

Feb. 24, 1925.

W. P. BRADY
FLEXIBLE INSULATOR
Filed May 29, 1922

1,527,346

Fig. 1

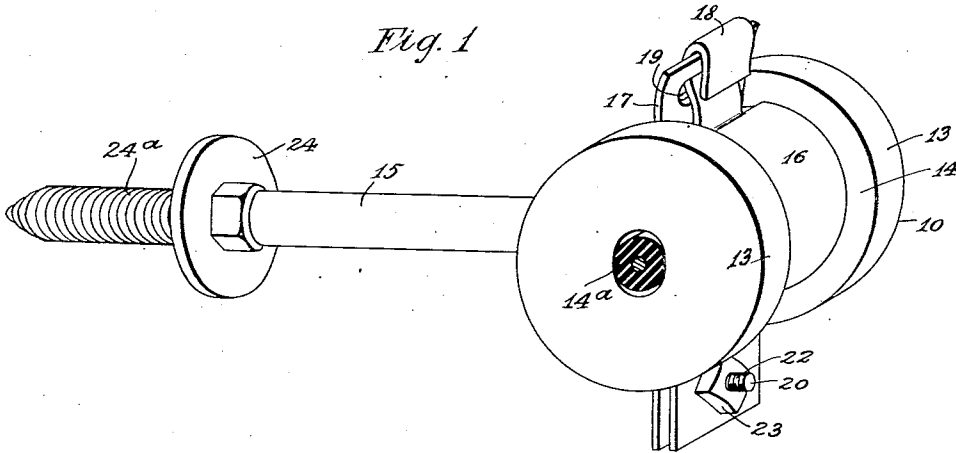


Fig. 2

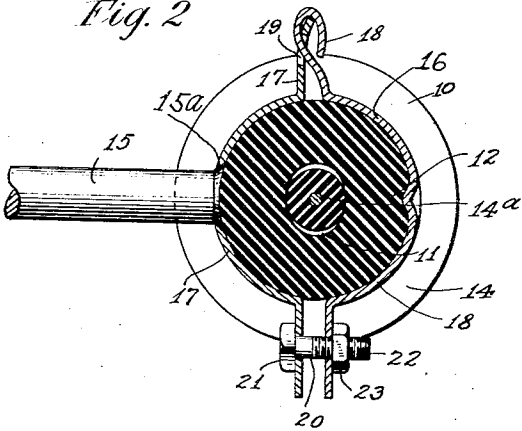


Fig. 3

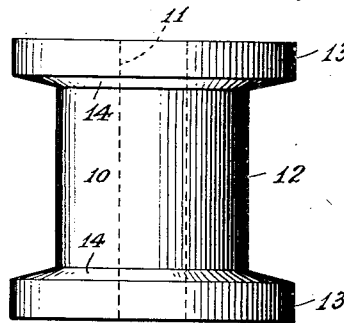


Fig. 5

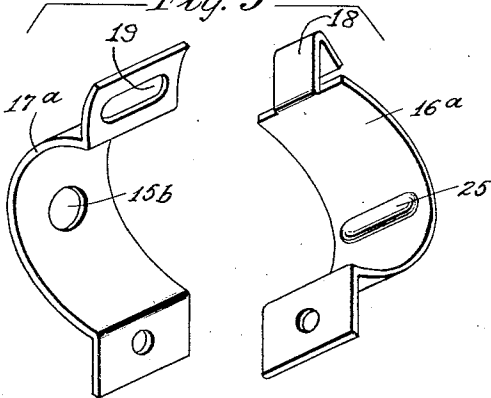
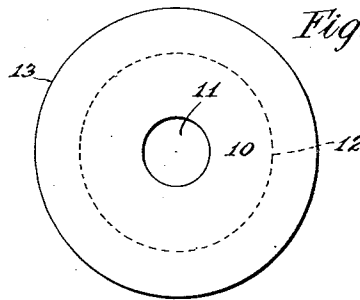


Fig. 4



INVENTOR.
William P. Brady
BY *H. L. Manning*
ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM P. BRADY, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO BRADY ELECTRIC & MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

FLEXIBLE INSULATOR.

Application filed May 29, 1922. Serial No. 564,518.

To all whom it may concern:

Be it known that I, WILLIAM P. BRADY, a citizen of the United States, and a resident of New Britain, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Flexible Insulators, of which the following is a specification.

This invention relates to electrical insulators, and more particularly to a one-piece insulator of flexible material for holding an insulated wire or cable spaced from a pole, wall, or other support.

One object of the invention is to provide a flexible insulator adapted to be distorted by compression within a clamping member for tightly gripping an insulated wire.

A further object is to provide a flexible insulator having a central opening of larger diameter than the insulated wire or cable to be held therein but adapted when clamped to be flattened into contact with the conductor.

A further object is to provide an insulator of the above nature which cannot injure or cut into the fabric surface of an insulated wire, under any ordinary conditions of use.

A further object is to provide an insulating holder for conductors having a homogeneous tubular casing without any slits, splits, or other discontinuous sections which would allow moisture to collect, and thereby cause leakage and short circuits.

A further object is to provide an insulator of the above nature which will be simple, cheap to manufacture, easy to manipulate, and very efficient and durable in use.

With these and other objects in view, there have been illustrated on the accompanying drawings two forms in which the invention may be conveniently embodied in practice.

Fig. 1 is a perspective view of the insulating holder and clamp with an insulated wire in position therein.

Fig. 2 is a sectional view of the same taken along the transverse plane through the center of the insulating holder.

Fig. 3 is a side view of the holder shown detached from the remainder of the device.

