(No Model.)

R. MACE.

INSULATOR.

No. 522,428. Patented July 3, 1894.

Fig. 1,

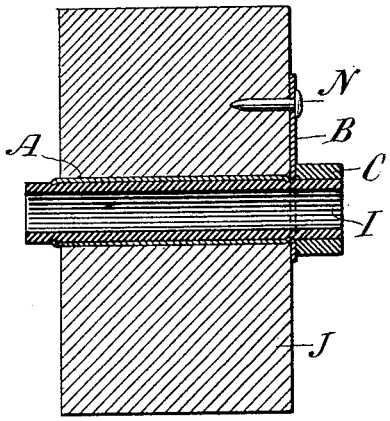


Fig. 2,

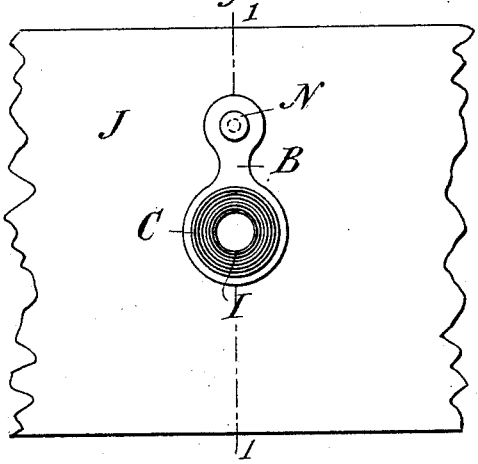


Fig. 3,

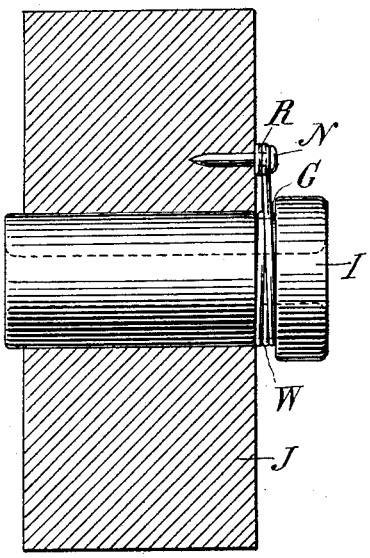


Fig. 4,

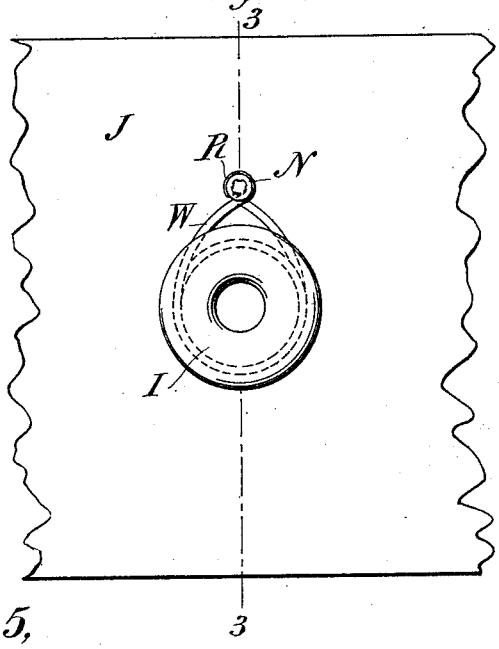
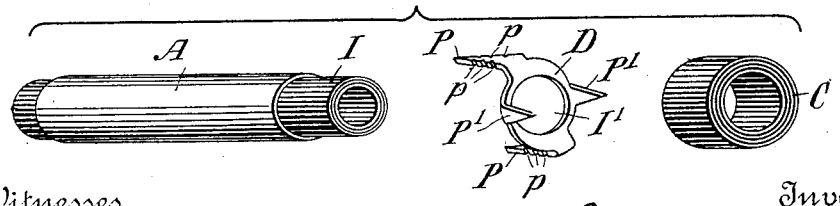


Fig. 5,



Witnesses
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Romaine Mace
By his Attorney
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UNITED STATES PATENT OFFICE.

ROMAINE MACE, OF NEW YORK, N. Y., ASSIGNOR TO THE INTERIOR CONDUIT AND INSULATION COMPANY, OF SAME PLACE.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 522,428, dated July 3, 1894.

Application filed May 3, 1894. Serial No. 509,890. (No model.)

To all whom it may concern:

Be it known that I, ROMAINE MACE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have made a new and useful invention in Insulators, of which the following is a specification.

