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 objects,—the one the prevention of damage to buildings, and the other the protection of individuals. In order to build a building in which the lightning discharge takes place, it is necessary that work should be done; that is, as physiologists express it, a conductor is necessary. To the discharge will be, therefore, the energy capable of doing the damage which we seek to prevent exists in the building, and will be a conductor in some form or other. It is capable of appearing as what we call electricity. We will therefore call it and consider it a conductor. The greater the electric energy is, it is not necessary for it to be a conductor; it is, however, a conductor. If we consider this in place; and that it can exist there no doubt, as it manifests itself in discharges. There are, however, some facts known to regard electricity a hundred and forty years ago; and among these was the attracting power of points for an electric spark, and the conducting power of metals. Lightning-rod were therefore introduced with the object of making the building a conductor in the place where the lightning-discharge could come around the building which it was sought to protect, and that the building would be saved.

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 men had not come to recognize the fact that the different forms of energy — heat, electricity, mechanical, power, etc.—were convertible into one into the other, and that each could produce just as much of the other forms, and none more. The doctrine of the preservation and ripening of energy was already the basis of this century. There were, however, some facts known to regard electricity a hundred and forty years ago; and among these was the attracting power of points for an electric spark, and the conducting power of metals. Lightning-rod were therefore introduced with the object of making the building a conductor in the place where the lightning-discharge could come around the building which it was proposed to protect, and that the building would be saved.

QUESTION.

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A Typical Case of the Action of a Small Conductor.

Franklin, in a letter to Collinson read before the London Royal Society, Dec. 18, 1755, describing the partial destruction by lightning of a church-tower at Newbury, Mass., wrote, "Near the bell was fixed an iron hammer to strike the hours; and from the tall of the hammer a wire went down through a small gimblet-hole in the floor that the bell stood upon, and through a second floor and the church tower, so that nothing remained above the bell. The lightning passed between the hammer and the clock in the above-mentioned wire without hurting either of the wires, or having any effect upon them (except making the gimblet-holes, through which the wire passed, a little bigger), and without hurting the plastered wall, or any part of the building, or as far as the above-gimblet and the pendulum-wire of the clock extended; which latter wire was about the thickness of a penknife blade. From the end of the pendulum, down quite to the ground, the building was exceedingly rent and damaged. . . . No part of the aforementioned wire, small wire, between the clock and the hammer, could be found, except about two inches that hung to the hammer; and about as much that was fastened to the hammer; the rest being exploded, and its particulars dissipated in smoke and air, as guinea-powder is by common fire, and had only a black smoke sticking to the plastering, traces of its former broad, darkest in the middle, and fainter towards the edges. All along the said wires, all of which were insulated with leather, and over the latter with cotton, without any thing like gimbles; as it is so commonly put.

Correspondance solicited. Agents wanted.

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