

L. STEINBERGER.  
DISK INSULATOR.  
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913,439.

Patented Feb. 23, 1909.

Fig. 1.

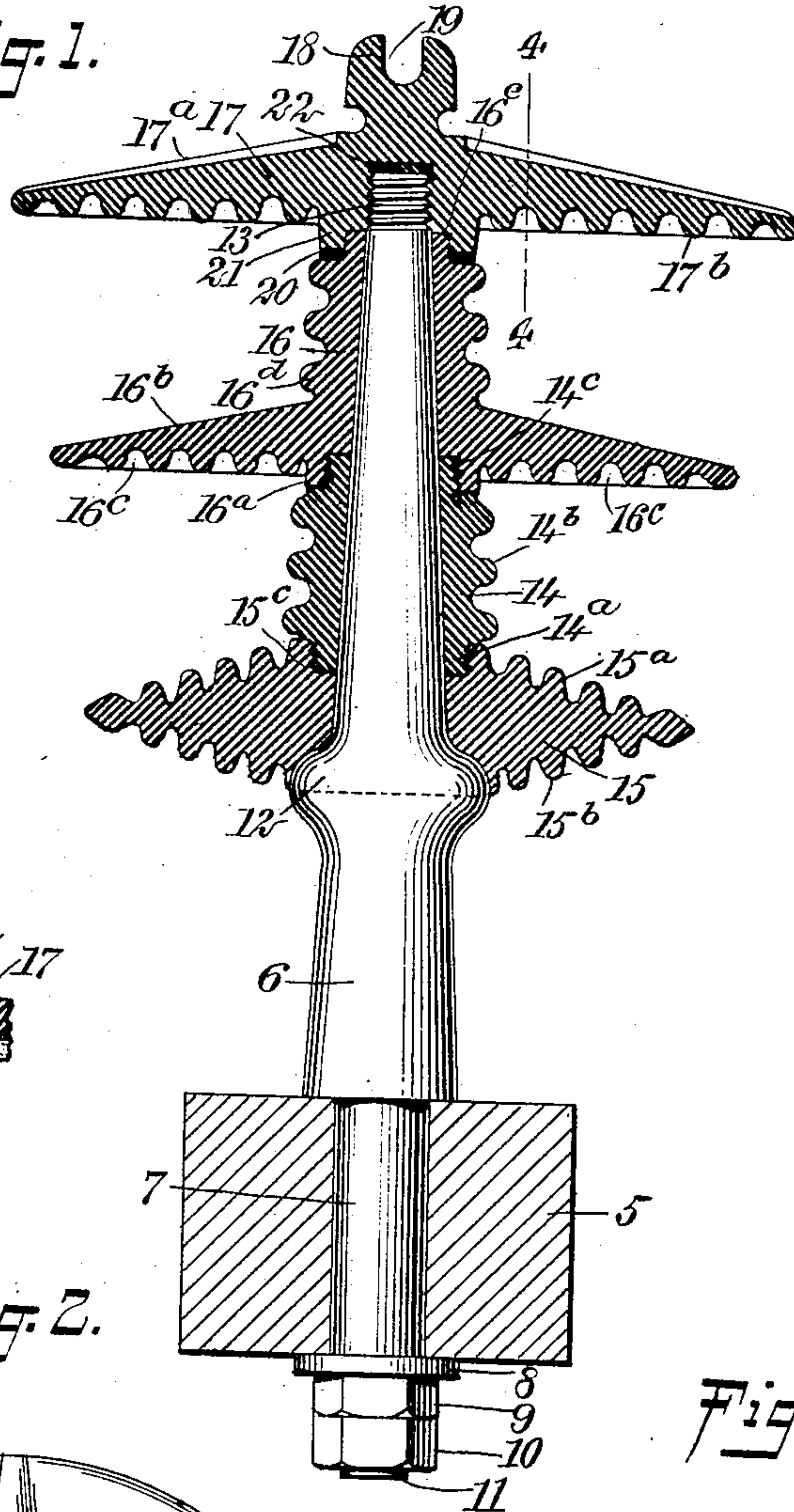


Fig. 4.

