No. 859,703. PATENTED JULY 9, 1907.

L. STEINBERGER.

INSULATING STRAIN.

APPLICATION FILED MAY 1, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

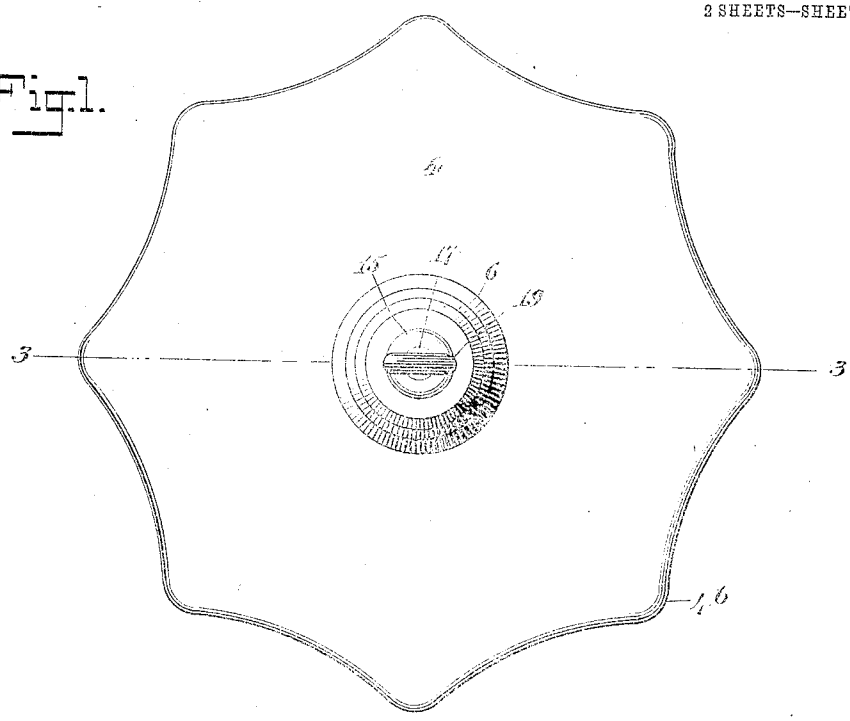
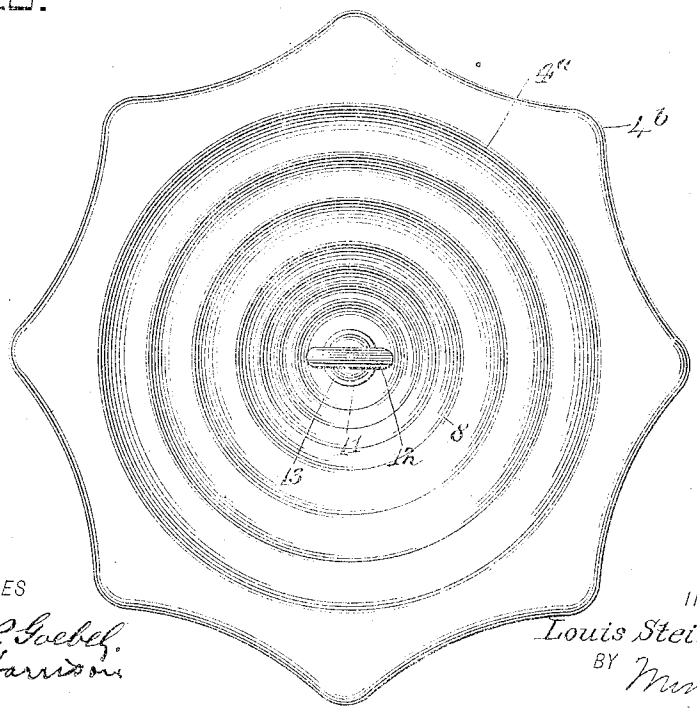


Fig. 2.



WITNESSES

William P. Goebel.

Walton Harrison.

