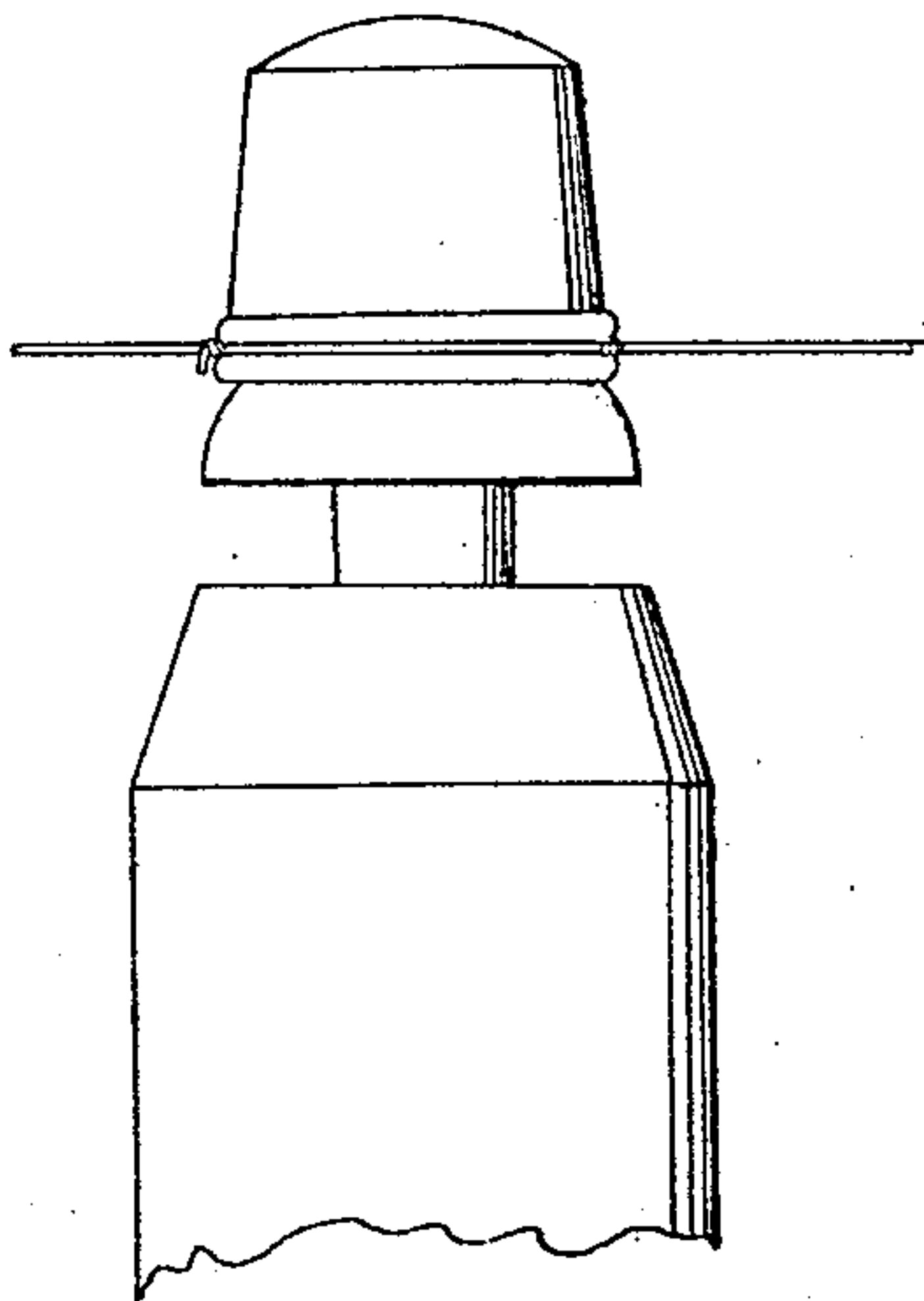


A. G. SAFFORD.  
TELEGRAPH INSULATOR.

