No. 775,812. PATENTED NOV. 22, 1904.

E. H. FAIRBANKS.

INSULATOR SUPPORT.

APPLICATION FILED SEPT. 8, 1904.

NO MODEL.

Fig. 2.

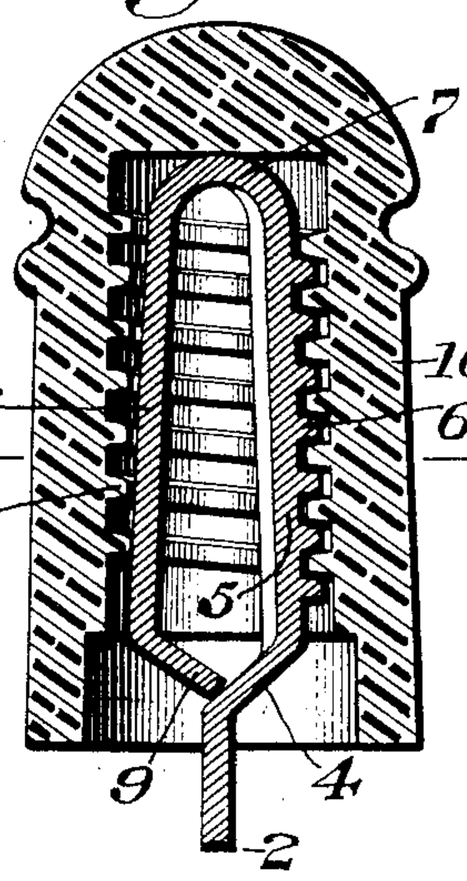


Fig. 4.

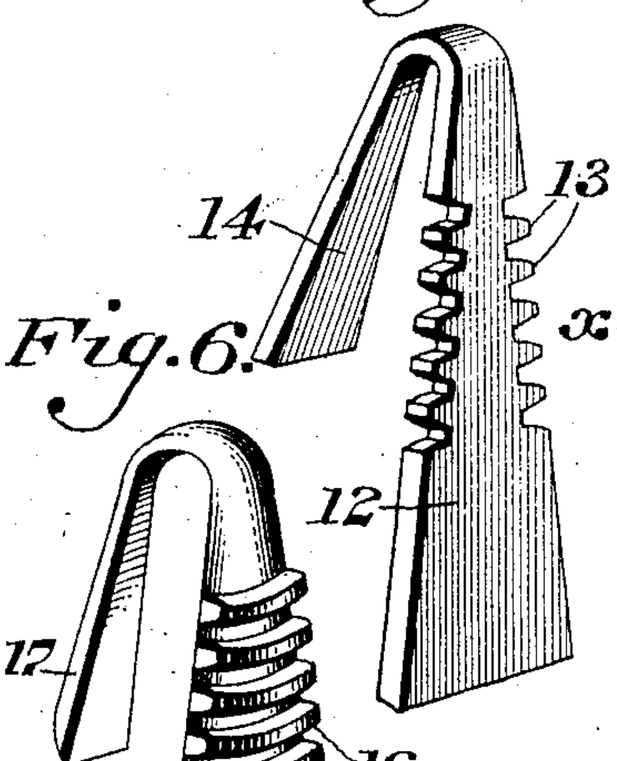


Fig. 6.

Fig. 1.

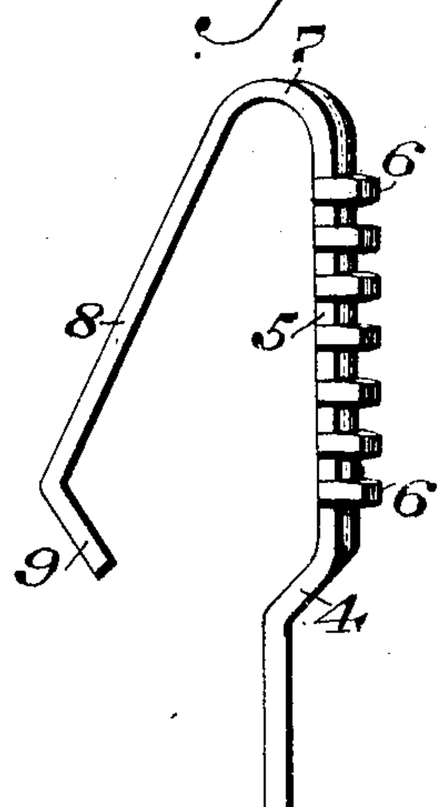


Fig. 5.

