No. 868,368. PATENTED OCT. 15, 1907.

L. STEINBERGER.

WIRE SUPPORT.

APPLICATION FILED OCT. 8, 1906.

Fig. 1.

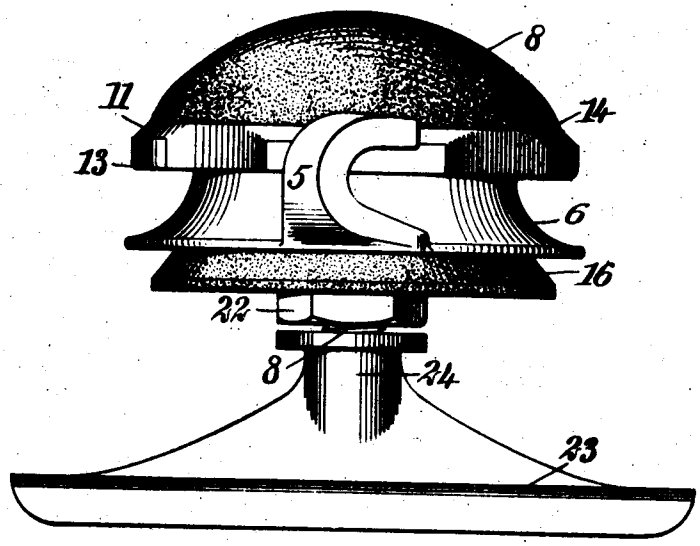


Fig. 2.

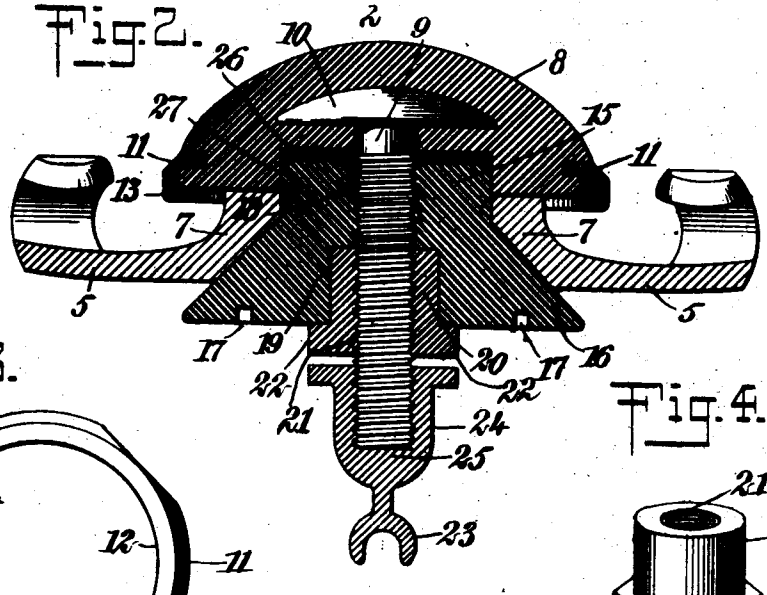


Fig. 3.

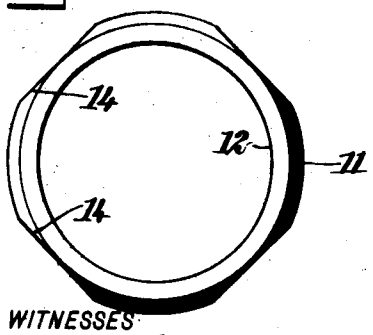
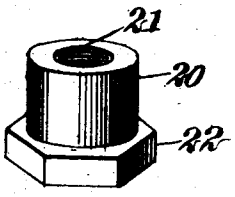


Fig. 4.



WITNESSES

William P. Goebel.

Walton Harrison

INVENTOR

Louis Steinberger

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

LOUIS STEINBERGER, OF NEW YORK, N. Y.

WIRE-SUPPORT.

No. 868,368. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed October 5, 1906. Serial No. 337,645.

To all whom it may concern:

Be it known that I, LOUIS STEINBERGER, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Wire-Support, of which the following is a full, clear, and exact description.

My invention relates to wire supports, my more particular object being to provide a construction in which the positioning of the clip or ear for holding the wire is rendered independent of the tightening of the clip; that is to say, the ear or clip is first disposed properly in the position in which it is to occupy, and is then secured without being rotated.

My invention further relates to the strengthening of certain parts of the wire support in order to enable them to be handled by means of wrenches, without mutilating the insulation and to lock the several parts together more effectively.

