

G. R. SMITH.
INSULATOR FOR ELECTRICALLY CHARGED WIRES.
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1,171,267.

Patented Feb. 8, 1916.

FIG. 1

FIG. 2

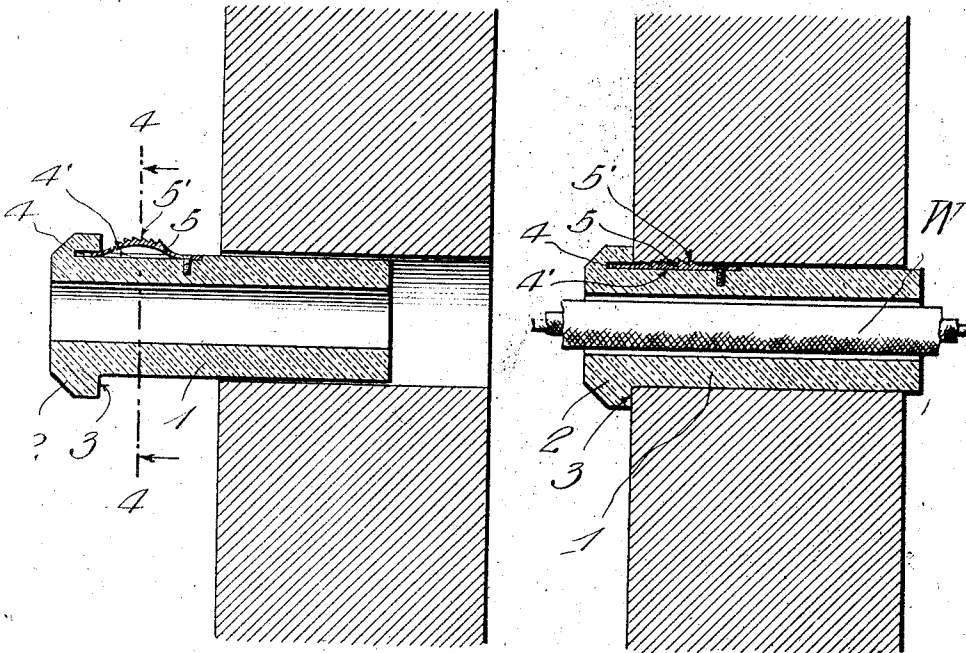
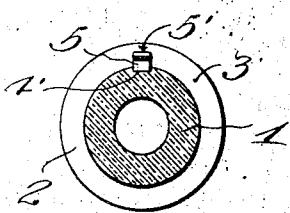
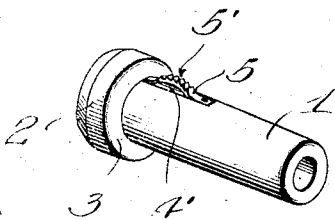


FIG. 3

FIG. 4



Witnesses

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INSULATOR FOR ELECTRICALLY-CHARGED WIRES.

1,171,267.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE R. SMITH, a citizen of the United States, residing at Arlington, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Insulators for Electrically-Charged Wires; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in insulators for electrically charged wires.

The object of the invention is to provide an insulator that shall be especially adapted to be used in positions where it is surrounded by wood or other inflammable material, and which is so constructed that it may be insulated in the inflammable surroundings in such a manner that there will be no danger of the insulator becoming loose or disengaged from the surrounding material and which will thereby prevent the electric wire from coming in contact with anything except the insulator.

With this and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1, represents a vertical section of a joist showing this improved insulator arranged in juxtaposition ready for insertion in the opening therein; Fig. 2 represents a similar view showing the insulator in operative position within the joist opening; Fig. 3 is a perspective view of the insulator removed; Fig. 4 is a transverse section taken on the line 4-4 of Fig. 1.

In the embodiment illustrated a tubular insulator 1 is shown which may be constructed of clay or any suitable electric non-conducting material and in which electric wires W are designed to be incased. This insulator 1 is shown provided with the usual head 2 at one end thereof which terminates at its inner end in a shoulder 3 and this shoulder is provided with an inwardly extending socket 4 formed adjacent the face of the tube 1 and which is designed to receive one end of an arcuate spring 5 which is mounted on the outer face of the tube 1 and extends longitudinally thereof to permit said spring to yield and slide forwardly on the insertion of the tube 1 in the bore de-

signed to receive and support it and this socket protects said spring end against exposure and would hold said spring in operative position should the securing means at its other end become detached. The other end of said spring is secured to said tube in any suitable or desired manner, it being here shown mounted in a longitudinally extending groove 4' which merges into the socket 4. The outwardly bowed or bulged face of this spring 5 is thickened to afford ample strength without interfering with its yieldability and is provided with a plurality of forwardly inclined teeth 5' which increase in height from the outer toward the inner ends of said strip and are designed to engage the surroundings of the tube 1 when inserted and thus firmly lock the tube in such surroundings and prevent its accidental displacement therefrom. Any jarring or outward pull exerted on said tube causes the teeth 5' of the spring to more firmly embed themselves in the surroundings of the tube and thus firmly retain it in operative position. These insulators are used in insulating electric light wires in buildings for which purposes bores are formed in the joists and partitions of buildings and the insulators inserted there- through.

The mode of using this insulator is by making an opening through the joist or partition in which the insulated wire is to be inserted, then the insulator with the spring 5 mounted thereon is inserted in the hole or bore in the joist or partition and the hole being nearly of the same size as the diameter of the body of the insulator the spring will be compressed when inserted and the free end thereof will slide forward into the socket 4 of the shoulder 3. The insulator is forced in until the shoulder 3 comes against the face of the opening of the partition and the electric wire W is inserted through the bore of the insulator. As soon as the insulator is inserted the resilient member 5 will come into action and the teeth thereof will engage the inner face of the wall of the opening in the partition and prevent any removal of the insulator. Then the electric wire may be readily inserted in the usual manner without any danger of its coming in contact with the surroundings of the insulator tube.

I claim as my invention:

1. A tubular insulator for electric wiring

having a one-piece outwardly bowed spring metal gripping strip secured at one end to the outer face of said insulator, said strip being thickened intermediately of its ends and provided with outwardly extending teeth formed in said thickened portion whereby said gripping member is strengthened without interfering with its resiliency.

2. A tubular insulator for electric wiring having a head at one end terminating at its inner end in a laterally extending shoulder, said shoulder being provided with an undercut forwardly extending socket arranged adjacent the outer face of said insulator, said insulator having a longitudinally extending groove in its outer face merging into said

socket and forming a continuation thereof, a one-piece arcuate spring metal strip mounted in said groove with one end thereof engaged with the inner end of the groove and the other end thereof inserted in said socket, said strip being thickened intermediately of its ends and having forwardly projecting teeth formed in said thickened portion on the outer face of said strip.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE R. SMITH.

Witnesses:

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CHAS. C. EBY.