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 questions: 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 insulation of every conceivable object, including the inhabitants, must be done; that is, as physicians express it, energy is required. Just before the lightning-discharge takes place, the current goes through the air and everything else that is in the column of air extending from the cloud to the earth in some form that makes it capable of appearing as something called electricity. This will therefore be a question of electrical energy. What this electrical energy is, it is not necessary for us to consider; but that it can be prevented, we doubt, as it is not prevented itself in the destruction of buildings. The problem that we have to deal with, therefore, is one of the conductors, and is a less complex other form, and the complete solution of the problem in such a way as shall result in the least injury to property and life.

Why Have the Old Rods Failed?

When lightning-rod 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 so much of each of the other forms, and so on.

The doctrine of the conservation and correlation of energy was first worked out early in the part of this century. There were, however, some facts known in regard to electricity a hundred and forty years ago; and among these were the attracting power of points for an electric spark, and the conducting power of metals. Lightning-rods were therefore introduced with the 1800's, and are now the most effective method of protection, but have always been exposed to the unwarranted criticism of the public. Lightning-rod has been a subject of controversy for many years, and the cost of installation has always been a stumbling block.

The question as to dissipation of the energy involved was entirely ignored, not because there was no interest in the subject, but because the most of the scientists who have lived and died in the last thirty years, and who have worked on this subject, have not been able to dissuade the public from the erroneous belief that lightning-rod can dissipate the energy of a lightning-rod.

It is understood that this display of energy on the surface of the old lightning-rod is aided by their being more or less insulated from the earth, but in any event, the very existence of such a mass of metal, forming a conductor, is a better means of protection against electric energy upon it than to have it in the form of a lightning-rod, as it is so commonly put.

Is there a Better Means of Protection?

Having cleared our minds, therefore, of any idea of conducting electricity, and knowing, of necessity, that to provide protection against electric energy we must furnish means by which the electrical energy may be harmlessly dissipated, the question arises, Can an improved form be given to the rod, so that it shall aid in this dissipation?"