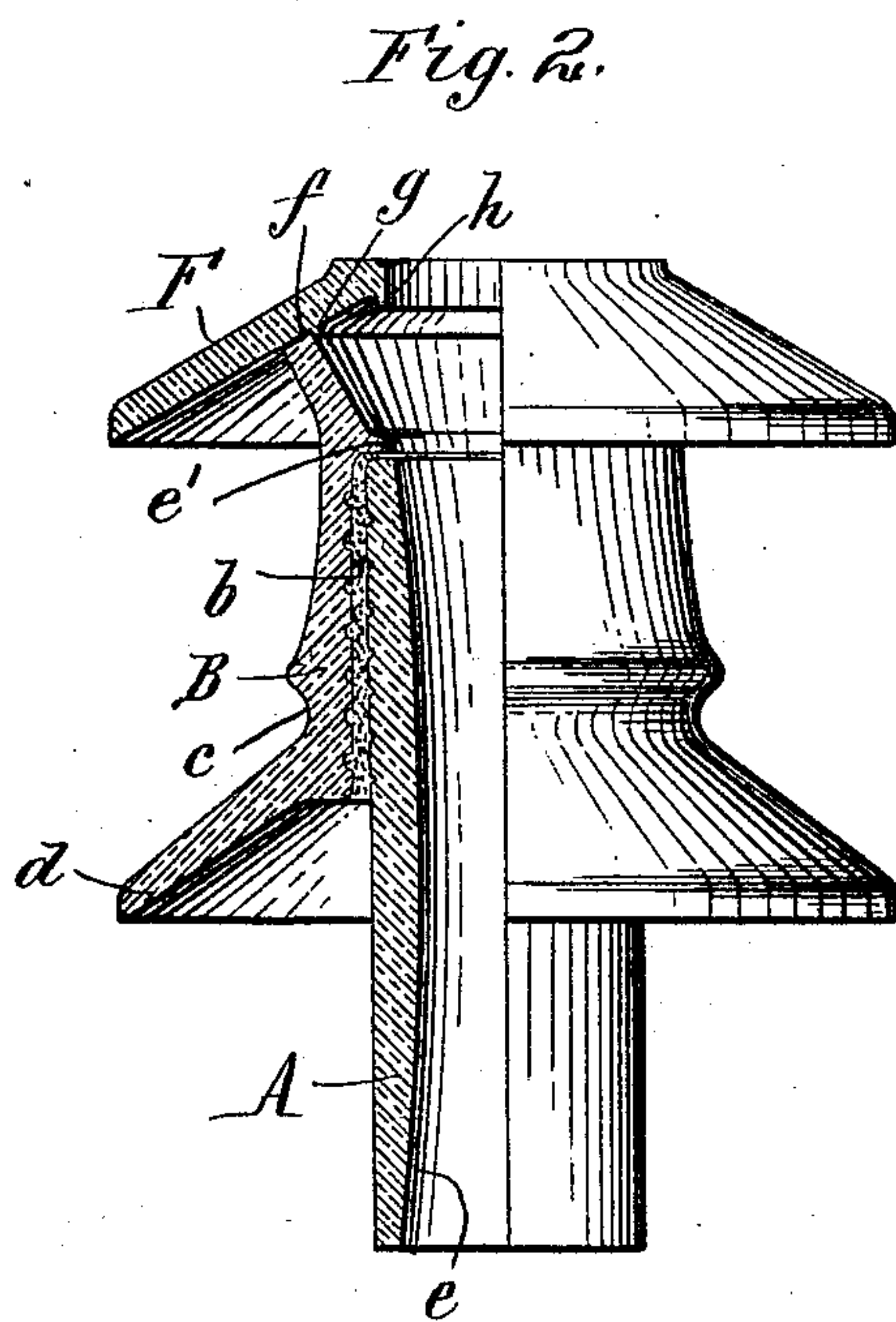
