

Nov. 18, 1924.

1,515,755

F. ROHDE ET AL  
SUSPENSION INSULATOR

Filed Oct. 12, 1920

2 Sheets-Sheet 1

Fig. 1.

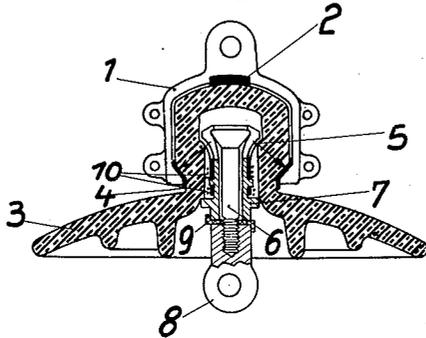


Fig. 2.

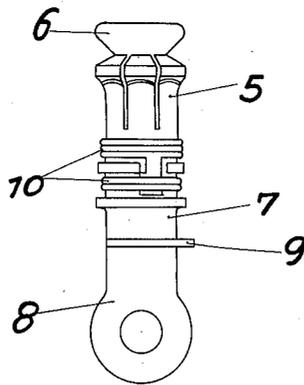
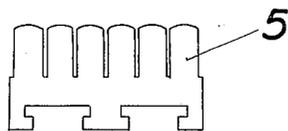


Fig. 3.



Inventors:  
Fritz Rohde  
& Max Schwinning  
by: Robert G. R.  
Attorney.

Nov. 18, 1924.

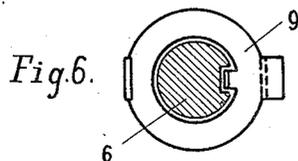
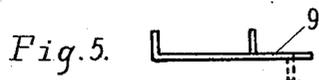
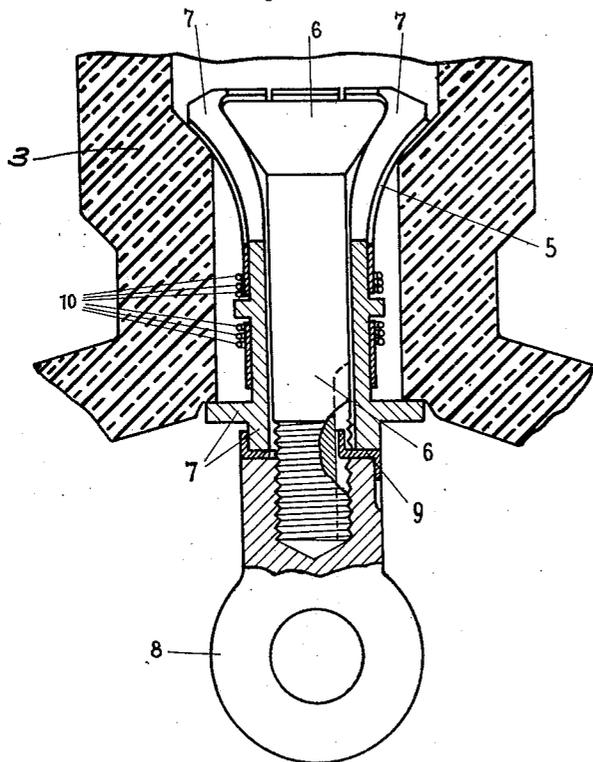
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2 Sheets-Sheet 2

Fig. 4



Inventors:  
Fritz Rohde & Max Schwaninger  
By: *Robert J. Ray*  
Attorney.

# UNITED STATES PATENT OFFICE.

FRITZ ROHDE, OF BERLIN, AND MAX SCHWINNING, OF BERLIN-SCHONEBERG, GERMANY, ASSIGNORS TO NORA PFANNENSTIEL, OF TETLOW, GERMANY.

## SUSPENSION INSULATOR.

Application filed October 12, 1920. Serial No. 416,552.

*To all whom it may concern:*

Be it known that we, FRITZ ROHDE and MAX SCHWINNING, both citizens of the German Republic, and residents of Berlin, Germany, and Berlin-Schoneberg, Germany, respectively, have invented certain new and useful Improvements in Suspension Insulators, of which the following is a specification.

The invention relates to a suspension insulator for electric wires or cables, and has for its object to provide a device of this character, which should the insulator body which is closed at its upper end be broken, the parts of the insulator will nevertheless be held together and will be prevented from falling, thereby preventing the suspended electric wire or cable from falling.

In the drawings:

Figure 1 is a vertical transverse sectional view through the insulator.

