L. STEINBERGER AND G. HILL.

INSULATED SUPPORT FOR ELECTRICAL CONDUCTORS.

APPLICATION FILED MAY 18, 1918.

1,342,307. Patented June 1, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

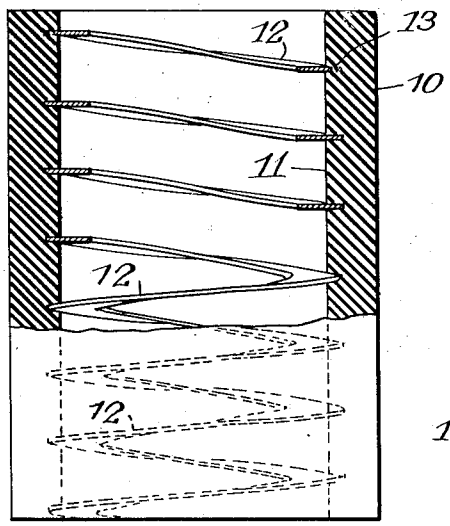


Fig. 3.

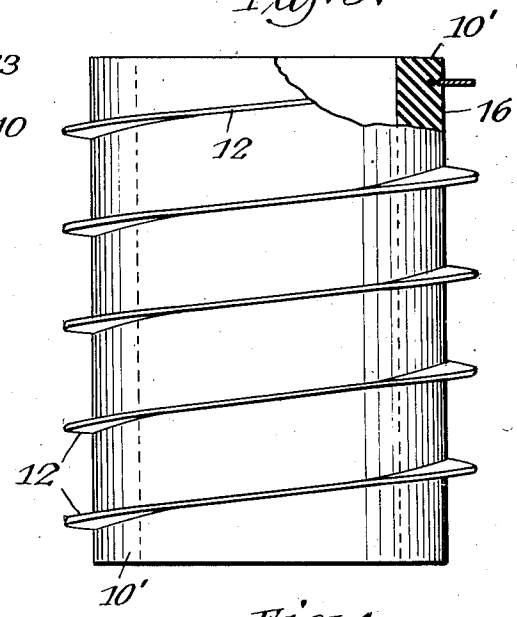


Fig. 2.

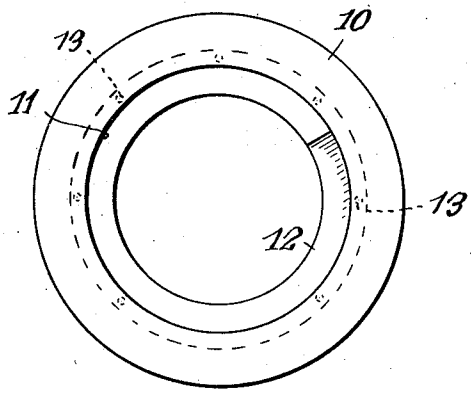
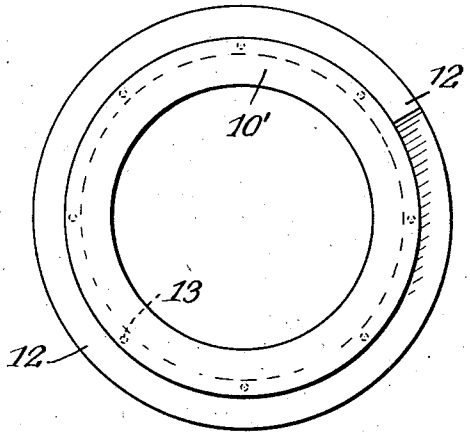


Fig. 4.



Louis Steinberger & Guy Hill INVENTORS

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2 SHEETS—SHEET 2.

Fig. 5.

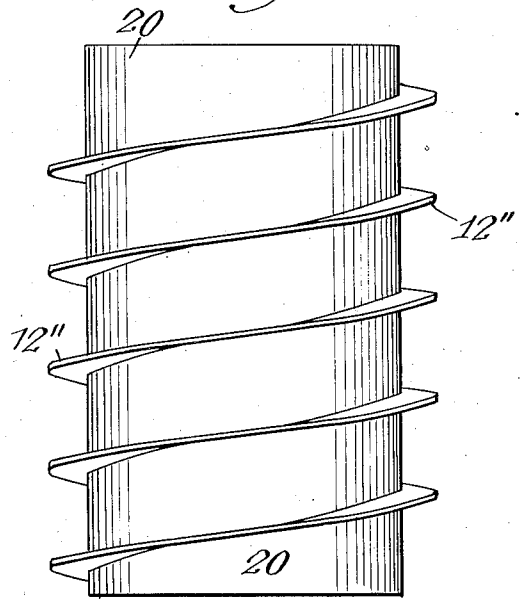


Fig. 6.

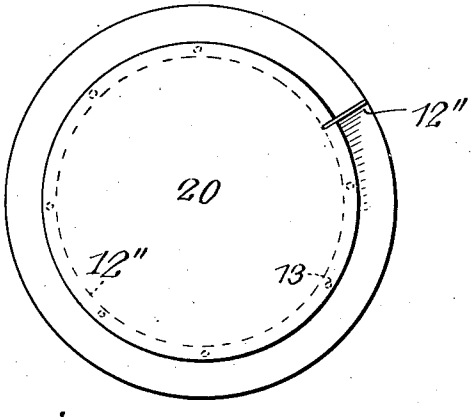
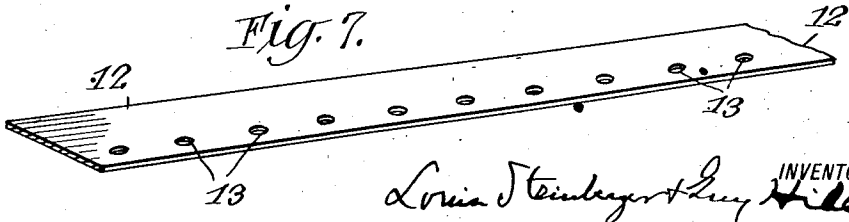


Fig. 7.



