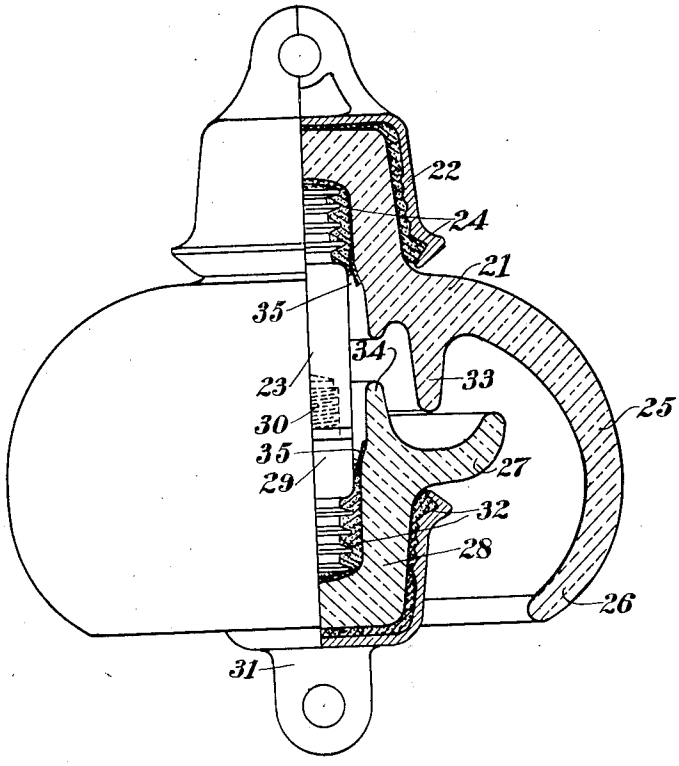
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FOG TYPE INSULATOR

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FOG TYPE INSULATOR

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4 Claims. (Cl. 173—318)

This invention relates to electric insulators and particularly to high potential insulators for use under adverse atmospheric conditions, such as those encountered with fog, dust, smoke, or other contaminating substances present in the atmosphere.

One object of the invention is to provide an insulator which will operate satisfactorily under such adverse conditions.

Another object of the invention is to provide an insulator that will not produce radio disturbances when subjected to fog or other moisture in the air.

Another object of the invention is to provide an insulator which shall be of improved construction and operation.

Other objects and advantages will appear from the following description.

The invention is exemplified by the combination and arrangement of parts shown in the accompanying drawing and described in the following specification, and it is more particularly pointed out in the appended claims.

The present application is in part a continuation of my prior application Serial Number 652,126 filed Jan. 17, 1933.

In the drawing the figure is an elevation with parts in section showing one embodiment of the present invention.

There are a number of factors which enter into the design of an insulator, contributing to its successful operation under adverse atmospheric conditions, such as are encountered where fog, dust, smoke and other contaminating substances are present in the atmosphere. One desirable characteristic of such an insulator is that it shall have a large surface leakage distance and surface resistance. This may be obtained by the use of deep petticoats, corrugations, multipart surfaces, etc. It is also desirable that at least a portion of the leakage surface shall be sheltered to prevent accumulation of deposits upon these surfaces which would tend to decrease their leakage resistance. It is also desirable that a portion of the leakage surface shall be exposed so that it may be automatically cleaned by rain. This cleaning will be more effective if the exposed surface is free from inequalities and shaped so as to be least liable to collect and retain foreign material. The present invention provides surfaces which, to a large degree, are protected from the accumulation of fog, dust and other contamination, and other surfaces which are adapted for automatic cleaning, thus taking advantage of the characteristics of both kinds of surfaces.

In the drawing the dielectric member 21 is supported by a cap 22 and carries a pin 23; the cap and pin being secured in place by cement 24. In this case the dielectric member 21 is provided with a globe shaped canopy 25 having its lower edge 26 curved inwardly so as to enclose more completely the space beneath the canopy. The cooperating baffle 27 is formed on a dielectric member 28 which is supported by an extension 29 removably secured to the pin 23 by a threaded stud 30. The dielectric member 28 carries a cap 31, the extension 29 and cap 31 being secured to the dielectric member by cement 32. The flange 25 is provided with a downwardly extending skirt 33, and the dielectric member 28 being provided with an upwardly extended rim or collar 34 surrounding the pin opening and overlapping the skirt 33. It will be noted that the flange 27 and the major portion of the dielectric member 28 are disposed in the opening within the flange 25 and that the flange 25 provides long smooth leakage surfaces on its outer and inner faces. Where clevis type fittings, such as those shown in the drawing, are used for the caps 22 and 31, the pin 23 and its extension 29 will be held from relative rotation so that the parts will not become accidentally separated by unscrewing of the threaded connection 30.

