

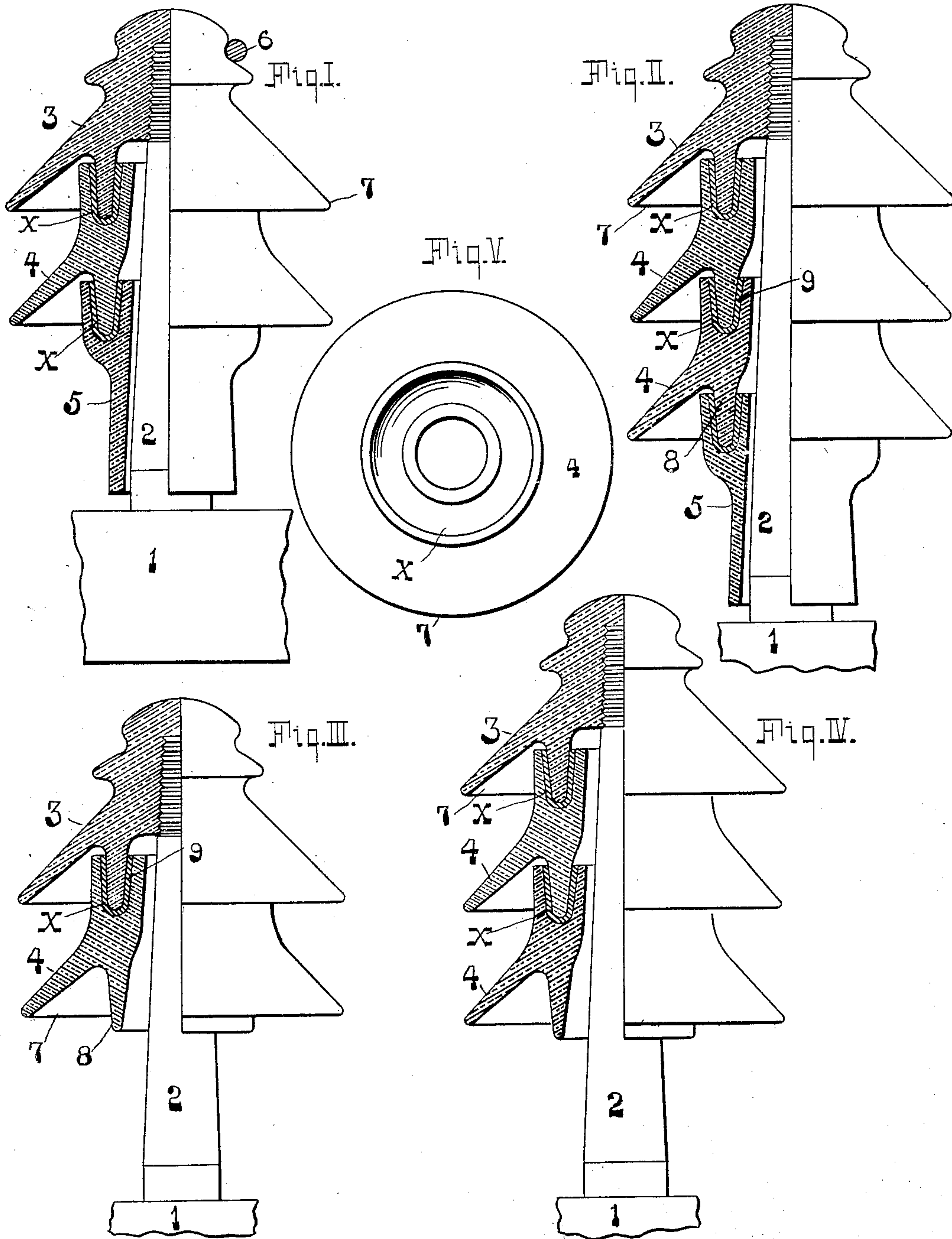
No. 701,848.

Patented June 10, 1902.

V. G. CONVERSE.  
INSULATOR.

(Application filed Mar. 17, 1902.)

(No Model.)



WITNESSES:

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his Attorney.



# UNITED STATES PATENT OFFICE.

VERNON G. CONVERSE, OF PITTSBURG, PENNSYLVANIA.

## INSULATOR.

SPECIFICATION forming part of Letters Patent No. 701,848, dated June 10, 1902.

Application filed March 17, 1902. Serial No. 98,563. (No model.)

*To all whom it may concern:*

Be it known that I, VERNON G. CONVERSE, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Insulators, of which the following is a specification.

In the accompanying drawings, which make part of this specification, Figure I represents one form of my invention, half in elevation and half in vertical section. Fig. II is a view similar to Fig. I, except that two sections 4 are shown. Fig. III is a view similar to Fig. I, except that the tubular section 5 is omitted. Fig. IV is a view similar to Fig. III, except that two sections 4 are shown. Fig. V is a top plan of one of the sections marked 4.