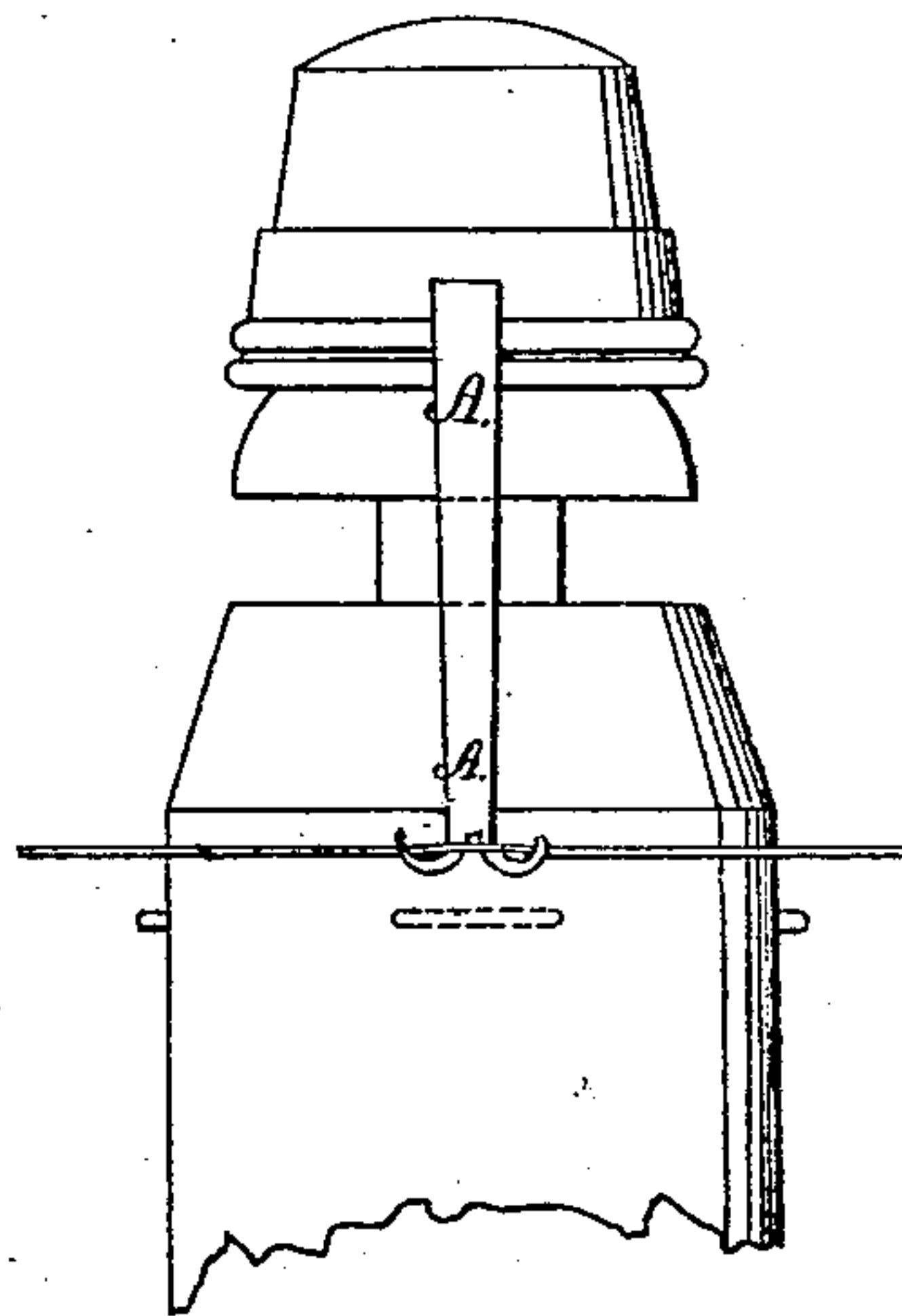
No. 97,318.

Patented Nov. 30, 1869.