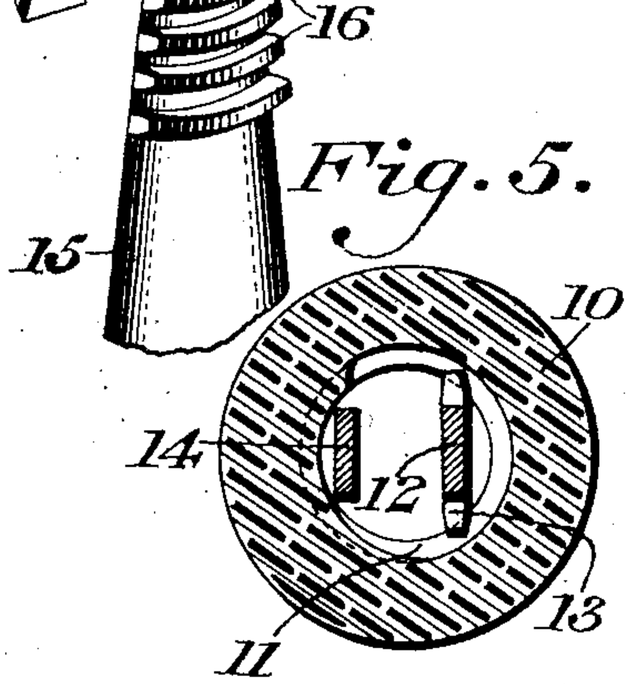


Fig. 3.

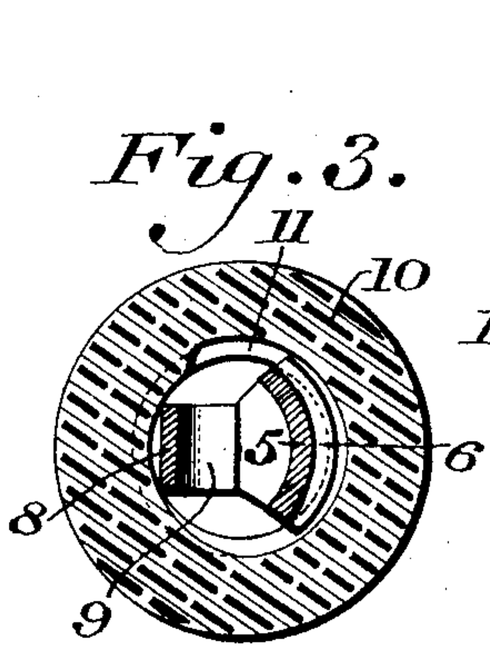


Fig. 7.

