

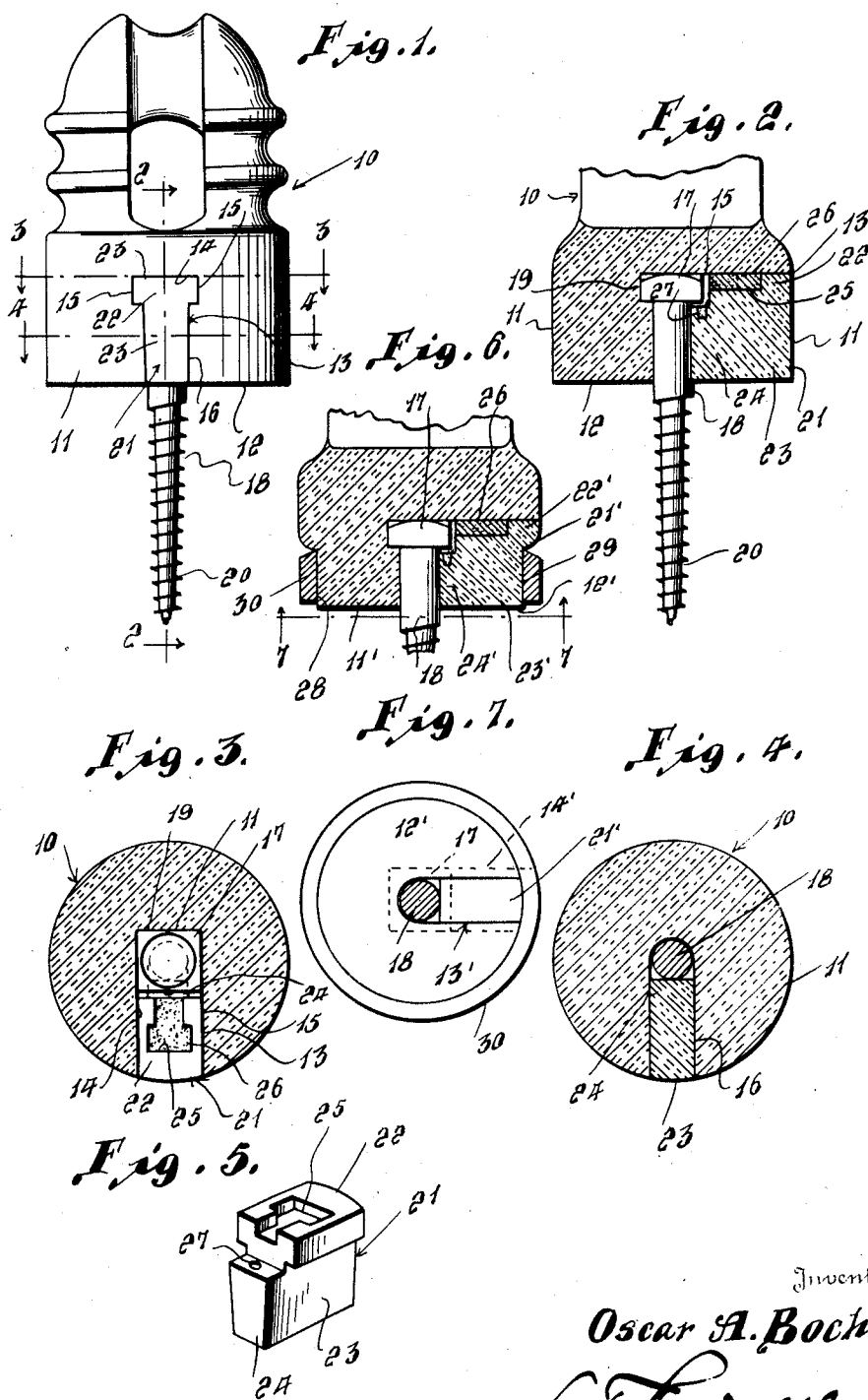
Jan. 7, 1941.

