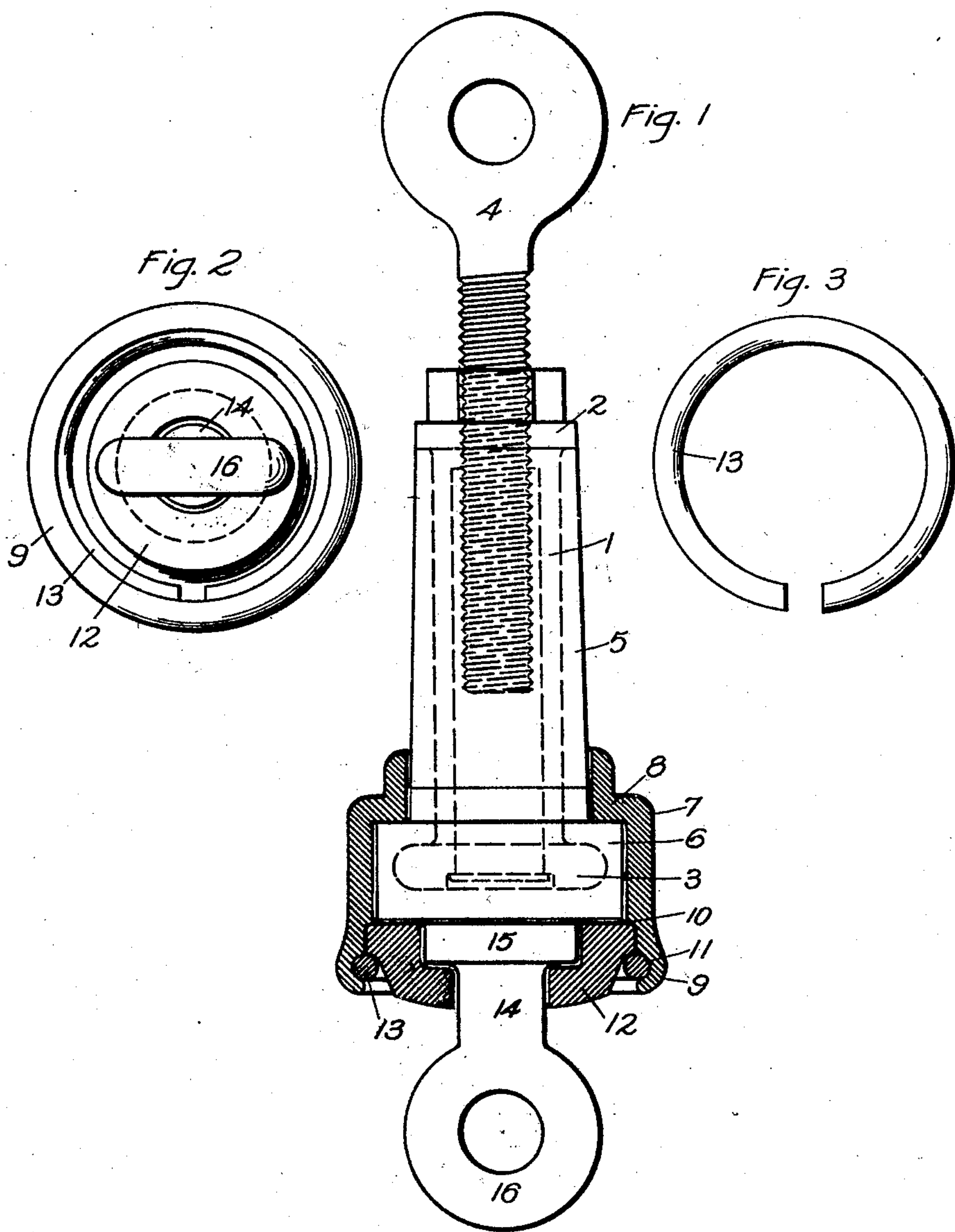


M. M. WOOD.
STRAIN INSULATOR.
APPLICATION FILED SEPT. 16, 1905.

951,354.

Patented Mar. 8, 1910.



Witnesses:
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Att'y.

UNITED STATES PATENT OFFICE.

MONTRAVILLE M. WOOD, OF CHICAGO, ILLINOIS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

STRAIN-INSULATOR.