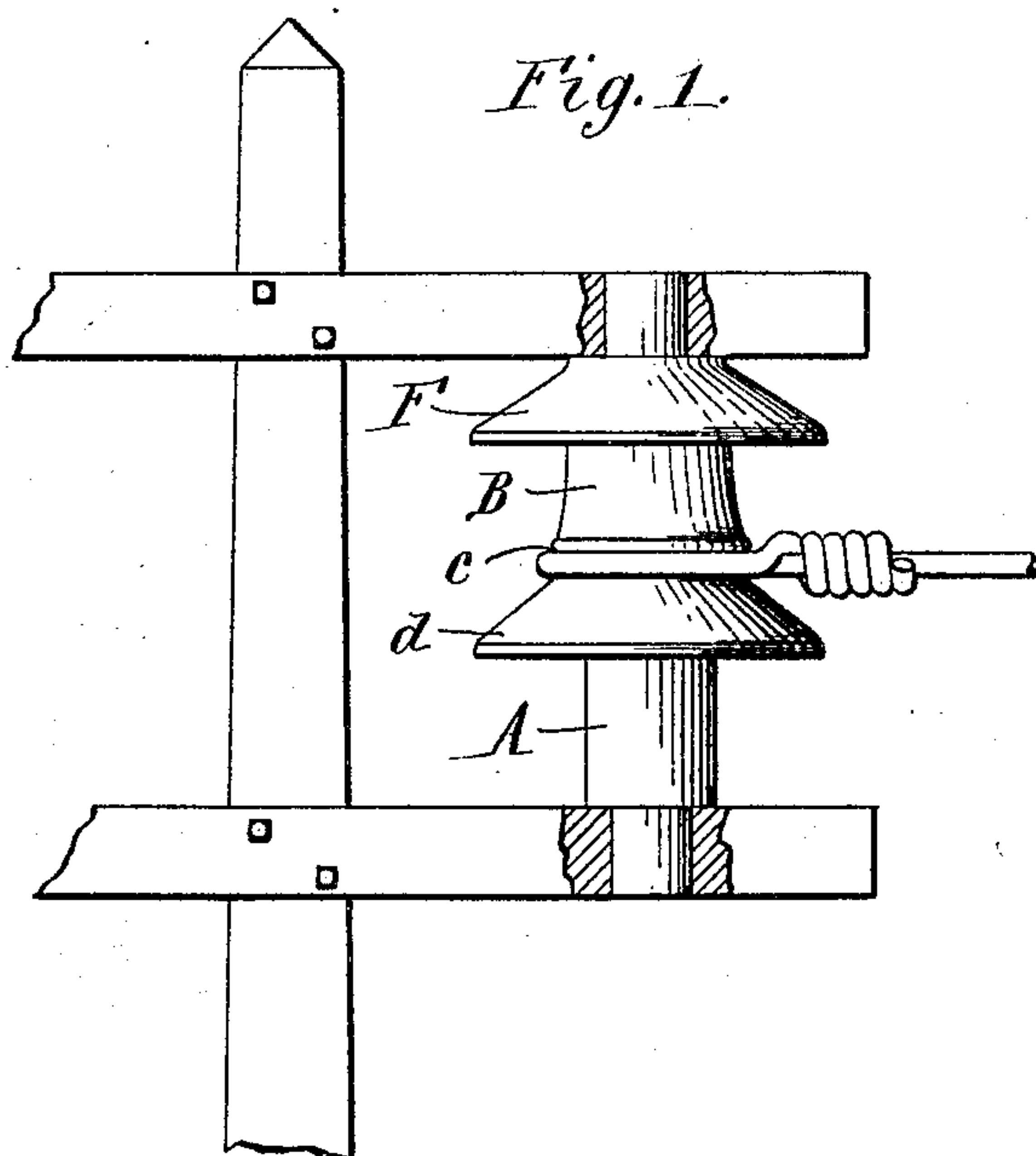