The wall of the recess in the dielectric member at the termination of the cement is given a coating of conducting material 35, as shown in the figure. This conducting material may be a metal coating sprayed onto the surface of the porcelain or may be any other form of conducting covering and extends along the surface of the dielectric a sufficient distance to form good electrical contact with the cement and extends beyond the termination of the cement for a short distance, usually approximately one-quarter of an inch. The coating band may be easily applied by a spray gun or other suitable means without interfering with the regular method of asesmbling the insulator pin in its recess. The purpose of this conducting zone is to prevent discharge across the air space between the pin and porcelain where the electrostatic field is concentrated. Since the cement is relatively conducting, the air space between the pin and the porcelain adjacent the termination of the cement is short-circuited by the cement and conducting covering 35, thus preventing difference of potential between the pin and the sur-

face of the porcelain, such as would otherwise cause discharge across this space and consequent radio disturbance.

In the invention shown, a dielectric member is provided having an outwardly and downwardly extending flange providing a canopy, on the lower face of which is formed a downwardly extending skirt cooperating with a baffle disposed entirely within the space enclosed by the canopy and providing a labyrinthine passage which prevents eddy currents from depositing moisture or other contamination on the inner face of the skirt and the lower face of the dielectric member within the skirt. By thus protecting the surface of the dielectric member adjacent the pin, the chief source of radio disturbance is overcome. Where the dielectric member adjacent the pin is exposed to moisture, discharges are apt to emanate from the pin out over the surrounding surface, thus giving rise to radio disturbances. This is, of course, aggravated by the presence of dust or other foreign matter on the surface of the insulator about the pin. The embodiment shown also provides an extensive, smooth outer face which is easily washed by rain and thus kept clean. In this way, effective insulation is provided for all weather, even under the most adverse conditions.

I claim:

1. An insulator comprising a dielectric member having a recess therein, a pin having one end thereof secured in said recess, a cap secured to said dielectric member for supporting said insulator, said insulator having an outwardly and downwardly extending flange thereon, the lower edge of said flange being curved inwardly to form a globe shaped canopy enclosing a sheltered space about the lower end of said pin, a second dielectric member having a recess therein secured to the lower end of said pin, a cap secured to said second dielectric member for supporting the load on said insulator, said second dielectric member having an outwardly and upwardly extending flange within the space enclosed by the flange on said first named dielectric member, said first named dielectric member having a downwardly extending skirt thereon registering with an upwardly opening groove in the upper surface of the flange on said second named dielectric member, said second named dielectric member having a collar overlapping the skirt on said first named dielectric member and surrounding the pin opening on said second named dielectric member.

2. An insulator comprising a pair of dielectric members connected together by a pin secured in recesses in said members respectively, a cap secured to each of said dielectric members at the sides thereof opposite said pin, a flange on one of said dielectric members extending outwardly and downwardly therefrom and having its lower end curved inwardly, said flange circumferentially enclosing the other of said dielectric members, and overlapping projections on the adjacent faces of said dielectric members forming a labyrinthine path from said pin to the outer atmosphere.

3. An insulator comprisng a pair of dielectric members having registering openings therein, a pin formed of separable sections and having its opposite ends secured in said openings respectively, said dielectric members having outwardly extending flanges provided with circumferentially extending overlapping projections on their adjacent faces, one of said flanges being curved inwardly at its extremity forming a globe shaped portion circumferentially enclosing the other dielectric member.

4. An insulator comprising a pair of dielectric members each having a recess in one face thereof, a pin having its opposite ends secured in said recesses respectively, and connecting said dielectric members in spaced relation to each other, a flange on each of said dielectric members, said flanges having overlapping projections forming a labyrinthine passage surrounding said pin, and caps secured to the outer faces of said dielectric members respectively and disposed in opposition to each other and providing attachment means for supporting a load on said insulator, the flange on one of said dielectric members being extended so as substantially completely to enclose the other of said dielectric members.

JOSEPH T. LUSIGNAN, JR.