951,354.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed September 15, 1905. Serial No. 278,550.

To all whom it may concern:

Be it known that I, MONTRAVILLE M. Wood, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Strain-Insulators, of which the following is a specification.

This invention relates to the overhead structure of an electric railway, and particularly to the insulating couplings used to connect sections of the guy-wires which support the working conductor. These devices usually comprise two eyebolts mechanically connected by a mass of insulating material so that there is no electrical connection between them, and the escape of current through the guy-wires is prevented. If the coupling is to be used as a turn-buckle, one of the eyebolts is screwthreaded, and meshes with a nut embedded in the insulating material, while the other eye-bolt is usually swiveled.

The object of my invention is to provide a simple and inexpensive mode of connecting the eyebolts in a coupling of this kind, whether it be a simple strain insulator, or an insulating turnbuckle. One of the eye bolts is secured in a sleeve or body of insulating material having a head or enlargement inclosed in a metallic cup which extends beyond said head and has an internal groove in the projecting portion. The other eyebolt is provided with a flange which fits into the cup and is secured there by a stout open or cut ring sprung into the groove in the cup and overlapping the edge of the flange. In the case of a turnbuckle, the bolt is loosely swiveled in said flange; the other bolt being screwed into a screw-threaded sleeve embedded in the insulating material.

The accompanying drawing represents a strain turnbuckle embodying my invention.

Figure 1 is a longitudinal section; Fig. 2 is an end view, and Fig. 3 shows the retaining ring.

The sleeve 1 having the nut 2 at one end and the flange 3 at the other, the eyebolt 4 screwed into said nut, the body 5 of insulation molded around the sleeve and having a head 6 inclosing the flange 3, and the cup 7 surrounding said head with a flange 8 overlapping the flange 3 and having the projecting edge 9 provided with the internal shoulder 10, are all old and well known in

the swiveling strain insulators heretofore used.

In carrying out the present invention, a groove 11 is formed in the inside of the edge 9, preferably semi-circular in cross section. A plate 12 is fitted to rest against the shoulder 10 with its outer corner beveled toward the plane of the groove 11. A piece of stout wire, preferably of round steel, is bent into a ring 13, with sufficient space between its adjacent ends to permit it to be compressed and sprung into the groove 11 outside of and overlapping the beveled edge of the plate 12 which is thus securely held in the cup 7.

The plate 12 serves as the flange of an eyebolt 14, and in the case of a turnbuckle the bolt is made to swivel in said plate. To accomplish this, a circular head or collar 15 is formed on or attached to the bolt under the plate, which is preferably countersunk in its inner face to receive said head. At the outer end of the bolt is the eye 16. This construction, in which the bolt and its flange are separate pieces, may be used, if desired, in non-swiveling strain insulators. The two parts are preferably assembled by placing the headed bolt in a mold and casting the plate around the shank, which should be thickly coated with graphite or other refractory parting material to allow the plate to shrink without gripping the shank.

What I claim as new and desire to secure by Letters Patent of the United States, is,

1. A strain insulator having a body of insulation, a metallic cup thereon having an internal groove, a plate inserted in said cup and having a beveled corner opposite said groove, a retaining ring sprung into said groove and engaging the beveled corner of the plate, and bolts connected with said body and plate.

2. An insulating turnbuckle having a body of insulation, a metallic cup thereon having an internal groove, a plate inserted in said cup, a retaining ring sprung into said groove, and an eyebolt swiveled in said plate.

3. An insulating turnbuckle having a body of insulation, a metallic cup thereon having an internal shoulder and an internal groove, a plate resting against said shoulder and having a beveled corner opposite said groove, a ring sprung into said groove and overlapping the beveled corner of said plate, and an eyebolt swiveled in said plate.

4. An insulating turnbuckle having a body

of insulation with a shouldered head at one
end, a metallic cup engaging said head, a
plate secured in said cup and having a cen-
tral hole, and a bolt passing through said
5 hole and having an integral head on one
side of said plate and an eye on the other
side.

In witness whereof I have hereunto set
my hand this twelfth day of Sept., 1905.

MONTRAVILLE M. WOOD.

Witnesses:

H. G. MacLEOD,
P. A. ROGERS.