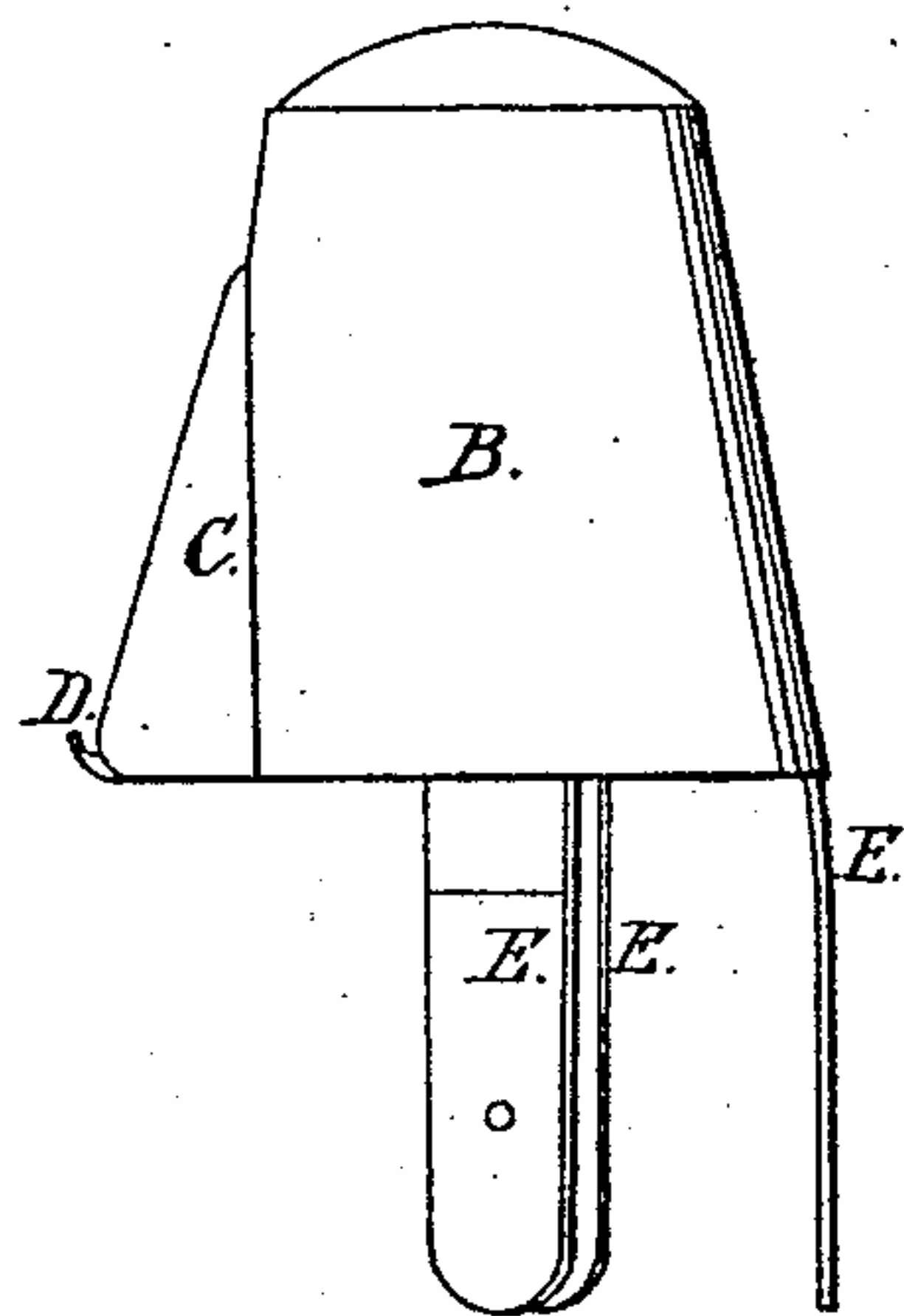
*Fig. 1.*



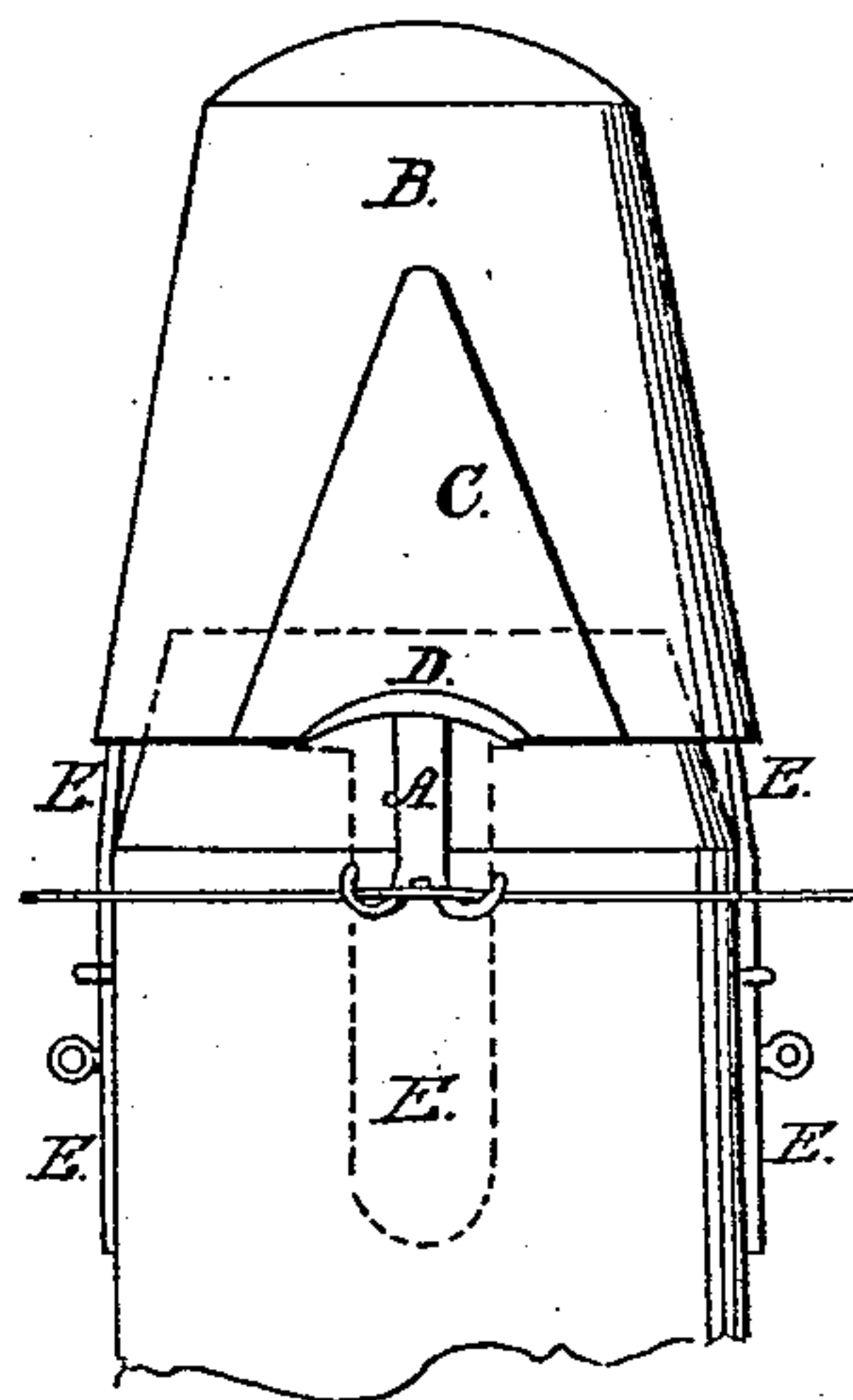
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses,  
J. H. Morris  
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Inventor.  
Alfred G. Safford  
By David A. Burr atty

# United States Patent Office.

ALFRED G. SAFFORD, OF ST. ALBANS, VERMONT.

Letters Patent No. 97,318, dated November 30, 1869; antedated November 17, 1869.

## IMPROVEMENT IN TELEGRAPH-INSULATORS.

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, ALFRED G. SAFFORD, of St. Albans, in the county of Franklin, and State of Vermont, have invented a new and improved Method of Insulating Air-Telegraph Lines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in providing telegraph-insulators, as now used, with a forked hook and a conical cap or covering, which said cap or covering shall prevent the difficulties arising from the loss of the electric current, by means of the dampness adhering to said insulators, during storms, or from the condensation of humid atmosphere.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct the pole or cross-bar in the usual manner, and can use the ordinary barrel-insulator, Figure 1, or any non-conductor; but in order to obviate the difficulties arising from the loss of the electric current, by means of the adhesion of dampness during storms, or the results of condensation, I construct the hook A, Figure 2, and by means thereof carry the point of attachment of the conducting-wire below the top of the pole or cross-bar; and I also construct the conical cap or covering B, Figure 3, with a fluted aperture, C, flanged at D, and with the supports E E E, and fasten the same over the insulator, Figure 4.

The shape of the hook and the conical cap will, of course, vary with the position and shape of the insulator to be protected.

When the atmosphere becomes damp, either from storms or vapors, the moisture arising from the storms is carried off on the outer surface of the cap, while that resulting from the condensation of humid atmosphere between the cap and the insulator will exhibit itself on, and is carried off by the inner surface of the cap through the apertures between the cap and the top of the pole, thereby securing dryness in every state of the atmosphere, as well for the insulator as the top of the pole, preventing the loss of the current upon the wire otherwise resulting.

Having thus described my invention,

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

Extended covering-caps B, in combination with the insulators of air-line telegraphs, when said caps are so formed and secured as to cover and fully enclose the insulators independently thereof, substantially as and for the purpose herein set forth.

Also, a line-supporting hook, A, combined with and dependent from a barrel-insulator, substantially as and for the purpose herein set forth.

ALFRED G. SAFFORD.

Witnesses:

JNO. C. STRANAHAN,  
GEORGE W. SHATTUCK.