My invention also relates to certain improved details of construction whereby the parts, when once placed in position, are securely locked so as not to be easily disturbed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, showing my improved wire support complete, the several parts being in their respective normal positions; Fig. 2 is a central vertical section, and showing how the several parts are connected together and locked; Fig. 3 is a reduced plan of the metallic member used to protect the cap from injury, and also for enabling the cap to be turned by aid of a wrench; and Fig. 4 is a perspective view of my improved locking member for holding the block 15 in a predetermined position relatively to the screw stem 9 and the cap 8.

At 5 is shown a yoke of iron which may be substantially of the pattern usually employed. This yoke is provided with an annular portion 6 having conoidal internal surface 7.

The cap is shown at 8 and is of insulating material, preferably "electrose." A threaded stem 9 is provided with a head 10, the latter being embedded within the material of the cap 8. Encircling the cap 8 is a collar 11 of metal, preferably iron, this collar being provided with an inwardly projecting annular flange 12 and having a depending annular portion 13 projecting slightly below the under surface of the cap 8. The collar 11 is provided with facets 14 to be engaged by a wrench in order to enable the cap to be held against rotation.

At 15 is shown a block of insulating material provided with a conoidal portion 16, the latter neatly fitting against the annular conoidal surface 7 of the yoke. The block 15 is further provided with holes 17 to be engaged by a spanner wrench. The block 15 is also provided internally with a thread 18 mating the stem 9, which for the purpose is provided with a thread. The block 15 is centrally provided at its bottom with an annular cylindrical aperture 19 into which fits an annular sleeve 20 provided internally with a thread 21, and further provided with facets 22. This sleeve 20 fits neatly into the aperture 19 and is adapted to lock against the under face of the block 15. The clip is shown at 23 and is provided with a thimble 24 having a threaded socket 25 therein. When the thimble 24 is run upwardly upon the threaded stem 9 the bottom of the socket 25 jams tightly against the lower end of the threaded stem so that the clip 23 is unable to turn any further without turning the cap 8.

At 26 is shown a washer of soft rubber interposed intermediate of the cap 8 and the block 15 in an aperture 27 provided for the purpose. The upper end of the block 15 fits neatly into this aperture.

The parts are assembled as follows:—The yoke 5 is suspended in the manner well understood in this art. The threaded stem 9 is next let down so as to be encircled by the annular portion 6 of the yoke. The washer 26 and the block 15 are next started upon the lower end of the threaded stem and are run upwardly, which may be done by turning the cap 8 from above or the block 15 from below. The revolution is stopped, however, at a point which leaves the cap 8, and the block 15 loose relatively to the yoke. The sleeve 20 is next applied upon the lower end of the threaded stem and is run upwardly until it is almost, but not quite in engagement with the block 15. The thimble 24 is next started upon the lower end of the stem 9 and is run upwardly until the bottom 25 lodges firmly and rigidly against the lower end of the stem 9. When this occurs there is no longer any relative movement as between the clip 23 and the cap 8, though both of these parts considered as a unit may be turned relatively to the yoke 7 and also relatively to the block 15. The clip 23 is now turned by hand until it is in proper registry with the wire to be supported, or is otherwise disposed in the position which it is intended to occupy. A wrench is now applied to the collar 11 for the purpose of preventing rotation of the cap 9, and consequently of the clip 23. The block 15 is now turned by means of a wrench engaging the apertures 17 until the conoidal surface 16 of the block lodges firmly against the conoidal surface 7 of the yoke. When this occurs, the washer 26 is slightly compressed and the cap 8 is firmly locked relatively to the yoke. By means of a wrench engaging the facets 22 the sleeve 20 is now tightened against the block 15 and serves as a lock-nut for preventing rotation as between the block 15 and the cap 8. This completes the assemblage of the parts. The washer of soft rubber when in proper position greatly improves the insula-

tion of the device, and effectively prevents any possibility of moisture reaching the metal stem 9, thereby insuring against leakage of the current. As will be noted from the preceding description, the block 15, of insulating material, being threaded internally, and fitted upon the threaded metallic stem 9 is a self-locking member; that is to say, it is secured directly upon the threaded stem so as to hold, when tightened properly, without the aid of the sleeve 20. In case this sleeve were missing, therefore, the parts would tend to hold together in proper relation.

