NEW METHOD OF PROTECTING BUILDINGS FROM LIGHTNING.

Spare the Rod and Spoil the House!

Lightning Destroys. Shall it be Your House or a Pound of Copper?

PROTECTION FROM LIGHTNING.

What is the Problem?

In seeking a means of protection from lightning-discharges, we have to view two objectives: the prevention of damage to buildings, and the prevention of injury to life. In order to destroy a building in whole or in part, the previous sentence should be done; that is, asphyxiate electric air, energy is required. Just before the lightning-discharge takes place, the conductor becomes a circuit, and thus can only be destroyed by a column of air extending from the cloud to the earth in some form that makes it capable of carrying off, if we call electricity, the electrical charge it is thereby prevented from reaching the earth, which would be an immediate phenomenon of the electrical energy. What this electrical energy is, it is not necessary for us to consider here; but it is doubtless, as it is impossible for us to destroy the electrical charge, to see the destruction of buildings. The problem that we have to deal with, therefore, is the question of the conductor, and if we can bring about this in such a way as shall result in the least injury to property and life.

Why Have the Old Rods Failed?

When lightning-rods were first proposed, the science of energetics was entirely undeveloped; that is to say, in the middle of the last century scientific men had not come to recognize the fact that the different forms of energy—heat, electricity, mechanical power, etc.—were convertible into one another, and that each could produce just as much of each of the other forms, and so on. The doctrine of the conservation and correlation of energy was first clearly worked out in the early part of this century. There were, however, some facts known in regard to electricity a hundred and forty years ago; and among those the attracting power of points for an electric spark, and the conducting power of metals. Lightning-rods were therefore introduced with the expectation of the Chanslor of the column of diestea; that the greatest display of energy will be on the surface of the very lightning-rods that were meant to protect, and disastrous results were the effect. The question as to dissipation of the energy involved was entirely ignored, namely, the fact that it is nearly impossible to dissipate the energy of the current. This one point in making one of the objects of the electrical current to dissipate the energy, is probably the reason why lightning-rods do not work. The reason for this is apparent when we consider that the electrical energy existing in the atmosphere before the discharge is more exact, in the column the amount of electricity from the cloud to the earth, above referred to, reaches its maximum value on the surface of the conductors. If the cloud is a large one, the lightning rod will be a large one, the lightning rod will be a large one, the lightning rod will be a large one. A large lightning rod, if placed on the surface of the earth, is capable of carrying off a great deal of the electric energy of the atmosphere. The old lightning rod can only tend to produce a disastrous dissipation of electrical energy upon itself, and thus be as little common put.

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