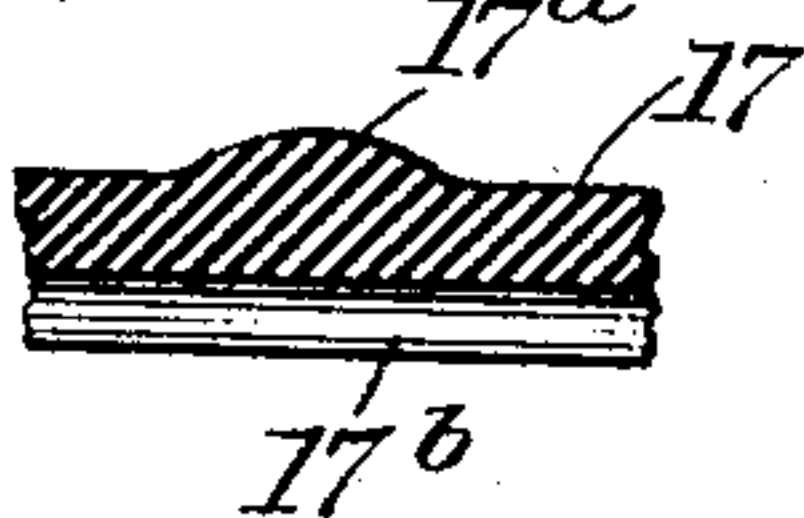


Fig. 2.

