G. KIRTLAND.

Lightning Rod.

No 78,459. Patented June 2, 1868.

Fig: 1.

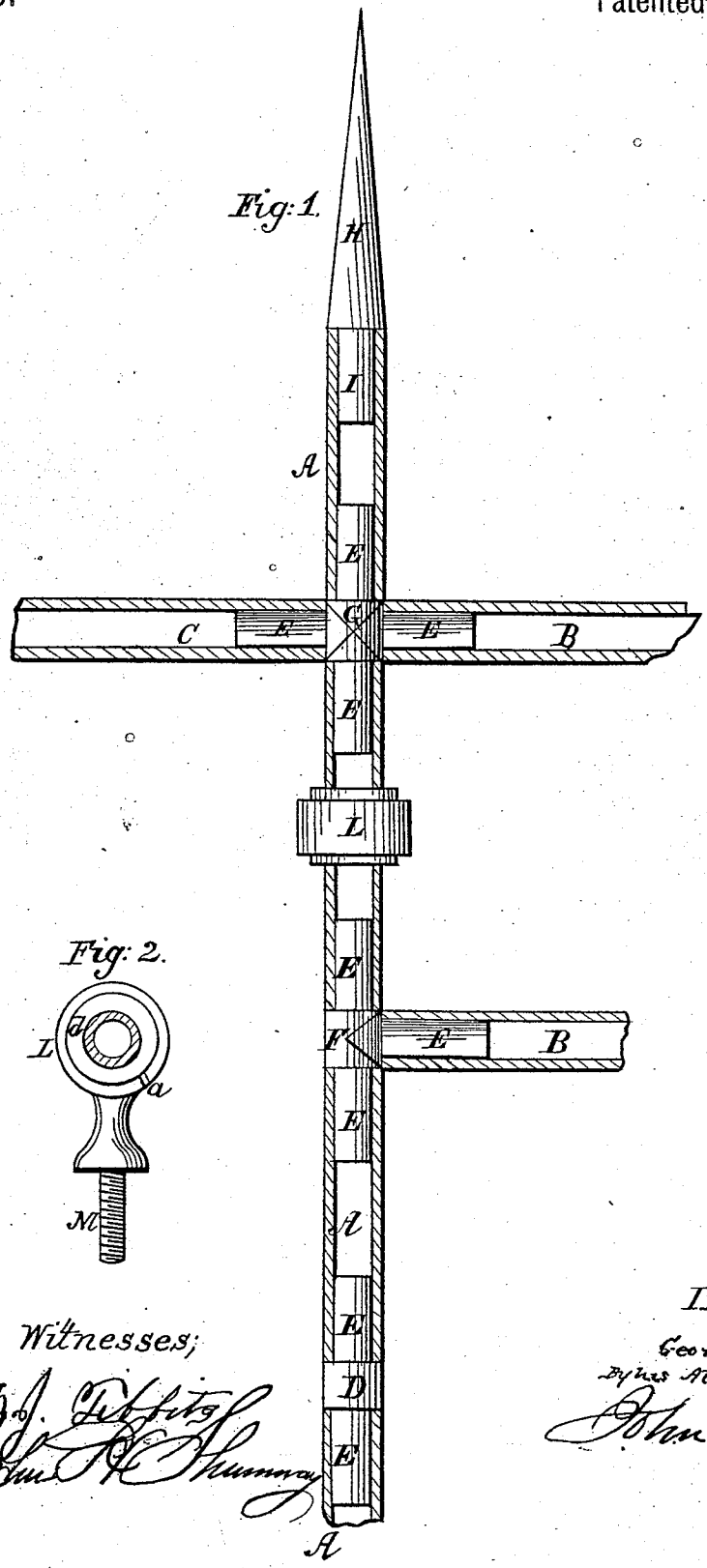


Fig: 2.

Witnesses;

Inventor;

George Kirtland

By his Attorney

John E. Earle

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United States Patent Office.

GEORGE KIRTLAND, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO S. SMITH, OF SAME PLACE.

Letters Patent No. 78,459, *dated June* 2, 1868.

IMPROVEMENT IN LIGHTNING-RODS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE KIRTLAND, of New Haven, in the county of New Haven, and State of Connecticut, have invented a new Improvement in Lightning-Rod Coupling; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a vertical section of a rod, showing the manner of connecting the different parts, and, in

Figure 2, a top view of the socket for securing the rod to the building.

This invention relates—

First, to the peculiar manner in which separate pieces of rod are connected one to the other, and,

Second, in the peculiar construction of the point, and its attachment to the rod; and

To enable others to understand and construct my improvement, I will proceed to describe the same as illustrated in the accompanying drawings.

A, B, and C are separate pieces of rod, formed from copper or suitable metallic tubing.

The usual manner for connecting such tubing has been by a divided coupling, half upon opposite sides of the tube, and the two parts locked firmly on to the tube, which makes a clumsy, bungling joint or connection, and not a positive conductor from one piece of rod to another. The objection to this manner of coupling is overcome by my invention.

D is a coupling, formed of about the diameter of the tube, and having a tail-piece, E, projecting from either side, and made slightly tapering, so as to be driven into one part of the tube; then the other part, driven on to the opposite end. These couplings are formed from copper or other suitable metal, and cast, leaving the rough sand-surface upon the casting, so that, when driven into the rod, the two parts so connected cannot be divided.

If for a branch or angular turn, the coupling is formed as at F, the third tail-piece being formed upon the proper angle. If for a single angle, only two of the tail-pieces are needed; or if for a cross, to be formed, as at G, with the requisite four tail-pieces, all coupled as described.

The point H, I form from solid metal, with a tail-piece, I, which is driven into the tube, as seen in the drawing. Thus I form substantially a continuous rod, and with neat and durable connection.

For the attachment of the rod to the building, I form a ring or socket, L, with a screw-shank, M, seen in fig. 2, and within the socket place a ring, *d*, of India rubber, which is a non-conductor, and through the centre pass the rod E, as seen in fig. 2. This prevents the rattling of the rod, and holds it securely in its place, and therefore overcomes many objections to the common attachment.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

1. The internal connection for tubular lightning-rods, constructed substantially in the manner herein set forth.

2. The socket L, provided with an India-rubber packing, in combination with the rod E, so as to operate substantially as specified.

GEO. KIRTLAND.

Witnesses:

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