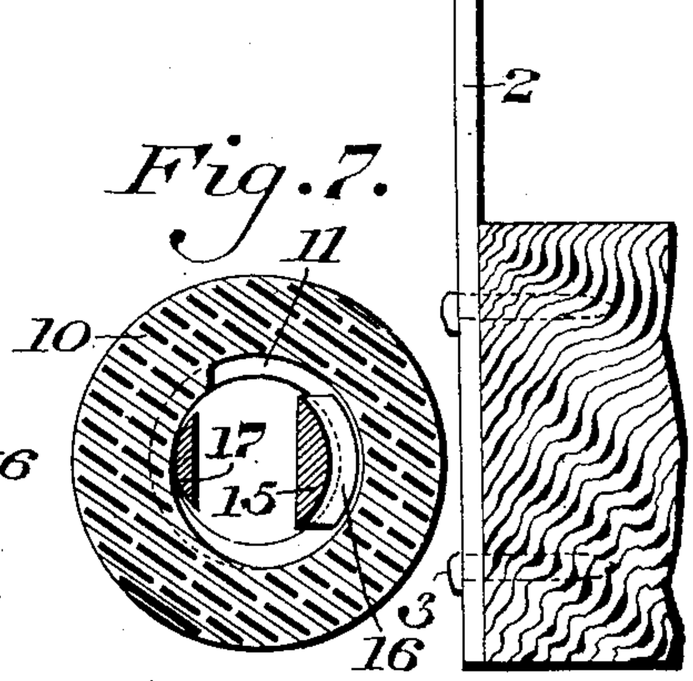
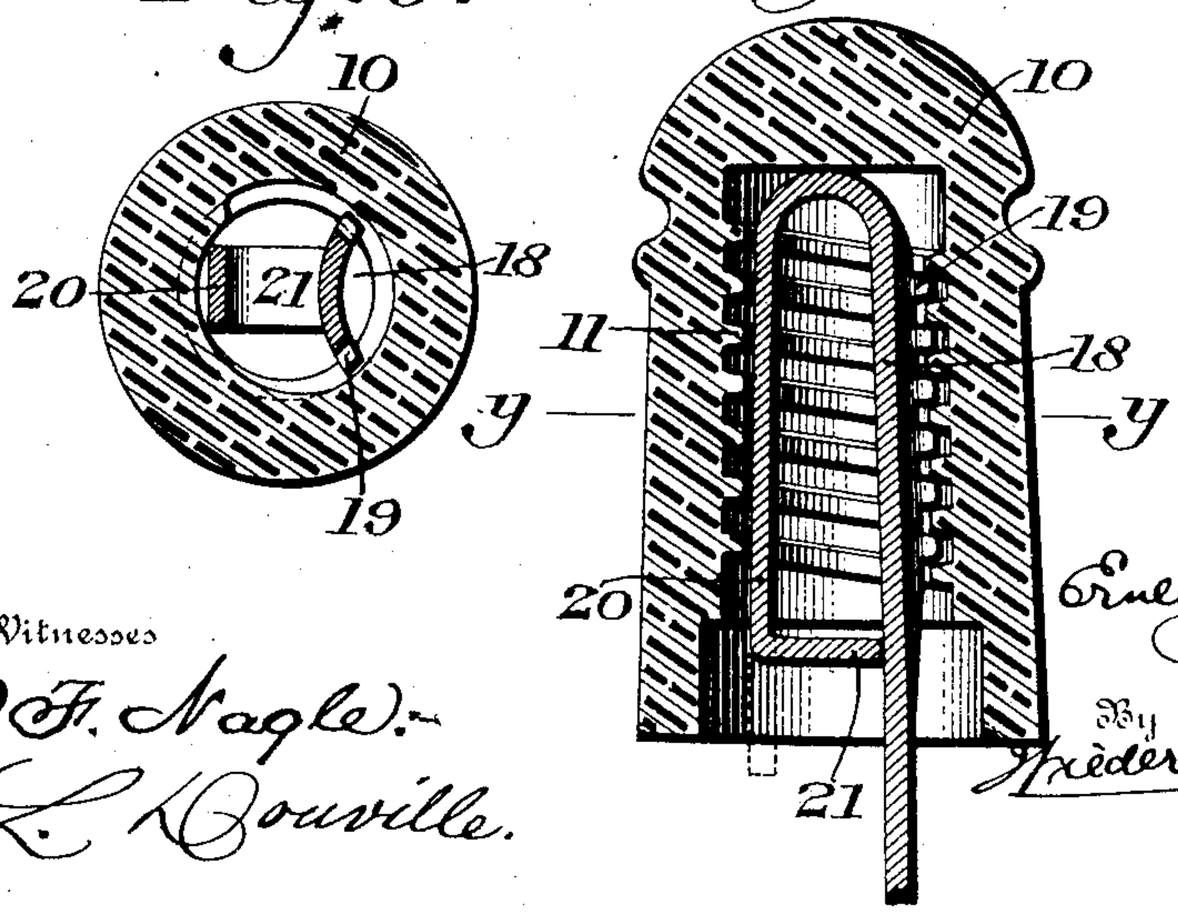


Fig. 8.