Fig. 4 is a top view of the same.

Fig. 5 is perspective view of a modified form of clamp having an interior lug, the

jaws of the clamp being shown in detached relation.

In previous forms of holders for insulated wires or cables, it has been customary to employ two-part tubular sleeves of porcelain, glass or other hard rigid material. These forms of holder have been found in practice to be subject to several serious disadvantages. In the first place, the sharp edges of such devices would cut into the fabric and injure it. In fact, in many cases, as for example, when the wire was subject to the swinging action of the wind, or the weight of a heavy ice coating, the sharp edge of the holder would even cut through the wire itself. Another disadvantage of such former types of holder is that they were brittle and would often crack and fall to pieces under the stresses set up by the alternate hot and cold temperatures due to changing weather conditions.

By means of the present invention, the above and other disadvantages have been avoided. This has been accomplished by making the insulating holder out of rubber or other flexible material which cannot cut into the fabric covering the insulated conductor, and by forming the holder in a single piece without slits or crevices which can collect moisture, and thereby cause current leakage. Such a holder will yield readily to stresses caused by the wind and ice, and will materially reduce the danger of injury by chafing or breaking.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 represents a tubular holder of flexible rubber or other similar material. This holder 10 is spool-shaped and is provided with a hollow center 11 normally cylindrical in section, (see Fig. 4) although it will be understood that the hollow center may be also made rectangular, triangular, or of any other shape within the scope of the invention. The middle outer surface 12 of the insulating holder 10 is formed cylindrical and is joined to cylindrical end flanges 13, 13 by means of tapered conical intermediate sections 14, 14.

The interior diameter of the central tube 11 is preferably made somewhat larger than the conductor 14* to be held therein, so as

to permit the holder to be readily slid along the conductor to the proper position. While the conductor shown is provided with only a single wire, it will be understood that duplex or other multiple wire conductors may be employed equally well, within the spirit of the invention.

The flexible insulating holder 10 is adapted to be held on a pole, wall or other support by means of a metal clamping member comprising a threaded rod 15 adapted to be screwed into the support, and a pair of semicircular cooperating jaws 16 and 17. As clearly shown in Fig. 1, the jaw 16 has a reduced tongue section 18 at one end adapted to engage within an eye or slot 19 in the end of the jaw 17.

The free ends of the jaws 16 and 17 are provided with apertures to receive a bolt 20 having a head 21 and a threaded section 22 upon which an adjusting nut 23 is adapted to be threaded.

In order to limit the inward movement of the supporting clamp rod and hold the insulating holder precisely at the desired distance from the support, the rod 15 is provided with an intermediate flange 24 located adjacent the threaded portion 24^a of the rod.

The rod 15 is provided with an enlarged head 15^a mounted to swivel in a central aperture 15^b in the inner jaw 17. By means of this construction, the holder with its clamp will be permitted to rotate about the rod 15 according to the direction of the insulating wire 14^a. The device is self-adjusting and thereby eliminates harmful strains which might be present if the rod and clamp were rigidly connected.

In the modified form of clamping member illustrated in Fig. 5, the jaw 16^a is provided with a transverse raised lug 25. This lug 25 projects inwardly and will press into the flexible holder when the jaws are clamped together, thus causing the holder to exercise a stronger grip upon the wire than is the case with the clamping member of the first embodiment illustrated in Figs. 1 and 2.

It will thus be seen that an improved form of insulating holder has been provided which will efficiently grip insulated wires and cables of all sizes and shapes without danger of injuring the covering of the conductors or of electrical leakage.

In operation, when it is desired to install the flexible insulating holder upon an insulated wire or cable, it is merely necessary to slip the holder over the end of the wire and then slide the holder along the wire to the desired position. The jaws of the clamp may then be placed around the central portion of the holder, and then forced together by means of the bolt and nut 21, 22, until the holder has been compressed sufficiently to grip the conductor with the

desired pressure. The compressed portion of the holder will then have an approximately elliptical shape, two slight air gaps being left between the holder and conductor, permitting ventilation and drainage of water from the conductor.

One important advantage of this construction is that the insulating holder will grip the outside of the insulated wire quite firmly with the exercise of only a small pressure from the clamp. This gripping effect is due partly to friction, and partly to the suction between the small capillary depressions in the contacting surfaces of the insulated wire covering and the rubber holder. By means of this friction and suction effect, it will be extremely difficult to slide the holder along the wire, when the holder is clamped in position.

While there have been disclosed in this specification several forms in which the invention may be embodied, it is to be understood that these forms are shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosures, but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a support for an insulated wire, a one-piece compressible wire-clamping tubular member of flexible material adapted to encircle said wire, a clamping member comprising a pair of hinged jaws adapted to engage around said tubular member, and one of said jaws being provided with an interior projection to press into the surface of said tubular member.

2. In a wire clamp, a pair of hinged jaws, one of said jaws having an aperture intermediate its ends, and a pole-attaching bolt having screw threads on one end and having its other end swiveled in said aperture.

3. In a wire clamp, a pair of hinged jaws, one of said jaws having a central aperture, and a pole-attaching bolt extending through said aperture and mounted to swivel therein.

4. In a device for holding an insulated wire spaced from a pole, wall, or other support, a flexible unsplit wire-clamping tubular member adapted to encircle said wire, said tubular member being adapted to be distorted to elliptical form under pressure, a pair of pivoted jaws for clamping said tubular member for distorting it in order to cause said tubular member to flatten and tightly grip the wire encircled thereby.

In testimony whereof, I have affixed my signature to this specification.

WILLIAM P. BRADY.