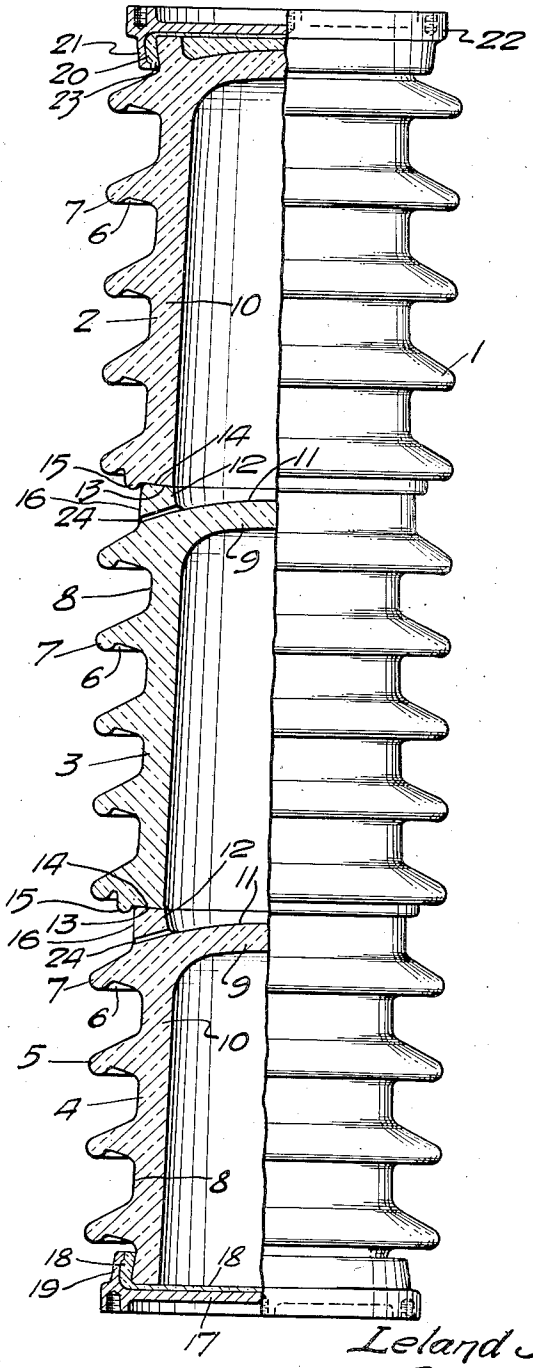
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BUSHING

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BUSHING

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3 Claims. (Cl. 174—211)

This invention relates to bushings and more particularly to bushings primarily designed for bus bar and switch support.

The principal object of the invention, generally stated, is to provide a multi-part bushing, each of the parts being provided with a closed head so that the bushing, when completed, will provide a series of separate unconnected chambers.

Still another object of the invention is to provide a multi-part bushing in which the parts are duplicates and each is provided adjacent the head with a circumferential rim or shoulder having an inwardly inclined upper face.

Still another object of the invention is to provide a multi-part bushing in which the parts are connected to each other without the intervention of metallic members.

To these and other ends the invention comprises the various elements and combination of elements as hereinafter set forth.

In the drawing the figure is a view, partially in elevation and partially in vertical cross section, showing the assembled bushing.

Since the bushing elements are substantially identical in construction, differing only in minor details in respect of the upper portion of the top bushing member and the lower portion of the bottom bushing member, a description of one of these members will, it is believed, suffice for a clear understanding of the invention.

The bushing 1 may comprise a number of separate bushing elements and for convenience there has been illustrated in the accompanying drawing three bushing elements, respectively designates, 2, 3 and 4, although it will be understood, of course, that additional elements, identical in shape with the element 3, may be interposed between the element 3 and the element 2 or the element 4 so as to construct a busning of any desired height.

Each of the bushing elements is provided with a plurality of skirt portions 5, the undersurface of which is shaped as indicated at 6 to provide a drip point or ring 7 so that moisture collecting on the upper surface of the petticoat 5 will drop upon the next lower petticoat and will not be carried by surface tension along the vertical walls 8 of the bushing. Each bushing is provided with a closed end 9 integral with the side walls 10 thereof and enclosing the top of the bushing and making each bushing into an independent self contained insulating unit.