Fig. 9.



Witnesses

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No. 775,812. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

ERNEST HAYWARD FAIRBANKS, OF PHILADELPHIA, PENNSYLVANIA.

INSULATOR-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 775,812, dated November 22, 1904.

Application filed September 8, 1904. Serial No. 223,691. (No model.)

To all whom it may concern:

Be it known that I, ERNEST HAYWARD FAIRBANKS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Insulator-Support, of which the following is a specification.

My invention consists of a novel construction of an insulator-support, preferably constructed from a single piece of resilient metal or other material, having one member or body portion provided with screw-threads or their equivalents, while the other or free member is deflected laterally and downwardly, so as to form a support of substantially U or V shape, and conforming approximately to the inner contour or threaded bore of the ordinary glass insulator, whereby as the insulator is screwed into position upon its support the free member of the latter is forced toward the body or threaded portion, the resiliency of said free member causing the insulator to be tightly held in position under all conditions.

To the above ends my invention consists, broadly, of a novel construction of a resilient insulator-support wherein strength and lightness are combined, provision is made for locking the insulator in position on its support, the distribution of light within the insulator is increased, and the deposition of moisture therein is avoided, as are also the objectionable effects of the action of spiders or other insects by this admission of light to substantially all parts of the insulator.

My invention further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a side elevation of an insulator-support embodying my invention, the insulator being removed therefrom. Fig. 2 represents a sectional view of my support with the insulator thereon. Fig. 3 represents a section on line *x x*, Fig. 2. Fig. 4 represents another embodiment of my invention. Fig. 5 is a cross-section of the form shown in Fig. 4 with an insulator thereon. Fig. 6 represents another modified construction. Fig. 7 represents a cross-section of the form shown in Fig. 6 with the insulator in place. Fig. 8 represents another embodiment of my invention, showing the insulator locked in position on its support. Fig. 9 represents a cross-section on line *y y*, Fig. 8.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates my novel insulator-support, the same consisting of an upright portion or arm 2, adapted to be secured to a cross-arm or other support by suitable fastening devices 3.

4 designates a continuation or offset of the arm 2, which is prolonged to form the fixed portion or body 5, which is provided with suitable screw-threads 6 or their equivalents, said body being deflected laterally at 7 and then downwardly to form the overturned or free resilient member 8, having the deflected terminal 9, which is adapted to form a stop or abutment where the insulator is screwed into position.

10 designates an insulator of usual construction having the internal threads 11. In Fig. 1 the support is shown in its normal position and in Fig. 2 with the insulator assembled or screwed into position, it being apparent that as the insulator is screwed downwardly the resiliency or tendency of the free arm or member 8 to spring outwardly will cause a tight and efficient interlocking of the juxtaposed threaded portions of the insulator and its support, as is evident. The contact of the abutment 9 with the offset portion 4 prevents improper movement of the parts or undue bending of the free member 8 toward the body or or threaded portion, thus avoiding wrenching or other accidental disengagement of the insulator from the support. It will be apparent that the element 9 may be omitted, if desired.

In Figs. 4 and 5 I have shown my support as formed of sheet metal, having the body 12, provided with the serrations 13 in the edges thereof, arranged substantially like the helix of a thread for engagement with the threads 11 of the insulator, it being apparent that the free or resilient member 14 performs the same function as the member 8, already described, it being noted that the members 12 and 14 are wedge-shaped.

In the construction seen in Figs. 6 and 7 I construct the body portion 15 of half-round

iron, preferably wedge-shaped and forged or otherwise formed, with threads 16 upon its outer cylindrical surface, the free member 17 being also preferably half-round and wedge-shaped.

In Figs. 8 and 9 I show the support as having the concave body portion 18 provided with the threads 19, while the resilient member 20 and the abutment 21 perform the same function as the parts 8 and 9, already described. I have deemed it unnecessary to show the support seen in Fig. 8 with the insulator disconnected therefrom, since it will be understood that the parts appear substantially as seen in Fig. 1 when the insulator 10 is removed.

