

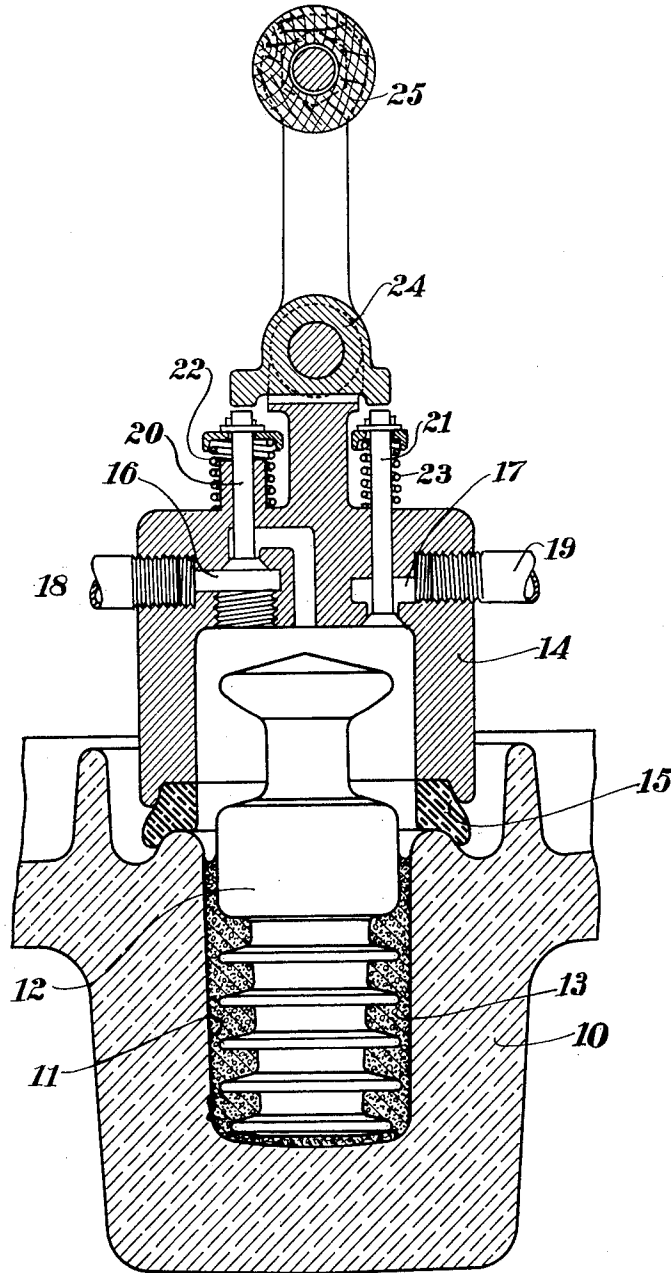
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ART OF ASSEMBLING INSULATORS

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ART OF ASSEMBLING INSULATORS

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7 Claims. (Cl. 18—59)

This invention relates to the art of cementing and particularly to the assembly of electric insulator parts, secured together by means of Portland or other cement.

One object of the invention is to provide an improved process for cementing together parts of electric insulators so that a more intimate and stronger bond between the cement and the connected parts is secured.

A further object of the invention is to provide an improved process by which air or gas is removed from the cement, providing a firmer and more compact cement body.

Another object of the invention is to provide a cementing process which will be simple and convenient to practice, and which will provide improved results.

Other objects and advantages will appear from the following description.

The invention is exemplified by the steps of the process illustrated in the accompanying drawing and described in the following specification, and it is more particularly pointed out in the appended claims.

In the drawing the figure is a vertical sectional view of a portion of an insulator and one form of apparatus for practicing the present invention.

In the drawing the numeral 10 designates the porcelain member of a suspension insulator having a recess 11 for receiving a pin 12. The pin 12 is secured in the recess 11 by means of cement 13. In the application of metal fittings to dielectric members and particularly to porcelain insulators, it is desirable to provide a strong and intimate union between the cement and the connected bodies and also to provide a dense body of cement. In the present invention these objects are accomplished by alternately subjecting the freshly poured cement, before it has set, to a vacuum treatment and to pressure.

One form of apparatus for applying this process comprises a cup shaped member 14 arranged to be placed over the projecting end of the pin 12 and to form an air tight union between the rim of the opening 11 by means of a gasket 15 of rubber or other soft material. The interior of the cup 14 is connected by means of ports 16 and 17 to pressure and exhaust pipes 18 and 19 respectively. The pipe 18 is connected to any suitable source of air pressure and the pipe 19 is connected to any suitable vacuum pump. The ports 16 and 17 are controlled by valves 20 and 21 respectively which are normally held closed by springs 22 and 23 and which are arranged to be open by a rocking head 24. The head 24 may be oscillated by

a suitable handle 25. In practicing the invention, the opening 11 is supplied with a suitable charge of wet cement and the pin 12 is properly seated in this cement so that the space between the pin and the insulator is filled. The cup shaped member 14 is then placed over the pin bearing upon the rim of the opening 11 and sufficient pressure is applied to the handle 25 to hold the cup-shaped member in place.

By rocking the handle 25, the valves 20 and 21 may be opened and closed so as to subject the cement 23 alternately to pressures above and below atmospheric pressure. The vacuum applied to the opening in the cup 14 will assist in withdrawing any air entrapped in the cement 13 and the application of pressure will compact the cement and insure an intimate union between the particles of the cement and between the cement and the connected parts.

If desired, a suitable clamping means may be employed for holding the cup 14 in place to resist the tendency of the air pressure to lift the cup. Instead of a single cup, two cups may be used; one connected to air pressure and one to vacuum, and these cups employed to apply pressure and vacuum alternately to the cement. A vacuum cup alone may be used which is periodically applied to the insulator to subject the cement to a reduced pressure; the cement being subjected to atmospheric pressure between applications of the vacuum.

Other variations in the application of the process may be employed without departing from the spirit and scope of the invention as pointed out in the following claims.

I claim:

1. The art of applying cement comprising the steps of alternately subjecting the freshly applied cement to pressures above and below atmospheric pressure.

2. The art of manufacturing insulators comprising the steps of assembling the insulator parts with cement and subjecting the cement, before it has set, alternately to pressures of different magnitudes for extracting gas entrapped in the cement and for compacting the cement.

3. The art of manufacturing insulators comprising the steps of assembling insulator parts with cement and alternately subjecting the cement to different pressures, one of which pressures is less than atmospheric pressure.

4. The art of manufacturing insulators comprising the steps of assembling the insulator parts in cement and subjecting the cement alter-

nately to pressures, one of which is less and one of which is greater than atmospheric pressure.

5 5. The art of manufacturing insulators comprising the steps of assembling one insulator part within an opening in another, cement being disposed in said opening about the inner part, closing said opening to form a tight closure including said cement and subjecting said closure and the cement therein to a pressure less than atmospheric pressure for extracting gas from the body of said cement.

10 6. The art of manufacturing insulators comprising the steps of assembling one insulator part within an opening in another, the space between said parts being filled with cement, applying a

closure to said opening to form an air tight compartment containing said cement and alternately applying different pressures to said compartment, one of said pressures being less than atmospheric pressure. 80

7. The art of manufacturing insulators comprising the steps of assembling insulator parts one within another with cement disposed between said parts, applying a closure to said parts to provide an air tight compartment containing said cement and alternately applying different pressures to said compartment, one of said pressures being less and the other greater than atmospheric pressure. 85

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