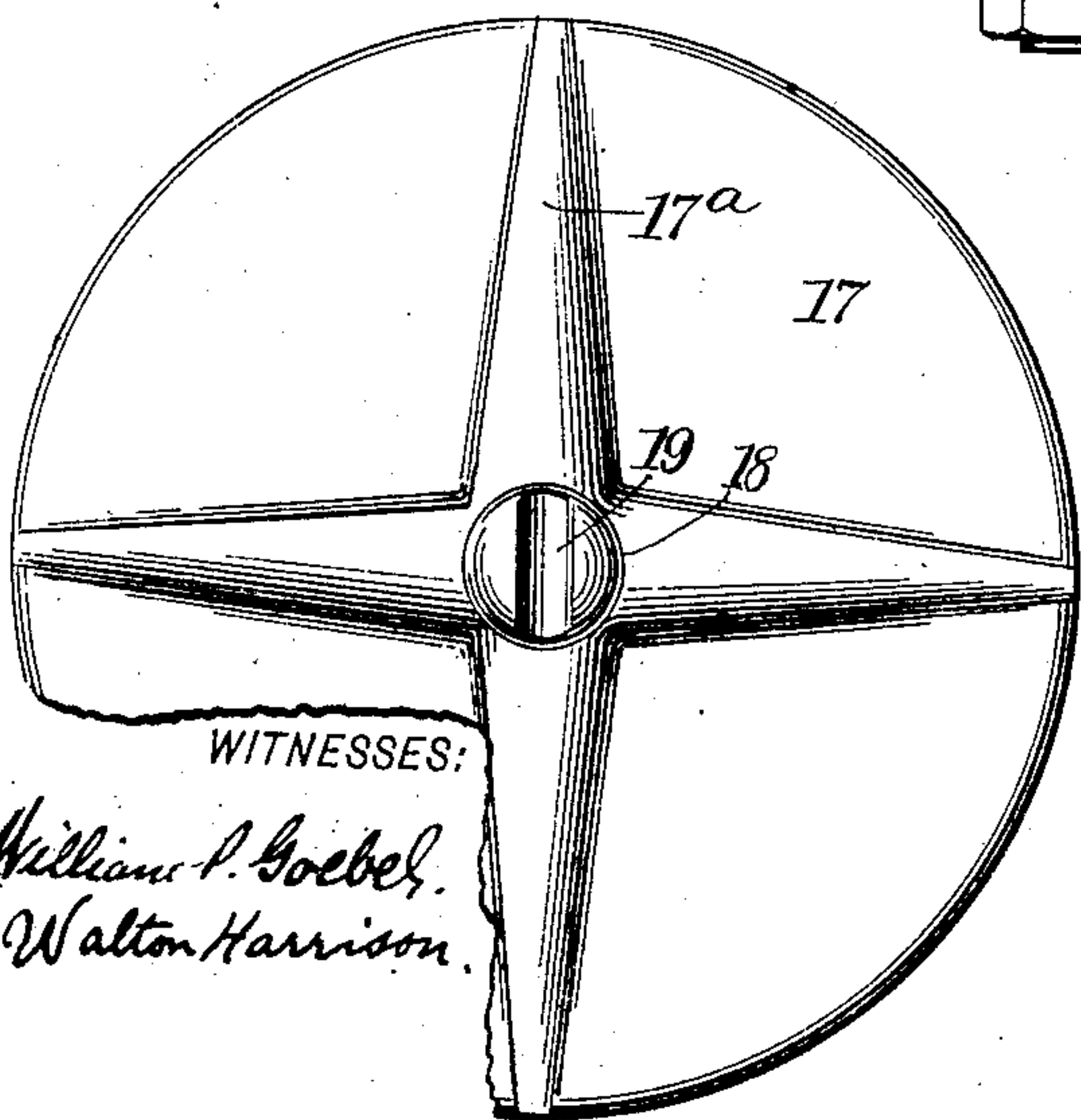
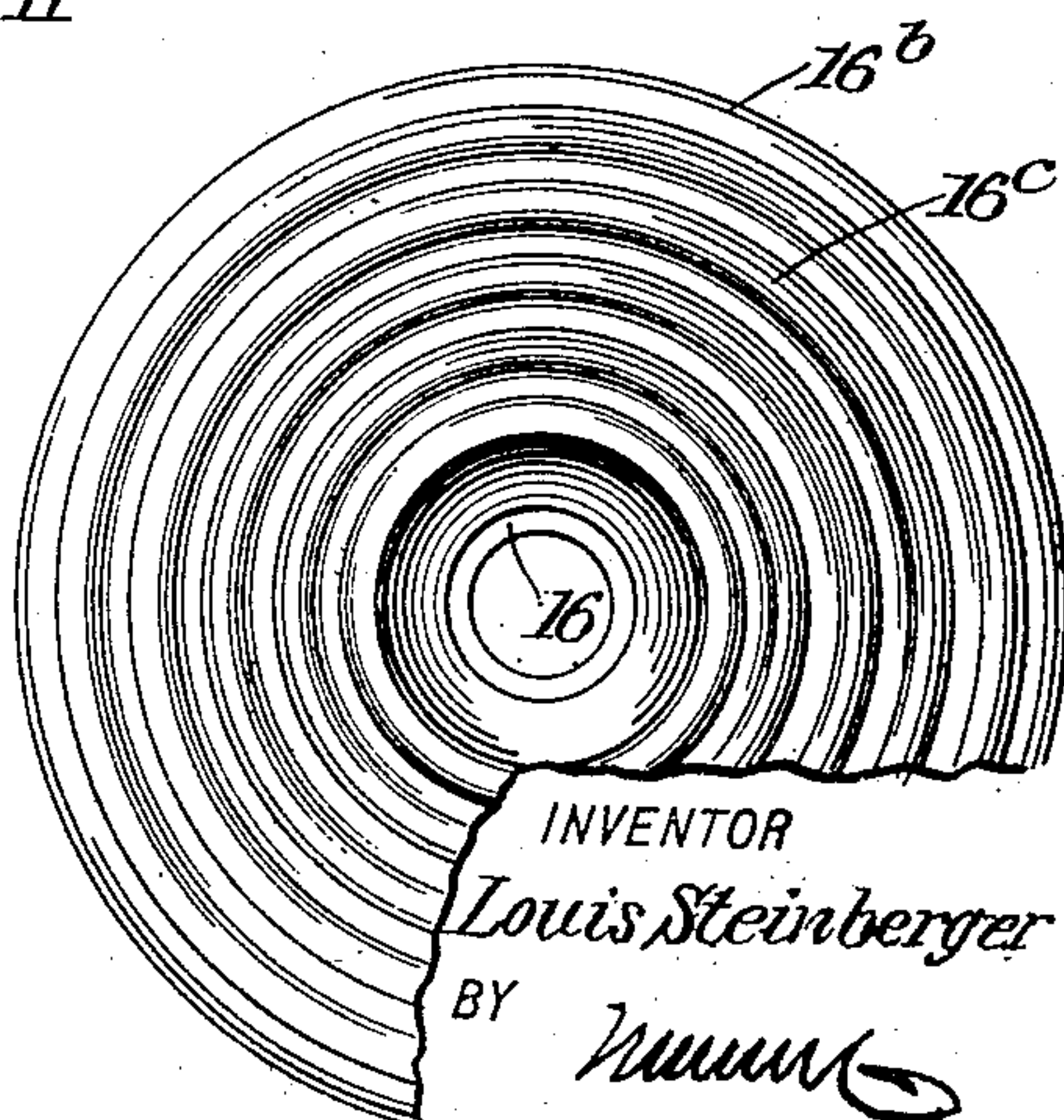


