

UNITED STATES PATENT OFFICE

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MANUFACTURE OF INSULATORS

No Drawing.

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The invention relates to porcelain insulators and has special reference to the treatment thereof whereby to insure a positive grip thereon of the cement used for securing caps, pins or other similar hardware in place upon the dielectric body.

It is well known that it is a common practice to provide a porcelain insulator with a band or other area which is "sanded" so as to provide a grip for the cement, such bands or areas being provided within the recess which receives a pin, or upon the upstanding stem portion designed to receive the cap which may be of the suspension type or which may be of some other type, depending upon the exact nature and purpose of the insulator itself. The usual material for sanding is crushed porcelain which has been fired, the crushing being accomplished in any desired manner so as to produce pieces or granules of the desired size. While it is conceivable that some other material might be used the one mentioned is probably the most advantageous inasmuch as it is of the same character as the insulator upon which it is used. Furthermore there is the advantage that use is made of broken and consequently otherwise useless insulators so that it is unnecessary to provide any special material. The method of carrying out the sanding is to apply glaze to the parts where the rough areas are desired, the granular material being then applied to these areas either by dipping the insulator into a mass of the granular material or by simply tossing the material onto or against the insulator. The liquid used for glazing acts as an adhesive and holds the granular material in place. Of course those portions of the insulator which are to be left smooth have the glazing liquid applied thereto in the customary manner. After drying, the insulator is fired in a suitable kiln and the granular material is then bound to form an integral part of the porcelain body of the insulator.

From extensive experimentation and from researches of various sorts I have found that an insulator having a glazed surface throughout possesses far greater mechanical and electrical strength than one which is unglazed or

which is poorly glazed. The presence of glaze positively prevents any water or moisture in the air from seeping into or becoming absorbed by the porcelain body. Furthermore, I have discovered that by applying glazing liquid upon the sanded surfaces, of course prior to firing, the quality of the insulator is greatly improved in every respect.

It is with the above facts in view that I have devised the present invention which consists in applying a glaze to the roughened surfaces of the insulator so that all the particles or granules of applied material are, themselves, adequately and thoroughly coated throughout, there being consequently an absence of any unglazed points or portions in which or through which moisture might penetrate.

A more specific object of the invention is to provide an insulator manufacturing method or treating method involving the spraying, swabbing or other equivalent treatment of the sanded belt, band or area with glazing liquid.

In the actual carrying out of the invention it is apparent that different detailed methods might be followed. For instance, after the granulated material has been applied in the usual manner, the entire insulator may be dipped into a receptacle containing the glazing liquid, the glazing liquid may be applied to the entire insulator including the sanded areas by means of a brush or swab, or use may be made of a suitable spray gun, atomizer or the like for spraying the liquid glaze onto the entire insulator or onto only the sanded portions as may be desired. Regardless of which exact plan is followed the insulator is subsequently dried and fired and will then be ready to have the hardware cemented thereto.

I have found that insulators constructed from dielectric bodies made and treated in this manner possess far greater electrical and mechanical strength than those in which the sanded areas are not subsequently glazed by a separate step. The glaze does not fill the crevices and angles to such an extent as to destroy the grip providing qualities of the granular material and there is consequently no drawback to my method.

From the foregoing it is believed that the method, the steps for carrying it out and the advantages will be readily apparent to one skilled in the art without further explanation.

5 Having thus described the invention, I claim:

1. In the manufacture of porcelain insulators of the type having a portion provided with granular material united thereto, the
10 step of subsequently applying glazing liquid upon said portion to coat the granular material.

2. In the manufacture of porcelain insulators of the type having a portion provided with granular material united thereto, the
15 step of subsequently applying glazing liquid upon said granular material to coat the same all over and the subsequent step of firing the insulator.

3. The method of constructing a porcelain insulator, comprising applying glazing liquid upon certain portions of a preformed porcelain clay body while the same is in a dried but
20 unfired state, applying granular material upon said portions whereby it will adhere thereto, and subsequently applying glazing liquid to the granular material adhering to the body to coat all portions thereof, and then
30 firing the body.

4. The method of constructing a porcelain insulator, comprising applying glazing liquid upon certain portions of a preformed porcelain clay body while the same is in a dried
35 but unfired state, applying granular material upon said portions whereby it will adhere thereto, and subsequently spraying glazing liquid upon the granular material adhering to the body to coat all portions thereof, and
40 then firing the body.

5. The manufacture of porcelain bodies comprising sticking granular material upon porcelain clay prior to firing thereof, applying a coating of glaze upon said granular material, and then firing the clay.
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In testimony whereof I affix my signature.

DAVIDGE H. ROWLAND.

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