible in water, became a fossil beneath the waves, and being in later times cast up by storms on the shores of the Baltic and other seas, was found and gathered by men, and being beautiful, finally came to be cut into various forms and used as jewelry. One has but to examine his pipe-stem, or a string of yellow beads, to know it even now. It is amber. The ancient Greeks knew and used it as we do, and without any reference to what we now call "electricity" their name for it was ELEKTRON. The earliest mention of it is by Homer, a poet whose personality is so hidden in the mists of far antiquity that his actual existence as a single person has been doubted, and he mentions it in connection with a necklace made of it.

But very early in human history, at least six hundred years before Christ, this elektron had been found to possess a peculiar property that was imagined to belong to it alone. It mysteriously attracted light bodies to it after it had been rubbed. Thales, the Franklin of his remote time, was the man who is said to have discovered this peculiar and mysterious quality of the yellow