It will be clear from the foregoing that in all the various embodiments of my invention I have provided a metal support which will accommodate itself to the changes in the variation in temperature entirely throughout the length of the insulator, it having been heretofore difficult to so construct metal insulator-supports as to compensate for the different coefficients of expansion possessed by the insulator and the metal.

It will further be apparent that by reason of my novel construction there is permitted a slight amount of vertical and lateral resilience to permit the connecting means to fit the screw-threaded opening of the insulator, it being well known that said opening usually varies somewhat in size or diameter owing to the different shrinkages in the glass and to imperfections in forming or molding it.

By my construction of a support comprising two resilient members having the contour of an inverted **U** or **V** shaped body, each of said members being adapted to contact with the inner bore of the insulator, I have produced a substantially indestructible metallic support and interlocking device for the insulator which also possesses a certain amount of both lateral and vertical resilience, which permits the insulator to slightly change its form under the effect of varying temperature without subjecting the glass of the insulator to any dangerous internal pressure. The insulator can be almost instantly placed in position, and when once in position the unlocking or disengagement of the threads common to the insulator and the support is effectively prevented by reason of the resiliency of the free or unthreaded member which contacts with the inner bore of the insulator.

It will be apparent that in all the forms to which I have referred the salient features of my invention are a body or fixed portion having threads or their equivalents thereon, said body being continued to form the overturned or deflected resilient member, whose function is to cause the positive interlocking of the contiguous portions of the insulator and its support.

So far as I am aware I am the first in the art to produce a concrete unitary structure possessing the distinguishing characteristics above referred to, and my claims to this feature are therefore to be interpreted with corresponding scope.

It will be apparent that various changes in the construction and contour of my novel support may be made by those skilled in the art without departing from the spirit of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

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

1. An insulator-support, comprising a fixed member, and a substantially straight overturned resilient member, the latter contacting with the inner wall of the insulator.

2. An insulator-support, comprising a fixed member and a substantially straight overturned resilient member, the latter being elongated and adapted to contact with the inner wall of the insulator, one of said members having devices thereon, adapted to interlock with said insulator.

3. An insulator-support comprising a fixed member and a substantially straight overturned resilient member, the latter being elongated and adapted to contact with the inner wall of the insulator and the other of said members having screw-threads thereon.

4. An insulator-support comprising a fixed member and a substantially parallel overturned resilient member integral therewith.

5. An insulator-support, comprising a fixed member and a substantially parallel overturned resilient member integral therewith, one of said members being screw-threaded.

6. An insulator-support, comprising a fixed member and a substantially parallel overturned resilient member integral therewith and having an abutment on the end thereof.

7. An insulator-support, comprising a fixed member and an overturned resilient member having an abutment on the end thereof, said resilient member being prolonged and adapted to contact for the greater portion of its length with the inner wall of the insulator, one of said members being provided with interlocking devices thereon.

8. The combination of an insulator-support having a fixed member and an overturned resilient member, with an insulator, the internal wall of the latter being engaged by each of said members.

9. The combination of an insulator-support, having a fixed member and an overturned resilient member, with an insulator, both of said members being adapted to contact with the internal wall of said insulator and interlocking devices common to said insulator and one of said members.

10. An insulator-support comprising two resilient members forming an inverted-**U**-shaped body, each of said members being

adapted to contact with the inner wall of an insulator.

11. An insulator-support comprising a resilient strip of metal turned over at one end and forming substantially straight insulator-engaging means.

12. The combination with an insulator of an insulator-support, the latter comprising an inverted-**U**-shaped body having two resilient members, one of said members being threaded and both of said members being adapted to contact with the inner wall of the insulator.

13. The combination with an insulator of an insulator-support comprising two resilient members forming an inverted-**U**-shaped body, one of said members being threaded for engagement with the inner wall of the insulator and the other of said members being unthreaded and adapted to also contact with the inner wall of said insulator.

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