O. A. BOCH

2,228,196

INSULATOR

Filed May 29, 1940



Inventor

Oscar A. Boch

By *A. F. Rudolph*

Attorney

UNITED STATES PATENT OFFICE

2,228,196

INSULATOR

Oscar A. Boch, East Liverpool, Ohio

Application May 29, 1940, Serial No. 337,919

5 Claims. (Cl. 174-165)

This invention relates to an improved construction of porcelain insulator, and more particularly to an improved construction of means for attaching a wood screw fastening to the insulator by means of which insulators are commonly attached to telegraph poles and the like.

More particularly, it is an aim of the invention to provide improved means for retaining a wood screw fastening connected to the body of a porcelain insulator by means of an insert of porcelain shaped and sized to close a recess in the insulator body through which the upper end of the wood screw is inserted.

Still another object of the invention is to provide means whereby the insulator is held out of engagement with the screw head so that a twisting pressure on the screw will not cause a pressure on the insert, which might tend to dislodge it or to rupture the cement means by which the insert is fastened to the insulator body.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, which illustrates a preferred embodiment of the invention, and wherein:

Figure 1 is a side elevational view, of one embodiment of the invention,

Figure 2 is a vertical sectional view taken substantially along the plane of the line 2-2 of Figure 1 and showing the screw fastening in elevation,

Figures 3 and 4 are transverse sectional views taken substantially along the planes of the lines 3-3 and 4-4 respectively, of Figure 1,

Figure 5 is a perspective view showing the insert detached from the insulator,

Figure 6 is a view similar to Figure 2 showing a slightly modified form of the invention, and

Figure 7 is a bottom plan view taken substantially along the plane of the line 7-7 of Figure 6 showing the fastening in cross section.

Referring more particularly to the drawing, wherein like reference characters designate like or corresponding parts throughout the different views, 10 designated generally the body portion of a conventional porcelain insulator which is provided with a circular base portion 11 having a substantially flat lower, free end 12.

The invention includes a recess, designated generally 13, formed in the base 11 and having a relatively wide upper portion 14 which extends from adjacent the center thereof radially through a portion of its side wall and which is provided with flat substantially parallel sides 15. The recess 13 also includes a restricted

lower portion 16 which extends from the upper portion 14 through the lower end 12, and from the periphery of the base 11 inwardly to a point adjacent the inner end of the enlarged portion 14. The recess 13, as best seen in Figure 1, is T-shaped, in cross section. The enlarged portion 14 of the recess 13 is adapted to receive the square head 17 of a wood screw 18 which when positioned in the inner end of the recess 13 will be disposed with the opposite sides of the head 17 in engagement with the sides 15 and with a third side thereof in engagement with the inner end 19 of the recess portion 14. With the head 17 thus positioned in the portion 14, the adjacent portion of the screw shank will be disposed at the inner end of the restricted portion 16 with the threaded end 20 of the screw 18 extending downwardly from the lower end 12 of insulator body 10.

A porcelain insert 21 is shaped and sized to snugly fit and close the recess 13 behind the screw 18 for retaining the upper portion of the screw therein. Insert 21 includes an enlarged head portion 22 for fitting the portion 14 and a lower, restricted shank portion 23 which fits the restricted portion 16. The shank portion 23, at its inner end, is provided with an extension 24, which is offset downwardly from the head 22 and which is adapted to abut against the shank of the screw 18 to thereby retain the head portion 22 and the shank portion 23 out of engagement with the screw head 17, as best seen in Figures 2, 3 and 6. The base of the head 22 is provided with a T-shaped recess 25 to receive a cement or adhesive substance 26 for securing the insert 21 in the recess 13. The upper space of the extension 24 is provided with a recess 27 to receive any overflow of the cement 26 and prevent it from forming a wall between the screw head and the insert. By thus spacing the screw head 17 from the insert 21, any twisting pressure on the screw 18 will be borne by the sides 15 so that there will be no tendency to dislodge the insert 21 and rupture the seal formed by the adhesive or cement 26. As best seen in Figure 2, the outer edge of the insert 21 is disposed flush with the periphery of the base 11 and is rounded to conform to the contour thereof.