My invention relates to devices for the support and insulation of electrical conductors, particularly conductors used for transmitting currents of high voltage.

It is with reference to the tendency under wet-weather conditions of a high-voltage current to arc over the surface of an insulator or partly over the surface of an insulator and partly through the air, from the conductor to the ground or the support for the insulator which may be grounded, that I make my insulator of the form and in the manner hereinafter described.

In the various figures, 1 is shown as a cross-arm or support for the pin 2, having a threaded end, on which the insulator is screwed. These elements, by which the insulator is supported, are not essential, as the insulator may be supported in any desired manner.

The insulator proper is shown in Figs. III and IV as made up of a cap-section 3 and one or more sections 4, each section having an outwardly-extending and exposed flange 7 and a downwardly-extending flange 8. The flanges 8 project into the annular groove X of the sections 4. The lowest flange 8 may be seated in the groove of the tubular section 5, as shown in Figs. I and II, or said section 5 may be omitted, as shown in Figs. III and IV.

6 represents a conductor of electricity, and 9 represents the cement or glazing hereinafter referred to.

The essential features of my insulator are a plurality of sections having outwardly-extending and exposed flanges, the sections be-

ing first made separately and then joined together into one inseparable piece for use. The purpose of the outwardly-extending and exposed flange is to present a succession of unexposed surfaces beneath the flanges and also gaps in the path of the current to impede arcing of the current over the surface of the flanges and through the air from the conductor to the ground. The tubular section 5, which is shown in Figs. I and II, may serve to prevent the arcing or jumping of the current to the pin, if a pin be used, or to support the rest of the insulator.

As it is an extremely difficult and apparently impracticable thing at the present time to make an insulator possessing the features described in one piece or of a homogeneous mixture, I make my insulator in sections or pieces in either of the following ways:

The first way is to make the insulator in sections, as shown in the several figures, and then cement them inseparably together with a mixture of sulfur and feldspar, which is poured into the grooves X. This method is applicable to insulators whose sections are made of glass, porcelain, or any other suitable insulating material. While I have used sulfur and feldspar as a cement for the purpose described, it is not an essential cement for this form of insulator, as there are other cements known to the arts for the union of materials, such as glass or porcelain, which would also make the sections of the insulator absolutely inseparable even by the use of heat or acid or other reagent.

The second method is for the use of materials in making the sections of the insulator which are fusible or may be fused together, and has particular reference to the use of porcelain. While I do not limit myself to the method of securing the sections together, I have found that flux or glaze may be poured into the grooves X when the insulator is in sections and that by baking or reheating the sections may be fused together into one apparently homogenous piece and one that is inseparable.

In neither of the methods described is it necessary to the manufacture of my insulator that the sections be united either in the manner or at the points shown. It is possible that the insulator may be made so as to be



joined at any point or points between its extremities and also so that more than one flange may be included in a single section or that some of the sections may be without flanges.

5 The principles of my insulator and the method of manufacturing it apply as well to an insulator which depends from the cross arm or support as to one which is mounted above the cross arm or support.

10 The drawings show my preferred forms; but the construction as shown does not necessarily cover the many changeable details which might effect the same result as obtained by me.

15 Having described my invention, what I claim is—

1. An insulator for currents of high voltage, consisting of sections separate in manufacture, the number employed dependent upon  
20 the amount of insulation required, and means for holding the sections permanently assembled against any force applied.

2. An insulator for currents of high voltage, having extreme sections and one or more mean  
25 sections separate in manufacture, the number of the latter employed dependent upon the amount of insulation required and means for holding the sections permanently assembled against any force applied.

30 3. An insulator for currents of high voltage including in its organization insulating sections separate in manufacture and with outwardly-extending flanges, a gap being between the flanges of adjacent sections and be-  
35 yond the flange of an extreme one of said sections, and means for holding the sections per-

manently assembled against any force applied.

4. A high-voltage insulator made up of three or more parts which are separate arti- 40  
cles of manufacture, one of which acts as a cap to cover or protect the pin or support from the elements, the second a tube or cylinder of a smaller diameter than the first part which  
surrounds or incloses the pin and electrically 45  
protects it, and the third one or more parts with outwardly-extending flanges or petticoats which intervene between the first and second parts, the said parts being perma-  
nently united for use. 50

5. A high-voltage insulator made up of three or more parts which are separate arti-  
cles of manufacture, one of which acts as a cap to cover or protect the pin or support from the elements and has a downwardly-extend- 55  
ing flange or petticoat, the second a tube or cylinder of a smaller diameter than the first part which surrounds or incloses the pin and has an upwardly-extending groove, the third  
one or more parts with outwardly-extending 60  
flanges or petticoats which intervene between the first and second parts and have downwardly-extending flanges or petticoats, and upwardly-extending grooves, the said parts  
being permanently united for use. 65

Signed at Pittsburg this 8th day of March, 1902.

VERNON G. CONVERSE.

Witnesses:

F. N. BARBER,  
F. E. MUCKLE.