

M. G. MITCHELL.
LIGHTNING CONDUCTOR.
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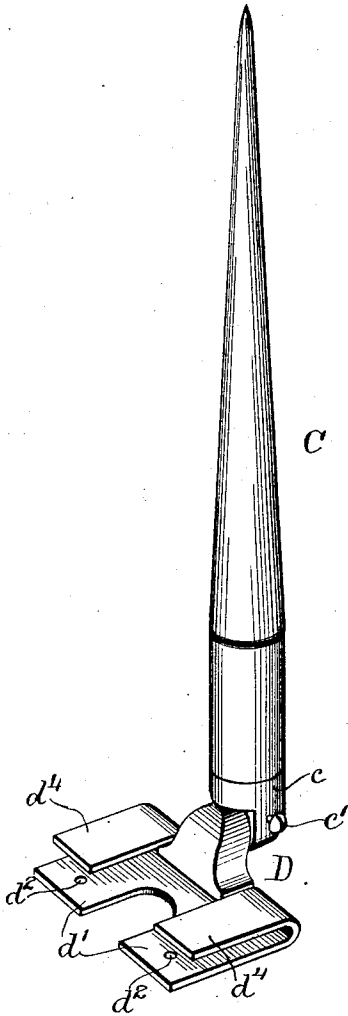


Fig. 1.

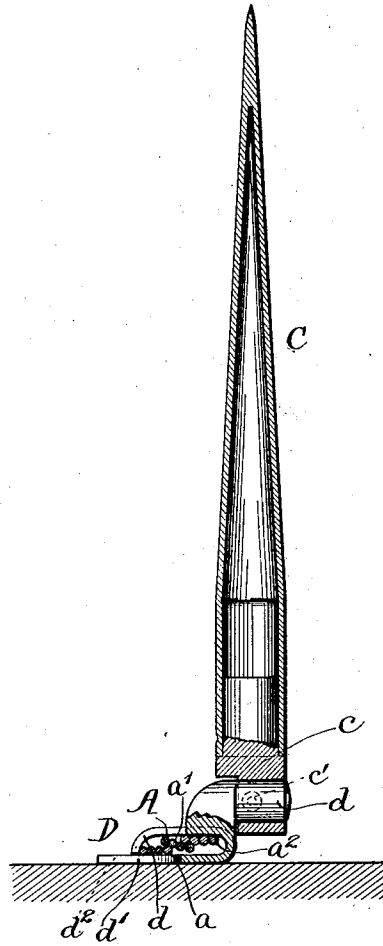


Fig. 2.

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UNITED STATES PATENT OFFICE.

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LIGHTNING-CONDUCTOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MELVIN G. MITCHELL, a resident of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Lightning-Conductors, of which the following is a full, clear, and exact description.

The invention relates to lightning-conductors for preventing buildings from being damaged or struck by lightning.

It is now common practice to employ points on lightning-rods or conductors to serve as distributor terminals for the energy passing through the conductors and these points are usually at least several feet in length and are rigidly secured to the building. In practice it has been found that in order to attain the maximum distributing efficiency these points must be disposed truly vertical and if they are disposed out of a true vertical line the efficiency is lessened corresponding to its variation from such line. In the use of such points, heretofore, it frequently occurs that long points, or points sustained at the upper end of a conductor or support extending several feet above the point of attachment to the building, become bent or strained out of a true vertical line if normally secured in true position and in other instances, resulting from inconvenience or carelessness in attachment the points are not truly disposed at the outset. In either of these events, however, the points have less efficiency in distribution than the maximum attainable thereby and which is essential to the prevention of fire or damage by lightning. This incorrect disposition of the points is most likely to occur where the conductor is laid or secured over an inclined plane or pitched roof where, in the absence of convenient or variable means of attachment, it becomes difficult to correctly set the points. The present invention designs to overcome these causes which frequently lessen the efficiency of the points, by providing a convenient means of attachment for the points whereby they may, without the least difficulty, be adjusted and secured so they will be truly disposed to attain the maximum efficiency and by which the points may be properly mounted on roofs or walls of widely different inclination or disposition. By providing convenient means of attachment, these points will most likely be

truly disposed at the outset and furthermore, if a building should settle or a roof sag to cause the accurate alinement of the point to be disturbed, the latter may be easily readjusted so that it will possess the maximum efficiency.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claim at the conclusion hereof.

In the drawings: Figure 1 is a perspective of the improved distributor-point and bracket for connecting it to a building or support. Fig. 2 is a section taken through the point and the bracket.