INVENTOR

Louis Steinberger

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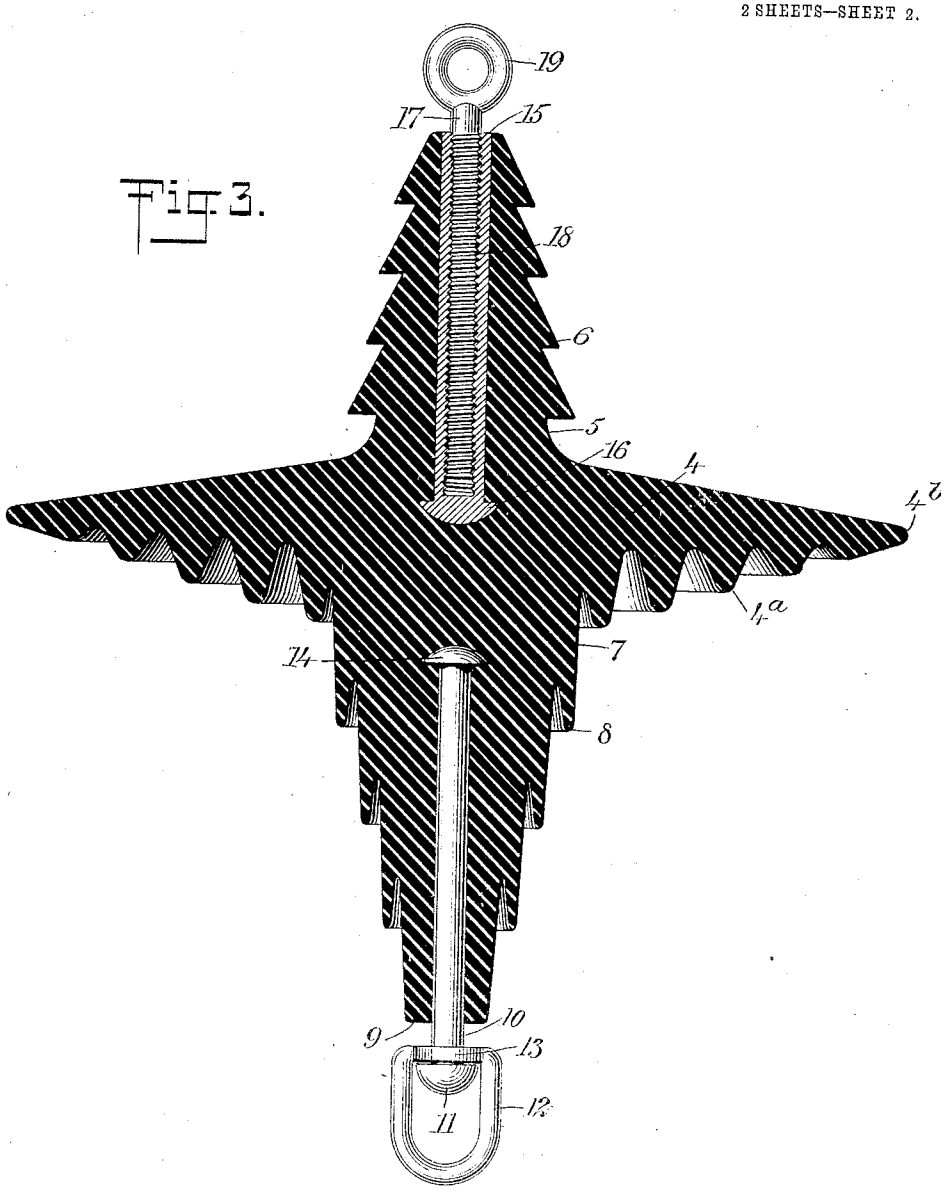
Fig. 3.



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UNITED STATES PATENT OFFICE.

LOUIS STEINBERGER, OF NEW YORK, N. Y.

INSULATING-STRAIN.

No. 859,703. Specification of Letters Patent. Patented July 9, 1907.

Application filed May 1, 1906. Serial No. 314,642.

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 Insulating-Strain, of which the following is a full, clear, and exact description.

My invention relates to insulating strains for the support and insulation of electric conductors and more especially for use in connection with currents of high voltage.

My more particular objects are to so improve the insulation as to lessen the tendency, under wet weather or other unfavorable conditions, of a high voltage current to arc over the surface of the insulator, and also to have the insulator act as a turn-buckle when so desired.

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 plan view of the strain complete; Fig. 2 is an inverted plan or bottom view of the strain, showing the disposition of the hoods relatively thereto; and Fig. 3 is a central section through the strain, parts, however, appearing in elevation.