My invention is directed to insulators having an especial use in connection with interior or house wiring and will be understood by referring to the accompanying drawings, in which—

Figure 1 illustrates a sectional view of a joist or other timber through which an insulating tube is inserted therein and secured thereto by one form of my improvement. Fig. 2 is a side elevational view of Fig. 1 as seen looking at the latter from the right toward the left hand side of the drawings. Fig. 3 is a sectional view similar to Fig. 1 illustrating a modified form of the invention as applicable to well known forms of glass or porcelain insulating tubes. Fig. 4 is a side elevational view as seen looking at Fig. 3 from the right hand toward the left hand side of the drawings. Fig. 5 is a perspective view of a modified form of the invention shown in three independent parts preparatory to removing them.

In interior or house conduit wiring as now practiced, it often becomes necessary to pass electric light and other electrical conducting wires through joists, partitions and in places where it is inconvenient to insert continuous tubing. In doing this it is cutomary to drive short tubes of insulating material into holes bored in alignment with each other through the joists or other timbers and to then string the insulated wires through these consecutively located short pieces of tubing. It has been found, however, that oftentimes the timbers being insufficiently seasoned shrink and consequently allow the insulating tubing to drop out and therefore greatly endanger the insulation of the surrounding conductors and also that in driving the tubes they are broken or damaged beyond repair.

My invention has for its objects, first, to avoid damaging or breaking of the tubes, and second, to secure such tubes in position, regardless of the condition of the material through which they are inserted and is equally applicable to all kinds of tubular insulators adapted for analogous purposes whether the same be used in house wiring or in the cross arms which support telegraph and electric light wires or in analogous places, and to this end it consists in providing an extension, lug or arm to such insulators and securing the latter, and hence the insulator to the timber through which the insulator is passed by one or more nails, screws, or equivalent holding devices, at the same time rendering it easy to at any time remove the insulator when desired.

Referring now to the drawings in detail: I represents a well known form of a short piece of insulating tubing of prepared paper surrounded by a metallic casing A, such as is now in general use in interior or house wiring.

J represents a joist or equivalent timber through which a hole has been bored of sufficent size to freely admit the tube I and its surrounding metallic casing A so that the same may at any time be easily removed, there being no substantial frictional bearing between the casing and the joist.

B represents a lug or extension, usually of metal, which fits accurately over the tube I against one end of the metal casing A and is provided with a laterally extending arm having one or more holes in its outer end adapted to receive a nail or screw N.

C represents an enlarged head or ring of insulating material similar to the tube I which is put upon the outer end of the tube after the lug or extension B is fixed in position. It is then subjected to heat sufficient to unite the two through the agency of the insulating ingredients, such as coal tar and the like, usually found in prepared paper tubing of this character.

In the modified form shown in Fig. 3, I represents a glass or porcelain insulator of well known form having a groove G near its outer end. Surrounding this insulator groove G is wound a wire W having a lateral or upward extension with an eye or opening R adapted to receive the screw or nail N.

In the form shown in Fig. 5, the tube I and

the surrounding metallic casing A are the same as in Fig. 1, as is also the enlarged tubular head C.

D represents a struck-up ring of metal having two or more inwardly projecting prongs P P and two or more outwardly projecting prongs P′ P′ *p p* being toothed serrations. This struck-up ring D is placed upon the outer end of the tube I with the serrated prongs extending inwardly. The enlarged head C is then placed over the outer end of the tube I and driven so that the prongs P′ P′ enter the head. The two are then heated in the same manner as before described and the parts united through the agency of the insulating medium in the tubular parts C and I. The completed tubing is now ready to be driven into position on inserting it in the opening in the joist, the serrated prongs P P now entering the joists and serving the same function as do the nails N N in Figs. 1 and 3.

I do not limit myself to the special means herein shown for securing short insulating tubes in timbers and in other places as I believe it is broadly new to secure such insulating tubes through means other than by the friction between the tubes and the surrounding timber, and my claims contemplate broadly the application of means for securing short insulating tubes in position in openings in timbers and analogous places.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A tubular insulator having a lateral extension near one end adapted to secure it to a timber or support through which it is inserted.

2. A tubular insulator inserted in an opening in a timber or support and provided with a lug or extension, in combination with means for securing said lug or extension to the timber or support.

3. A tubular insulator located in an opening in a timber or support, in combination with a fastening device surrounding one end of the insulator, and one or more screws or nails passing therethrough into the timber or support.

In testimony whereof I have hereunto subscribed my name this 28th day of April, 1894.

ROMAINE MACE.

Witnesses:
C. J. KINTNER,
M. M. ROBINSON.