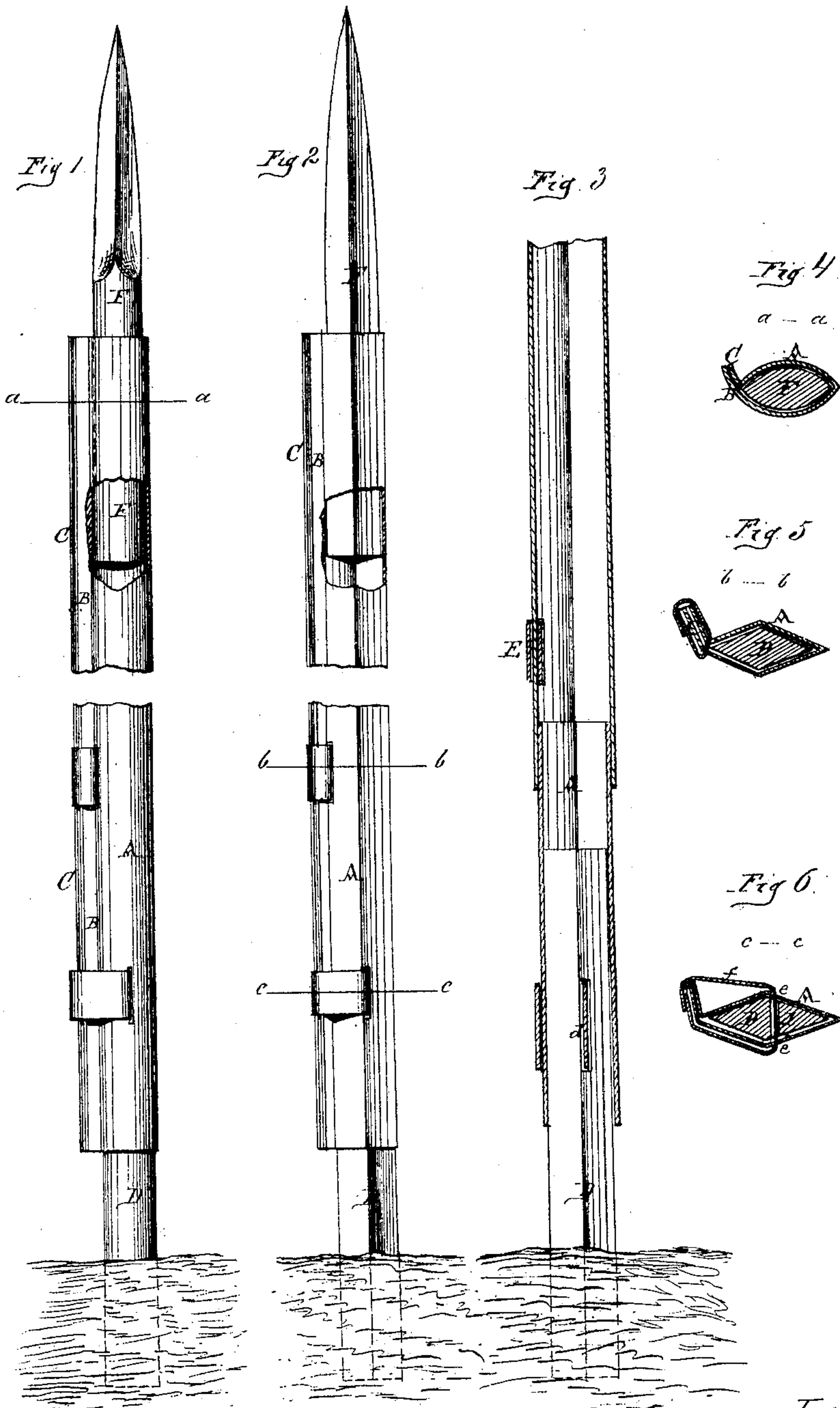


D. MUNSON.
LIGHTNING ROD.

No. 110,778.