A disk 4 of insulating material, is made smooth upon its upper surface and is provided upon its lower surface with a plurality of annular concentric hoods or petticoats 4^a, said disk being further provided at its outer edge with projections 4^b spaced apart and serving as drip edges. Integral with the disk 4 is an upper neck 5 provided with annular hoods 6 superposed one over the other. Also integral with the disk 4 is a lower neck 7 of substantially frusto-conical form and provided with annular petticoats 8. The lower end 9 of the frusto-conical portion 7 is preferably left thick as shown. A link 10 of metal, having the form of a longitudinal rod, is embedded within the portion 7 and is provided at its lower end with a head 11. Another link 12 which is of endless form, is provided with a swivel ring 13 integral therewith, this ring encircling the longitudinal link 10. The upper end of the link 10 terminates in a head 14 which affords an excellent anchorage within the lower neck 7 of insulating material. A metallic sleeve 15, threaded internally, is provided at its lower end with a head 16 and is embedded within the upper neck 5 so that the head 16 reaches to a point comparatively deep within the disk 4, thus affording a good anchorage. A screw 17 is provided with a thread 18 and terminates in an eye 19. This screw is fitted into the sleeve 15, and when turned by means of the eye 19 virtually lengthens or shortens the strain.

It will be observed that both the heads 14 and 16, although embedded deeply within comparatively thick portions of insulating material, are nevertheless sufficiently spaced apart to afford thorough insulation. This arrangement is brought about by the fact that the disk 4 is thicker at the points adjacent to its middle than at its edges.

The annular steps or hoods 6 prevent the accumulation of moisture upon the upper stem 5, for the reason that although the lower edges of these hoods may become moistened the moisture cannot present an unbroken surface and the danger of arcing is thus greatly diminished. My purpose in rendering the disk 4 smooth upon its upper side is to prevent the retention thereupon of moisture, soot, dust, ashes, etc. This object is further promoted by inclining the upper surface. I find that the projections 4^b facilitate the dripping of moisture from the upper surface of the disk, and also tend to prevent the drifting of moisture to the underside of the disk. The annular petticoats 4^a not only break up the under surface of the disk, and increase the creeping surface, but also subject the moisture to such environment that in order to creep inwardly toward the center from the edges of the disk the moisture must follow a path which leads upwardly, and this effectively prevents the creeping of the moisture. This conformity also increases the surface across which surface leakage might occur. The frusto-conical portion 7 being smaller at its bottom than at its top, has a tendency to shield its bottom from moisture, and the moisture accumulating upon any part of this body portion is caused to drip therefrom by the action of the petticoats 8. By turning the insulator the strain performs the function of a turnbuckle.

I do not limit myself to the use of any prescribed materials; I prefer, however, to employ the insulating material known in the art as "electrose". Nor do I limit myself to an insulator constructed exactly as shown, nor to the exact form of either of the separate portions, neither do I limit myself to any particular combination of these parts, nor to employ in every instance the turnbuckle feature, for the reason that variations may be made by those skilled in the art without departing from the spirit or scope of my invention.

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

1. An insulating strain, comprising a disk-like member having a neck integral therewith, said disk-like member and said neck being of insulating material, a metallic sleeve extending entirely through said neck and having a head embedded within said disk-like portion, a metallic member connected with said disk-like member at a point opposite said sleeve, and a supporting member provided with an eye and engaging said sleeve.

2. An insulating strain, comprising a body portion having adjacent to its middle a disk provided with a plurality of annular petticoats disposed concentrically in relation to

each other, said body portion being further provided with necks each having a step conformity, and strain members connected with said necks.

3. As an article of manufacture, an insulating strain comprising a portion having a wide middle, and terminating in angular surfaces for facilitating the dripping of moisture, said portion having also a plurality of necks, one of said necks being provided with petticoats, and a strain member embedded within said last-mentioned neck.

4. As an article of manufacture, an insulating strain comprising a disk-like member of insulating material having a thick middle portion tapering toward its peripheral edge, a metallic strain member embedded within said disk-like member and having a portion extending therefrom, and a second metallic strain member connected with said disk-like member at a point opposite said first mentioned strain member.

5. An insulating strain, comprising a disk of insulating material having a neck integral therewith, a metallic strain member partially embedded within said neck and extending therefrom, and another metallic member connected with said disk at a point opposite said first-mentioned strain member.

6. An insulating strain, comprising a disk of insulating material provided with a body portion and with neck portions integral therewith, the plane of said disk being at right angles to the general direction of extension of said neck portions, a metallic strain member embedded in each of said neck portions and extending therefrom, in the general direction of said neck portions.

7. An insulating strain, comprising a disk-like portion comparatively thick at its middle and thin at its edges, said disk-like portion being provided with necks integral therewith, a fastening member embedded within each of said necks and one of said fastening members extending entirely through one of said necks and being provided with a head disposed toward the center of said disk-like member, the other of said fastening members being disposed at a point opposite said last-mentioned fastening member.

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.