It will be understood that in this art it has heretofore been customary to support clips by means of caps and cones. The clips, however, have generally been threaded upon the lower end of the screw stem extending downwardly from the cap and have been tightened in position by having some part of the clip engage directly the lower surface of the cone. Hence, it has been necessary to rotate the clip in order to loosen or tighten it relatively to the cap. Moreover, it has heretofore been difficult to bring the clip into proper alinement, for the reason that the upper surface of the clip did not engage the lower surface of the cone so accurately as to prevent the clip when rotated from stopping in the wrong position. No matter how accurately the threads were cut it has been exceedingly difficult to make the clip when rotated stop exactly in the right position. The least little variation in size of the threaded parts would compel the clip to stop a little short of its proper position, or to move a little too far, as the case may be. Again, even if the clip were accurately positioned and tightened, the swaying of the trolley pole and the movement of the line wire, due to the action of the wind, have rendered it exceedingly easy for the clip to work loose, the tendency thus being for the cap to work upward, meanwhile turning in such direction that eventually the clip would become entirely loosened from the bolt, and the line, as well as the cap and cone would fall to the ground. All of these objectionable features are remedied by the device above described. When the sleeve 24 is secured firmly upon the stem 9, and the cap 8 and the clip 23 are adjusted as a unit and tightened relatively to the yoke, these parts are not easily loosened. It will be noted that it is not essential in every instance to employ the member 20 as the cap 8 with the bolt 9, the metal yoke 7 and the insulating block 15 may be locked together independently of the member 20. The member 20, in addition to serving as a lock-nut as above-described, greatly strengthens the lower central portion of the block 15 and prevents any liability of this block chipping. The member 11 greatly strengthens the cap and prevents any liability of its being chipped or broken away either by the application of a wrench or from blows of the trolley pole. The clip 23 may be removed when necessary and replaced by another one with the greatest of ease and without the necessity of disassembling the several parts of the support, and without the liability of chipping or breaking the edge of the insulating cap or of the block.

I do not limit myself to the exact form or details of any or all of the parts above described, nor to any particular combination of elements entering into the construction of my wire support. Neither do I limit myself to use in every instance a resilient member disposed between the cap and the block, nor to having the locking member 20 separable from the insulating block, nor to the use in every instance, of a separate locking member. Neither do I limit myself to the use of any prescribed materials from which to make the insulating cap and block, I prefer, however, to employ the insulating material known in the art as "electrose".

It will be evident to those skilled in the art that certain variations may be employed without departing from the scope or spirit of my invention.

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

1. A wire support, comprising a yoke, a cap supported thereby and provided with a central threaded stem, a threaded block mounted upon said stem and revoluble in relation thereto for the purpose of locking said cap relatively to said yoke, said block being provided with an aperture, a locking member encircling said threaded stem and provided with a portion projecting into said aperture, and means for securing a clip upon said threaded stem.

2. A wire support, comprising a yoke, a cap mounted thereupon and provided with a threaded stem, a collar of metal encircling said cap and embedded partially therein, said collar being provided with facets to be engaged by a wrench, a revoluble block threaded internally for engaging said stem, and means for supporting a clip upon said stem.

3. A wire support, comprising a yoke, a cap mounted thereupon and provided centrally with a stem and with an aperture concentric to said stem, a block of insulating material threaded upon said stem and provided with a portion fitting into said aperture, a washer mounted within said aperture and engaged by said block, and means for supporting a clip upon said stem.

4. A wire support comprising a yoke, a cap provided with facets to be engaged by a wrench, and further provided with a stem, and a revoluble threaded member connected with said stem, for holding said cap in a predetermined position relatively to said yoke.

5. A wire support comprising a yoke, a cap supported thereby and provided with a threaded stem, a threaded member encircling said threaded stem and adapted to be forced against said yoke for the purpose of securing said cap relatively thereto, and means for supporting a wire upon said threaded stem.

6. A wire support comprising a yoke, a cap mounted thereupon and provided with a stem, a cone encircling said stem and provided with means for holding it thereupon independently of a locking member, and a locking member engaging said cone and said stem, for preventing movement between said cone and said stem.

7. The combination of a cone threaded internally, a wrenching cap provided with a stem threaded externally to engage said cone, and a metallic collar mounted upon said cap and encircling the same for enabling it to be readily turned.

8. The combination of a clip, and a cap revoluble in relation to said clip for the purpose of engaging and disengaging the same, said cap being provided upon its outer peripheral edge with a metallic ring to be engaged by a wrench.

9. The combination of a cap provided with a threaded stem, a cone supported by said stem, and a clip provided with a threaded socket for receiving said stem, said cap having upon its outer peripheral edge a ring of metal.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS STEINBERGER.

Witnesses:
WALTON HARRISON,
EVERARD B. MARSHALL.