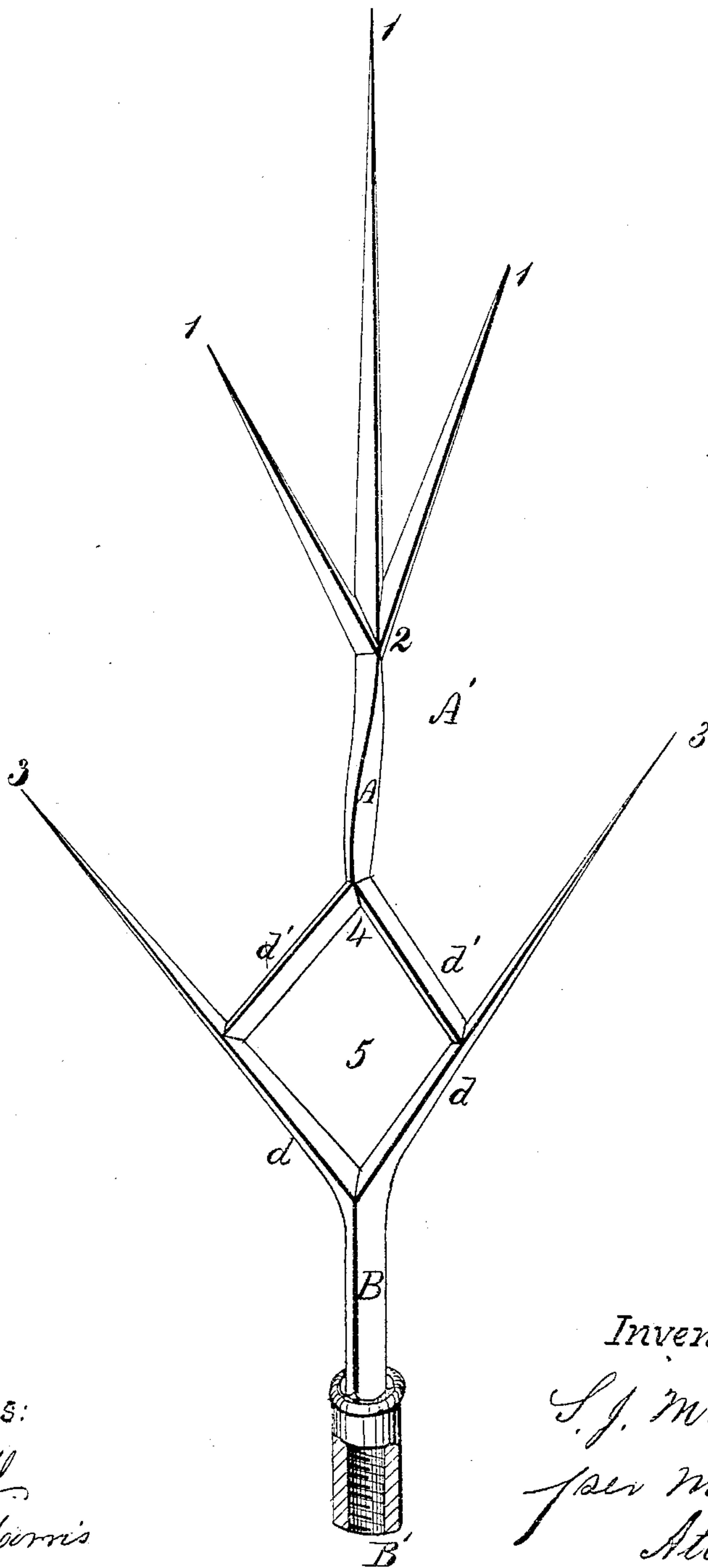


S. J. MITCHELL.

Lightning Rod.

No. 47,846.

Patented May 23, 1865.



Witnesses:

*G. L. Topliff*  
*Henry Morris*

Inventor:

*S. J. Mitchell*  
*per* *Minwell*  
*Attorneys*

# UNITED STATES PATENT OFFICE.

S. J. MITCHELL, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN LIGHTNING-RODS.

Specification forming part of Letters Patent No. 47,846, dated May 23, 1865.

*To all whom it may concern:*

Be it known that I, S. J. MITCHELL, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improvement in Lightning-Rods; and I do hereby declare that the following is a full, clear, and exact description [thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The drawing, consisting of one figure, represents a lightning-rod constructed after my invention.

The object of my invention is to produce a lightning-rod which will conduct the fluid with more certainty to the conductor or main rod, while it also presents a great number of attracting-points or a large attracting-surface without enhancing the difficulties of construction or the cost.

A' represents the head of a lightning-rod, fitted in its hollow base B' with a screw-thread, by which it is to be secured to the main conducting-rod. (Not shown.) The base B' is shown in section in the figure.

The stem B extends for a little distance above its base, when it divides into two branches, *d*, which diverge on opposite sides of the axis of the stem B at an angle therewith of about forty-five degrees, terminating in attracting-points 3. Two bars, *d'*, spring from the upper sides of these branches at points whose distance above the stem B is equal to about one-third of their length. The bars *d'* extend in lines at right angles with the branches from whose sides they spring, respectively, until they meet at a point marked 4, where they unite with the main

point A of the head A'. The main point A is continued a little distance to the height indicated by 2, where it is divided into branches 1 of unequal heights, which diverge so as to give the best attracting-surface to the point.

It will be observed that the stem B and the other parts of the head A' are rhomboidal in cross-section, and that the main point A, between the points marked 4 and 2, is slightly twisted. The space inclosed within the branches and bars *d d'* is also rhomboidal in shape.

The figure represents the head A' of the lightning-rod in perspective at an angle of about forty-five degrees with the plane of observation, in order to show at the same view the mode of connecting the stem B with the main point A and the divergence of the upper branches 1. If seen in front elevation, the upper branches 1 would form one line to the eye, for the reason that the lesser and outer branches 1 diverge from the inner and vertical branch 1 in a plane which is at right angles with the plane of the branches *d* and bars *d'*. The result of this construction is to present the attracting-points 3 and the lesser branches 1 on opposite sides of the head A', or in planes at right angles to each other.

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

The separation or division of the main point A into two bars, connecting by means of branches *d* with the stem B of the rod, substantially as described.

S. J. MITCHELL.

Witnesses:

DAVID P. HULL,  
WM. F. COZZENS.