A distributor point C is tapered and hollow and has its lower end secured to a lug *c* which is pivotally connected to a bracket D. The lower end of lug *c* is perforated to receive a pivot-stud *d* integrally formed on the bracket, and a screw *c'* is adapted to secure the lug and point in assigned relation with respect to the bracket. This construction thus affords an adjustable connection whereby the relative angularity of the point with respect to the bracket may be easily and quickly varied so that the point will be secured in a truly vertical position so that the maximum distributing efficiency will be attained thereby.

In practice the pitch of roofs along which the points are to be mounted varies materially and by employing the adjustable connection between the point and the bracket, as described, the device is rendered quickly and easily capable of attachment to roofs of different pitches, so that notwithstanding such variation the bracket can be first secured to the roof and then the point can be adjusted to a nicety into a truly vertical position. So also, if the roof should sag or a building should settle and disturb the verticality of the point, the latter can be easily re-adjusted into correct position. The bracket is provided with base-lugs *d'* which are adapted to be placed on a roof and which are perforated as at *d''* so that the bracket may be secured to the roof by nails or screws.

The bracket D is formed of conducting material such as copper and the lug *c* is formed of similar material. A lightning conductor A comprising wires *a*, *a'* and *a''*, is extended across the base of the bracket to underlie a pair of flexible tongues *d'''* on the

bracket and by hammering or bending the lugs down against the conductor the latter will be securely connected to the bracket to establish an electrical connection between the conductor and the point through the bracket pivot-stud *d* and lug *c*. In equipping a building with the improved conductor, the brackets D with the points thereon, are secured at the desired points on the building and the conductor can then be placed in circuit therewith by laying it on or over the several brackets D and the tongues *d*⁴ can then be hammered down to form an efficient and simple electrical connection between the bracket and the point. Either before or after the conductor has been connected to the brackets the points C may be accurately adjusted so they will be vertically disposed. As a result of this construction it becomes feasible to employ a greater number of short points in lieu of a lesser number of points which are liable to become bent out of their true vertical position or disturbed by the settling of a building, and the attaching brackets serve to secure the conductor to the building as well as secure the points in proper position, and furthermore then serve as conducting-means between the point and the conductor A.

The invention thus provides an improved lightning-conductor in which the points may be readily connected to a building and set in a true vertical line and which may be adjusted at any time in event re-adjustment becomes necessary. Furthermore, the adjustable connection between the point and the bracket adapts the device for easy connection to roofs of different pitches and so that the point may be truly adjusted or set on different roofs without variation in the construction of the bracket.

The invention is not to be understood as restricted to the details set forth since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a support, a distributor-point, an adjustable connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and means for securing said conductor to the bracket.

2. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a support, a distributor-point, a pivotal connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and means for securing said conductor to the bracket.

3. In lightning-conductors, the combination of a bracket formed of conducting-material and having means whereby it may be secured to a support or building, a distributor-point, an adjustable connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and means for securing the conductor to said bracket and whereby the bracket will serve to conduct energy from the bracket to the point.

4. In lightning-conductors, the combination of a bracket formed of conducting-material and having means whereby it may be secured to a support or building, a distributor-point, a pivotal connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and means for securing the conductor to said bracket and whereby the bracket will serve to conduct energy from the bracket to the point.

5. In lightning-conductors, the combination of a bracket of conducting-material provided with lugs whereby the bracket may be secured to a support or building, a distributor-point, a pivotal connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and means for connecting said conductor to said bracket.

6. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a building or support, a lug adjustably connected to said bracket, a hollow point secured to said lug, and means for connecting an electrical conductor to the bracket.

7. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a building or support, a lug pivotally connected to said bracket, a hollow point secured to said lug, and means for connecting an electrical conductor to the bracket.

8. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a building or support, a distributor point, an adjustable connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and flexible tongues on the bracket for clamping the conductor thereto, said bracket being formed of conducting-material.

9. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a building or support, a distributor point, a pivotal connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and flexible tongues on the bracket for clamping the conductor thereto, said bracket being formed of conducting-material.

10. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a building or support, a lug, a pivotal connection between the lug and the bracket, a hollow distributor point secured to the lug, an electrical conductor, and a flexible lug on the bracket for clamping the conductor to the bracket, said bracket and lug being formed of conducting material. 15
11. In lightning-conductors, the combination of a bracket having means whereby it may be secured to a building or support, a distributor point, an adjustable connection between the point and the bracket whereby the point may be adjusted to be disposed truly vertical, an electrical conductor, and a flexible tongue on the bracket for clamping the conductor thereto, said bracket being formed of conducting-material. 20

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