No. 795,521.

PATENTED JULY 25, 1905.

J. S. LAPP.  
INSULATOR.

APPLICATION FILED FEB. 20, 1905.



Witnesses:—  
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# UNITED STATES PATENT OFFICE.

JOHN S. LAPP, OF ROCHESTER, NEW YORK, ASSIGNOR TO LOCKE INSULATOR MANUFACTURING COMPANY, OF VICTOR, NEW YORK.

## INSULATOR.

No. 795,521.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed February 20, 1905. Serial No. 246,593.

*To all whom it may concern:*

Be it known that I, JOHN S. LAPP, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Insulators, of which the following is a specification.

This invention relates to strain-insulators for high-potential electrical conductors. These insulators, which are used for "dead-ending" on curves and elsewhere for holding live conductors that are under excessive strain, are ordinarily supported by pins passing through the tubular bodies of the insulators and secured at opposite ends to separated cross-arms or supports. As commonly made the insulator comprises a tubular body provided with an encircling conductor-groove and formed of a single thickness of material and in one integral piece, with a bottom flange or petticoat and a top flange or petticoat which is formed separately and connected to the upper end of the tubular body by a glazed joint. The static charge on the surface of the insulator creeps from the conductor or point of highest potential toward the insulator-pin, which is at the earth-potential, and if the glazed joint is contiguous to the pin it is extremely liable to be ruptured or punctured by the current and the insulator destroyed.

The objects of the invention are to produce a strain-insulator of great insulation, resistance, and mechanical strength; to make the insulator of a plurality of pieces of substantially uniform thickness, thereby increasing its resistance and strength, while at the same time enabling economical manufacture, and to so construct the insulator that the glazed joint between its tubular body and upper flange or petticoat is located as far as possible from the insulator-pin to lessen the danger of rupturing or puncturing the joint.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of a strain-insulator embodying the invention and the support for the same. Fig. 2 is an enlarged detached view of the insulator, half in elevation and half in section.

Like letters of reference refer to like parts in both the figures.

The insulator is made of porcelain or analogous insulating material, and its body consists of an inner tubular piece A and a hollow or tubular piece B, which surrounds and is preferably cemented at *b* to the inner piece.

The outer body-piece B is provided with the usual encircling conductor-groove *c* and the flaring flange or petticoat portion *d* below the conductor-groove. The inner piece A has the usual pin-hole *e*, which is preferably of smallest diameter opposite the conductor-groove and increases in diameter toward its ends, so that the insulator is under direct compression only even though the pin should flex somewhat under strain. The outer body-piece is preferably provided at its upper portion with an internal shoulder or lip *e'*, which overhangs the upper end of the inner tube A to better retain the parts in proper relation.

The upper flaring flange or petticoat portion F of the insulator is formed by a separate annular piece and rests on the upper end of the outer body-piece B, to which it is connected by a glazed joint at *f*. In order to locate this joint as far as possible from the supporting-pin, the upper end of the outer body-piece B flares outwardly and upwardly from the upper end of the inner piece A to its juncture with the upper petticoat-piece F. The joint *f* is thus removed to a considerable distance from the pin, thereby lessening the danger of puncturing, and it is at the same time of greater diameter and area, and consequently much stronger than a joint located nearer the center of the insulator. The upper petticoat-piece is preferably provided on its under side with a circular shoulder or bead *g*, which centers the flaring upper end of the outer body-piece B to facilitate the proper assembling of the parts and insure a perfect and strong insulator, and with a depending lip or flange *h* around the pin-hole to cause water entering the hole to drop straight down, thereby keeping the under surface of the petticoat between the lip *h* and shoulder *g* dry.

The body of the insulator constructed as described has double the thickness of wall at the conductor-groove, thereby doubling its resistance and mechanical strength, while nevertheless the several component pieces of the insulator are of substantially uniform thickness and can be readily and economically manufactured.

I claim as my invention—

1. A strain-insulator having a pin-hole extending entirely through the same and comprising a piece having a tubular body to which the conductor is attached and an integral petticoat portion at one end, and a separate annular petticoat-piece which bears against the



opposite end of said tubular body portion and is secured thereto, substantially as set forth.

2. An insulator comprising an inner tube, a tubular body-piece surrounding said inner tube and having a conductor-groove and a flaring portion below the conductor-groove, and a petticoat-piece secured to the upper end of said body-piece, substantially as set forth.

3. An insulator comprising a tubular body having an encircling conductor-groove, a flaring lower end and a flaring upper end, and a petticoat-piece secured to the flaring upper end of the body, whereby the joint between the body and petticoat-piece is located at a distance from the pin-hole, substantially as set forth.

4. An insulator comprising an inner tube, a tubular body-piece surrounding said inner tube and having an encircling conductor-

groove, a flaring lower end, and a flaring upper end, and a petticoat-piece joined to the flaring upper end of said body-piece, substantially as set forth.

5. An insulator comprising a tubular body-piece having a conductor-groove, a flaring lower end, and a flaring upper end, and an annular petticoat-piece joined to the flaring upper end of said body-piece and projecting inwardly and outwardly from said joint, and having a drip-lip at its inner edge, substantially as set forth.

Witness my hand this 2d day of February, 1905.

JOHN S. LAPP.

Witnesses:

WALTER T. GODDARD,  
W. A. HIGINBOTHAM.