Fig. 3.



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# UNITED STATES PATENT OFFICE.

LOUIS STEINBERGER, OF NEW YORK, N. Y.

## DISK-INSULATOR.

No. 913,439.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed November 27, 1905. Serial No. 289,214.

*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 Disk-Insulator, of which the following is a full, clear, and exact description.

My invention relates to insulators and supports therefor, my more particular object being to produce a structure in which I seek to attain the following advantages, to wit: 1. To enable several disks of insulating material to be locked together upon a pin independently of the support for said pin; 2. To enable the disks to fit together watertight without undue strain upon the material of which the disks are composed; 3. To provide the disks with corrugations of various kinds for the purpose of providing increased surface for surface leakage; 4. To facilitate the draining of moisture in certain directions so as to render the moisture harmless; 5. To enable certain of the disks to be screwed directly together independently of the support; 6. To enable the disks to be readily removed, if desired; 7. To provide an insulator disk as an improved article of manufacture.

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 vertical section showing an insulator and pin therefor made in accordance with my invention; Fig. 2 is a plan view of the upper disk; Fig. 3 is an inverted plan or bottom view of middle disk 16<sup>b</sup> removed from the pin; and Fig. 4 is a fragmentary vertical section through the upper disk and is taken upon the line 4—4 of Fig. 1, looking in the direction of the arrow.

The cross arm is shown at 5, and the pin which has the general form of a cone frustum is shown at 6. This pin is provided with a stem 7 which projects through the cross arm 5 and serves to hold the pin firmly thereupon. A washer 8, a jam nut 9 and a nut lock 10 are mounted upon a threaded neck 11 integral with the stem 7. The pin 6 is provided with a bulbular enlargement 12, and also with a threaded upper end 13.