Figure 2 is an enlarged side elevation of the split sleeve and ring showing the same in condition to be inserted in the insulator body.

Figure 3 is a plan view of the intermediate pliable sleeve, showing the same flattened and before being formed into a cylindrical member around the sleeve.

Figure 4 is an enlarged transverse sectional view through a portion of the body of the insulator and showing the suspension members disposed therein.

Figure 5 is a side elevation of the locking disc.

Figure 6 is a plan view of the locking disc, showing a portion of the bolt in section.

Referring to the drawing, the numeral 1 designates a two part supporting cap, 2 a layer of pliable or resilient material and 3 the insulator body. Disposed within the interior of the completely closed head of the insulator body is a bolt 6, the upper end of which is provided with a cone shaped enlargement and its lower end provided with threads. The bolt is disposed within a sleeve 7, the upper end of which is slotted, thereby allowing the upper end to be expanded and enlarged when disposed within the insulator body 3. Threaded on the lower end of the bolt 6 is a ring shaped nipple 8 for supporting an electric wire or

cable. The nipple 8 is prevented from being unscrewed from the lower end of the bolt 6 by means of a lock washer 9, and consequently after the cone shaped enlargement of the bolt is forced into the split end of the sleeve 7 by tightening of the ring nipple 8, said ring nipple may be securely held against unscrewing. Disposed between the insulator body 3 and the supporting cap 1 is an intermediate pliable or resilient layer of material 4, which in combination with the layer of material 2, forms means whereby the insulator body 3 is yieldably held within the supporting cap 1. Surrounding the sleeve 7 within the insulating body 3 is a resilient or pliable layer of material 5, which is held on the sleeve 7 by means of a lacing 10 wrapping around the same after it has been placed on the sleeve. It will be seen that the intermediate layers of resilient material effects a uniform distribution of pressure.

The parts 5, 6, 7, 8, 9 and 10 which are shown assembled in Figure 2 are in their assembled condition inserted into the insulator body 3 and assume the position shown in Figures 1 and 4. The sleeve 7, the lower end of which projects from the insulator body with the nipple 8 thereon, is then in position where the nipple 8 can be tightened, which action will force the cone shaped upper end of the bolt 6 downwardly into the upper end of the sleeve 7, thereby spreading and expanding said upper end of the sleeve in the interior of the insulator body and consequently forming an enlarged head within the body which will be held therein. After the nipple ring 8 has been tightened for the sleeve spreading operation, the resilient arms of the sleeve 7 at the upper end are brought or sprung over the cone shaped upper end of the enlarged head of the bolt and are consequently positioned for securely holding the bolt against displacement by axial forces which may be exerted upon the bolt. After the cone shaped end of the bolt has been forced into the notches of the split portions of the sleeve 7, it will be seen that the bolt cannot be forced inwardly and also that the bolt cannot be pulled out of the insulator body. To limit the inward movement of the sleeve 7, the sleeve adjacent its outer end is pro-

vided with a flange or collar which engages the underside of the insulator body 3, thereby limiting its inward movement.

The invention having been set forth what is claimed as new and useful is:—

1. A suspension insulator comprising an insulator body, a supporting cap for said body, a bolt disposed within a chamber of the body, a cone shaped enlarged head carried by the inner end of said bolt and disposed within the chamber of the body, a sleeve surrounding said bolt and having its inner end extending into the chamber of the body, the inner end of said sleeve being split thereby forming a plurality of yieldable arms, the inner sides of said yieldable arms being provided with recesses for the reception of the enlarged head of the bolt and holding said head in fixed position and a split bushing surrounding the sleeve between said sleeve and the inner pressure surface of said insulator body.

2. In a suspension insulator, the combination with an insulator body, a supporting

cap for said body, a bolt disposed in a chamber of the insulator body, the inner end of said bolt being provided with a conically shaped enlarged head, a sleeve surrounding the bolt, the inner end of said sleeve being split, thereby forming a plurality of resilient arms, inwardly extending lugs carried by the inner side of the resilient arms at their outer ends, said inwardly extending lugs forming means whereby when the conically shaped enlargement is forced into the split end of the sleeve it will be rigidly held and interlocked with the sleeve, a split bushing arranged around the sleeve and within the chamber, a conductor supporting member threaded on the outer end of the bolt, means for locking said conductor supporting member to the sleeve and means for limiting the inward movement of the sleeve.

In testimony whereof we affix our signatures.

FRITZ ROHDE.  
MAX SCHWINNING.