In Figures 6 and 7 a slightly modified form of the invention is shown wherein the insulator body is provided with a base 11' having a restricted lower portion 28. The base 11' is provided with a recess 13' corresponding to the recess 13 for receiving the upper portion of the shank and

the square head 17 of a wood screw. The screw 18 is retained in position in the inner end of the recess 13 by means of an insert 21' corresponding to the insert 21 except that the lower portion of its outer edge, designated 29, is recessed to conform to the contour of the recess 28. A ring or collar 30 is disposed around the portion 28 and over the portion 29 for cooperating with the cement substance 26 to retain the insert 21' in position. The collar or ring 30 may be frictionally or otherwise secured to the base 11' and when the insulator is secured by its screw fastening 18 to a cross arm of a telegraph pole or the like, not shown, the lower end of the insulator body, designated 12', will be in abutting engagement with the element on which it is mounted to affectively prevent removal of the ring or collar 30. In the embodiment of the invention, as shown in Figures 6 and 7, the use of the adhesive substance 26 for securing the insert in the insulator body can be dispensed with, if desired. Since the fastening 18 must be insulated from a conductor wire, not shown, which is carried by the insulator, by forming the insert 21 of porcelain the portion of the fastening 18 which is disposed in the recess 13 is entirely surrounded by porcelain to most effectively insulate the fastening 18 from the conductor wire.

While the fastening 18 has been illustrated and described as a wood screw, other types of fastenings, such as a bolt could obviously be used without affecting the construction and operation of the invention.

Various modifications and changes in each of the embodiments of the invention as disclosed, are contemplated and may obviously be resorted to provided they fall within the spirit and scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. In a porcelain insulator, an insulator having a recess opening outwardly of one end thereof and of a portion of its side, said recess having an enlarged end portion, remote to said end of the insulator, and opening outwardly of the side of the insulator and extending inwardly beyond the inner end of the remaining portion of said recess, said recess being sized to receive a portion of the shank of a screw, having a rectangular head, and the enlarged portion thereof being sized to receive the screw head and to snugly engage opposite sides thereof, and an insert for closing the exposed portion of said recess, having

an enlarged portion for engaging the enlarged portion of the recess, and an extended shank for abutting against the shank of the bolt for spacing the insert from the bolt head.

2. An insulator as in claim 1, the face of the enlarged portion of said insert being recessed to receive a substance for cementing the insert in the recess.

3. An insulator as in claim 1, the outer edge of said insert being disposed flush with the outer wall of the insulator, said outer wall and the outer edge of the insert being provided with a restricted lower portion for receiving a collar for retaining the insert in the recess.

4. In a porcelain insulator, an insulator having a recess opening outwardly of one end and extending radially from adjacent the center thereof through its side wall, said recess having an enlarged end, remote to said end of the insulator, for receiving the squared head of a screw and for engaging opposite sides of said head for keying it to said insulator, said recess having a restricted portion adjacent said end of the insulator, a portion of the shank of said screw being disposed in the restricted portion of the recess and projecting therefrom, an insert disposed in the outer portion of said recess and having an enlarged end for engaging the enlarged portion of the recess for retaining the screw therein, said insert having an extended portion at its inner end and for engaging a portion of the shank of the screw for spacing the insert from the screw head, and means for securing the insert in the recess.

5. In an insulator, an insulator body having a radially extending recess projecting from adjacent the axis thereof through a portion of its side wall, said recess having a restricted end portion opening outwardly of an end of the insulator body and of the side wall, said recess having an enlarged portion provided with spaced substantially parallel sides constructed and arranged to receive the polygonal shaped head of a wood screw, for engaging opposite sides thereof for keying the screw head thereto, a portion of the shank of the screw being disposed in the inner part of the restricted portion of said recess and projecting from said end of the insulator, and an insert for closing the outer, open end of the recess, said insert having an extension engaging the shank of the screw for spacing the insert from the screw head.

OSCAR A. BOCH.