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UNITED STATES PATENT OFFICE.

LOUIS STEINBERGER AND GUY HILL, OF BROOKLYN, NEW YORK.

INSULATED SUPPORT FOR ELECTRICAL CONDUCTORS.

1,342,307. Specification of Letters Patent. Patented June 1, 1920.

Application filed May 18, 1918. Serial No. 235,333.

To all whom it may concern:

Be it known that we, LOUIS STEINBERGER and GUY HILL, citizens of the United States, and residents, respectively, of the borough of Brooklyn, county of Kings, State of New York, have jointly invented certain new and useful Improvements in Insulated Supports for Electrical Conductors, of which the following is a specification.

Our invention relates to an insulated support for electrical conductors for high frequency and high tension currents. It is especially adapted for use in radio apparatus wherein the contact or slider is mounted to have a mechanical and consequently an electrical connection with the coil.

One of the objects of our invention is to provide a cylindrical body of insulating material having a helical coil, one edge of the metallic strip forming the coil is molded to a side of the cylinder and the other edge of which is exposed.

Another object of the invention is to provide a tube or hollow cylinder of insulating material with a strip of metal having the shape of a helical coil, one edge of the coil being embedded in the insulating material, either on the inside of the tube or cylinder, or on the outside thereof, the other portion of the coil being exposed so as to form a suitable contact with the slider, as is well known in this art.

Other objects will appear from the subjoined specification and claims.

Referring to the drawings:

Figure 1 is a side elevation partly broken away and partly in section of one form of our invention.

Fig. 2 is a plan view of the structure shown in Fig. 1.

Fig. 3 is a side elevation partly broken away and partly in section of another form of our invention.

Fig. 4 is a plan view of the structure shown in Fig. 3.

Fig. 5 is a side elevation of another form of our invention.

Fig. 6 is a plan view of the structure shown in Fig. 5.

Fig. 7 illustrates a portion of the metal strip from which the coil is formed.

The insulating material used from which the body is formed may be any suitable material for that purpose, but we prefer to use the insulating material which is known in the art as "electrose".

Referring to the drawings, 10 is a body of insulating material, cylindrical in shape which is hollow throughout the central longitudinal portion as at 11. The metallic strip 12 to form the conductor is coiled in the form of a helix, and one edge is provided with a series of holes 13 so as to form anchoring means for the insulating material, when the coil is molded to the inner surface of the tube forming the body of the insulator. The other edge of the strip is then exposed and extends radially toward the axis of the body of insulating material, as illustrated in Figs. 1 and 2.

In Figs. 3 and 4 we show a hollow cylindrical body of insulating material as at 10′, to the outer surface 16 of which is molded at one edge a metal strip 12 which is coiled to form a helix. The outer edge of the strip is exposed and projects radially from the outer surface thereof. The inner edge of the coil is provided with holes through which the insulating material passes to anchor the coil thereto.

In Figs. 5 and 6 we have shown a solid rod 20 of insulating material forming a solid cylindrical body. The coiled strip of metal 12″ is also in helical form and the inner edge thereof is embedded in the surface of the rod of insulating material, a portion of the strip being exposed as shown.

In each of the structures shown the cross sectional area of the exposed portion of the coil is greater than the cross sectional area of the embedded portion thereof.

As will be seen, the structure described may be so mounted that in use the contact or slider can revolve and travel up and down along the helix, the body of the insulator remaining stationary, or else the contact or slider can remain fixed and the cylindrical rod may rotate, so that the copper strip will remain always in contact with the slider. In this latter case the cylinder or rod as it rotates will move in the direction of its axis.

As changes of construction could be made within the scope of our invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having now described our invention what we claim as new and desire to secure by Letters Patent is:

1. In a device of the kind described, a body of insulating material having a helical

coil molded thereto, the remaining portion of the coil being exposed to form an electrical contact.

2. In a device of the kind described, a cylindrical body of insulating material having a helical metallic coil molded thereto, the remaining portion of the coil being exposed to form an electrical contact.

3. In a device of the kind described, a hollow cylinder of insulating material having a metal coil in helical form, molded at one edge to a surface thereof, the other edge being exposed to form an electrical contact.

4. In a device of the kind described, a helical metallic coil molded at one edge to the outer surface of a hollow cylindrical body of insulating material, the remaining portion of the coil being exposed to form an electrical contact.

5. In a device of the kind described, a hollow cylinder of insulating material having a metal coil in helical form molded throughout its length to a surface thereof, a portion of the coil being exposed to form an electrical contact.

6. In a device of the kind described, a helical metallic coil molded throughout its length to the outer surface of a hollow cylindrical body of insulating material, a portion of the coil being exposed to form an electrical contact.

In witness whereof we have hereunto set our hands at the borough of Manhattan, city and State of New York, this eighth day of May, 1918.

LOUIS STEINBERGER.
GUY HILL.

In presence of—
JOHN J. RANAGAN,
ZITA M. GRAHAM.