Patented Jan. 3, 1871.



Witnesses
Henry J. Metch
Samuel Smith

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United States Patent Office.

DAVID MUNSON, OF INDIANAPOLIS, INDIANA.

Letters Patent No. 110,778, dated January 3, 1871.

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, DAVID MUNSON, of Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Lightning-Rods; and I do hereby declare the following to be a clear and exact description of the same, reference being had to the accompanying drawing which makes part of this specification, and in which—

Figure 1 is an elevation of my improved lightning-rod;

Figure 2 is a similar view of the same, constructed in a different shape;

Figure 3 is a vertical central section of the same; and

Figures 4, 5, and 6 are cross-sections in lines *a a*, *b b*, *c c*, respectively, of figs. 1, 2, and 3.

Like letters of reference indicate like parts in the several figures.

My invention consists in a hollow lightning-rod of round, elliptical, or angular form, struck up from sheet metal, with a flange or lip formed on it, which lip extends at an angle to the diameter of the hollow rod.

The rod, at its upper end, is provided with a solid point passing into it, and, at its bottom, with a solid part, which, passing into the hollow rod and into the earth, connects the former with the latter.

It also consists in the means and manner of connecting the several lengths of the hollow rod to each other, and the point and solid bottom piece to the rod.

A in the drawing represents a hollow lightning-rod, formed of sheet-metal in any suitable manner by bending a piece of sheet metal and rolling or otherwise uniting the edges B to form the lip C at an angle to the diameter of the rod, which lip, with that side of the rod toward which it is inclined, constitutes a channel for the flow of water down the rod.

In fig. 1 I have shown the rod as formed in elliptical shape, and in fig. 2 in diamond shape, but it may be made in any other round or angular form, to suit convenience and taste, provided the two edges are brought together to form a lip, C, as described.

Another lip may be formed on the rod by rolling the bent portions of the same opposite to the lip C closely together, and this second lip may be at an angle to lip C and the diameter of the rod, or it may extend from the latter in a line parallel to that of lip C.

D is a solid rod of the same shape as the hollow rod, passing into the latter for a suitable distance, and with its lower end buried in the ground.

This piece D connects the hollow rod with the ground, and is provided with a slot, *d*, through which, and corresponding slots, *e*, in the hollow rod, passes a metal band, *f*, which is bent around the lip, as shown, and thus firmly holds the piece D in the rod A.

The hollow rod A is made in suitable lengths, which, when applied to a building, are united by slipping the upper end of the lower length into the lower end of the upper length, and passing a metal band through slots formed in both lengths where the lips are formed on the body of the rods, bending the ends of the metal band around the lips, as shown in fig. 5. This connection is shown at E, fig. 3.

The lip C on the rod, besides forming a channel for the water to run down, serves to strengthen the rod.

The point F is inserted into the uppermost length, and may be secured in the same manner as the part D, or be provided with a shoulder resting on the edge of the hollow rod. The hollow rod may also be made of spiral shape in its length, if desired. Its great advantage is its being so light and easily handled and applied.

The lip is a very essential part of my invention, as it conducts a necessary amount of water to the earth to insure a safe passage for the charge of electricity coming in contact with the point over the rod.

Having thus described my invention,

What I claim as new therein, and desire to secure by Letters Patent, is—

1. A sheet-metal lightning-rod, when made hollow and without any solid supporting-rod or brackets on its inside, substantially as and for the purposes set forth.

2. The combination, with a hollow sheet-metal lightning-rod having no solid internal support, of the solid point and ground-connection F D, substantially as and for the purpose set forth.

3. A hollow sheet-metal lightning-rod, of either round or angular shape, formed with one or more lips C, substantially as and for the purpose described.

4. The connection of the several lengths of the hollow rod, as shown at E, substantially as and for the purpose described.

5. The connection of the portion D to the hollow rod by means of metal bands and slots, substantially as described.

DAVID MUNSON.

Witnesses:

JOHN YOUNG,
WM. PATTERSON.