At 14 is a sleeve provided at its bottom

with a threaded neck 14<sup>a</sup> and at its top with a threaded neck 14<sup>c</sup>. This sleeve is also provided with corrugations 14<sup>b</sup>. A disk 15 has a conformity enabling it to fit upon the bulbular enlargement 12, and encircles the pin 6. The upper surface of the disk 15 is provided with annular corrugations 15<sup>a</sup> concentric with each other. The lower surface of the disk 15 is similarly provided with annular corrugations 15<sup>b</sup>. A threaded portion 15<sup>c</sup> of the disk 15 encircles the threaded neck 14<sup>a</sup>. The disk 16<sup>b</sup> is provided upon its under side with annular corrugations 16<sup>c</sup> disposed concentrically in relation to each other and is further provided with a neck 16 having corrugations 16<sup>a</sup> disposed one over the other, the neck terminating at its top in an annular bead 16<sup>e</sup>. The top disk is shown at 17 and is provided with radially projecting ribs 17<sup>a</sup>, these ribs having substantially the contour indicated in Figs. 2 and 4. Mounted upon the top disk 17 and integral therewith is a head 18 provided with a slot 19 for the purpose of supporting a conductor. A washer or gasket 20 of a resilient insulating material, preferably soft rubber, encircles the neck 16<sup>e</sup>, and resting upon this gasket is an annular flange 21 integral with the upper disk 17. The flange 21 and the neck 16<sup>e</sup> are smooth relatively to each other. Resting upon the threaded end 13 of the pin 6 is a soft rubber disk 22. The disks and sleeve are made of insulating material, preferably "electrose." The enlargement 12 of the pin prevents the lower disk from slipping downward and furnishes it with a firm base of support. The lower disk 15, the sleeve 14 and the neck 16 may be locked together independently of the pin 6 by merely screwing them together, or may be mounted one at a time on the pin and then locked together. The upper disk 17 is somewhat independent of the lower and the middle disks, and is mounted directly upon the threaded end 13. If desired, the pin and the disks may be assembled before the pin is mounted upon the cross arm.

By virtue of the annular concentric corrugations 15<sup>b</sup>, 16<sup>c</sup>, 17<sup>b</sup>, the path of the surface leakage is greatly lengthened, and comparatively dry spaces are shown between the outer edges of the disks and the body portions thereof. The corrugations 14<sup>b</sup> and 16<sup>a</sup> disposed one over the other also increase the



line of surface leakage, but in a direction independent of that of the other corrugations. The radial ribs 17<sup>a</sup> serve not only to strengthen the upper disk 17, but also to direct the flow of water or dripping of moisture. The gasket 20 and the disk 22 prevent excessive rigidity between the parts such as would tend to cause them to break when properly assembled. These gaskets also tend to prevent leakage of the current. I do not limit myself to the exact form nor to the number of disks herein shown, nor to the use in every instance of a separable member for connecting two disks; nor do I limit myself to the details of construction and arrangement shown and described as it will be apparent to those skilled in this art that changes may be made therein 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. A disk insulator, comprising a disk and a neck integral therewith, said disk and said neck both being provided with corrugations, and means for supporting said disk and said neck.

2. A disk insulator, comprising a disk of insulating material and provided with two faces, and further provided with annular corrugations upon both of said faces, said disk being further provided with means whereby it may be mounted.

3. A disk insulator, comprising a body portion provided with a neck integral therewith and extending therefrom, said body portion being further provided with annular corrugations of different diameters and said

neck being provided with corrugations disposed in different planes, and means for supporting said body portion.

4. A disk insulator, comprising a body portion provided with a neck extending therefrom and integral therewith, said body portion being provided with annular corrugations of different diameters and said neck being provided with corrugations disposed one above the other, said body portion being provided with a hole extending entirely through it and through said neck, and means for supporting said body portion.

5. A locking disk insulator, comprising a plurality of body portions, each provided with a part having the form of a large disk, the several body portions being provided with means whereby they may be detachably locked together independently of any means for supporting them.

6. A locking disk insulator, comprising a plurality of disks of insulating material, and means for locking said disks together under spring tension.

7. An insulator comprising a supporting member, and a disk of insulating material encircling said supporting member and supported thereby, said disk being thicker at its middle than at its edges and being provided upon both of its faces with irregularities for the purpose of increasing its surface.

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

LOUIS STEINBERGER.

Witnesses:

EVERARD B. MARSHALL,  
WALTON HARRISON.