Rising from the upper surface 11 of the top 9 and concentric with the axis of the bushing, I provide a ring 12 preferably at a slightly greater distance from the axis of the bushing than the side wall 10. This concentric ring is provided with an inwardly inclined surface 13 and each ring 12 of the intermediate bushings 3 and 4 is adapted to engage a correspondingly inclined face 14 on the lower end of the superimposed unit. Each of the superimposed units is provided adjacent the outer face of the side wall 10 thereof with a lip 15 adapted to overhang the outer face 16 of the ring 12.

It will be observed that each of the units is slightly frusto-conical in form, that is the side wall of each unit and the petticoats projecting outwardly from the outer wall 8 decrease in depth or extension so that the peripheral edges of the petticoats are of the same diameter.

The lower unit 4 differs slightly from the intermediate unit 3 in that at its lower end the lip portion 15 is omitted in order that the lower end of the unit 4 may seat within the metallic base 17 and be secured thereto by cement or other means 18, the cement preferably underlying the unit and extending upwardly between the flange 19 of the base and the outer wall 8 of the bottom portion of the unit 4. Similarly, in the uppermost unit 2 the outer face of the ring 12 is arranged at an angle to the axis of the unit so as to provide an undercut portion 20 which seats within a frusto-conical flange 21 of the cap member 22 and here again there is interposed between the cap member and the adjacent surfaces of the unit 2 cement or other securing means 23.

The cap members 9 of each of the units are preferably dome shaped and extending at spaced points through the rings 12 and preferably tangent to the upper surface 11 of the dome shaped end 9 is provided a series of drain or vent holes 24, the purpose and object of which is to permit moisture which may accumulate in the interior of each bushing to drain from the interior to the exterior thereof.

To assemble the bushings, after they are immersed in glaze and when the glaze is still moist, the ceramic portions of the bushings are stacked and there is, therefore, formed, during the firing operation between the surfaces 13 and 14 of each ceramic unit, a glazed joint which serves to rigidly and permanently connect the units in the form shown in the drawing. Owing to the inclination of the parallel surfaces 13 and 14 and to the lips which overhang the outer faces 16, as previously described, all stresses transferred from the uppermost unit to the next succeeding unit

below are inwardly directed and cause the stresses to be carried inwardly of the side wall portions of the assembled unit and there is hence no tendency on the part of one unit to slide in respect to the next succeeding unit below. I have by this means provided a unit of great strength and of ample capacity and one which is exceedingly rigid and capable of withstanding both direct loads and torsional strain to which these units are continually subjected in service. I have also provided a unit of bushings having the maximum electrical characteristics and by strengthening each unit, that is the upper portions, by means of a dome shaped head and at the same time have provided means by which the air confined within each separate unit will expand or contract without detriment to the unit or assembly and I have utilized this same means to permit condensed moisture within each unit to escape without detriment to the electrical characteristics of the assembly.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A bushing comprising a plurality of hollow units, each of which is closed at one end, at least one of said units being provided at opposite ends with circular walls having inwardly and downwardly inclined surfaces, said surfaces being concentric, and fusible means for connecting said surfaces to correspondingly formed surfaces on adjacent units.

2. A bushing comprising a plurality of superimposed hollow units, each of which is closed at one end, at least one of said units being provided at opposite ends with circular walls having concentric surfaces inwardly and downwardly inclined with respect to the longitudinal axis of said unit, said unit being provided with a dome shaped head positioned within the adjacent wall, the juncture of said head and wall of said unit being beneath the adjacent portion of said inwardly inclined surface, and fusible means for connecting said surface to a correspondingly formed surface of a superimposed unit.

3. A bushing comprising a plurality of superimposed units, at least one of said units being provided at opposite ends with circular walls having concentric surfaces formed thereon, said surfaces being inwardly and downwardly inclined with respect to the longitudinal axis of said unit, said unit being provided with a dome shaped head positioned within said adjacent circular wall, the juncture of said head and wall being spaced beneath the adjacent inwardly inclined surface, said unit being provided with a series of openings extending through the said wall, each of said openings being tangent to the upper face of said dome shaped head, and fusible means for connecting said inclined wall surface to corresponding wall surfaces formed on corresponding adjacent portions of abutting units.

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