J. R. TUFTS, JR.

INSULATOR.

APPLICATION FILED NOV. 29, 1907.

964,586. Patented July 19, 1910.

Fig. 1.

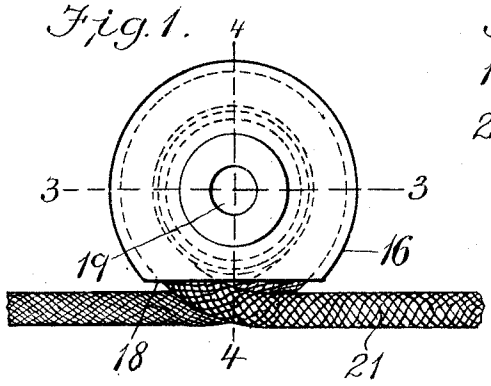


Fig. 4.

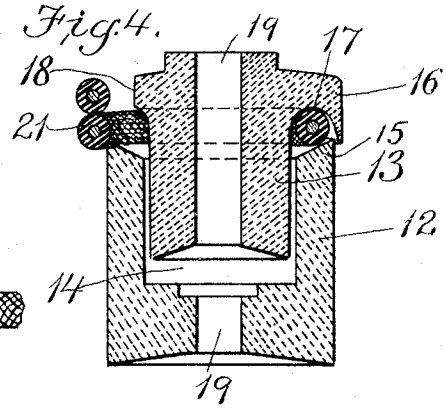


Fig. 2.

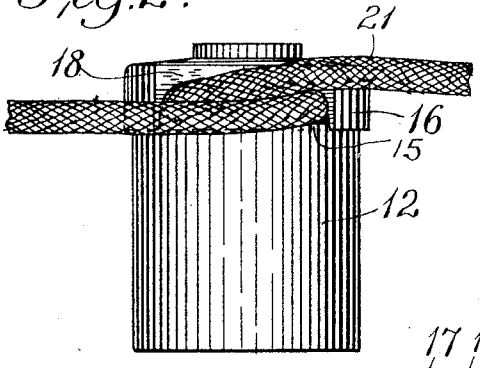


Fig. 3.

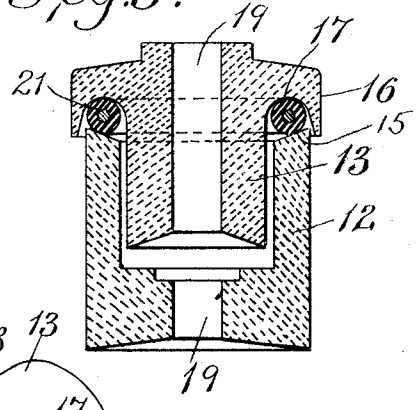


Fig. 5.

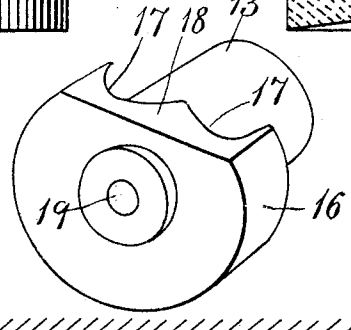
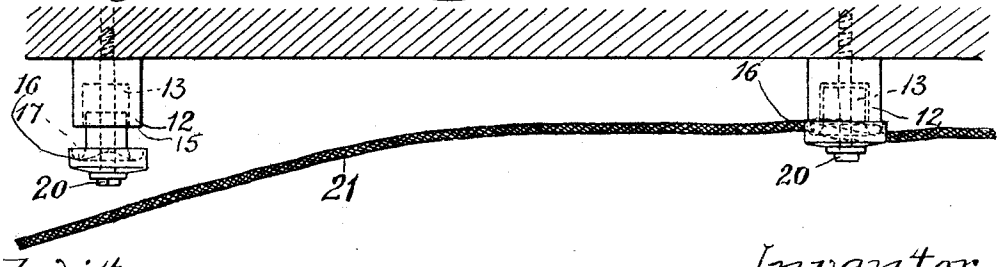


Fig. 6.



Witnesses:

Peter W. Peggetti

E. Bartheldes

Inventor:

J. R. Tufts Jr

by Wright Brown Quinby & May

Attys

UNITED STATES PATENT OFFICE.

JOHN RUSSELL TUFTS, JR., OF WEYMOUTH, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO F. W. CLARK, OF BOSTON, MASSACHUSETTS.

INSULATOR.

964,586. Specification of Letters Patent. **Patented July 19, 1910.**

Application filed November 29, 1907. Serial No. 404,465.

To all whom it may concern:

Be it known that I, JOHN RUSSELL TUFTS, JR., of Weymouth, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Insulators, of which the following is a specification.

This invention relates to insulators which are used principally inside the partitions of buildings to support electric wires, the insulator being attached to beams, uprights and other parts of the walls at suitable intervals, to support the wires which are engaged with the insulators and carried across the spaces between them.

The invention has for its object to provide a simple and reliable insulator for the purpose stated, which shall be capable of quickly and firmly securing the conducting wire, and of holding the wire taut between adjacent insulators.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents an end elevation of an insulator embodying my invention, showing portion of an insulated wire engaged therewith. Fig. 2 represents a side view of the same. Fig. 3 represents a section on line 3—3 of Fig. 1. Fig. 4 represents a section on line 4—4 of Fig. 1. Fig. 5 represents a perspective view of the outer member of the insulator. Fig. 6 represents a view showing two adjacent insulators, one fully attached, and the clamping operation of the wire, and the other partially attached and prepared to engage the wire.

The same letters of reference indicate the same parts in all the figures.

My improved insulator is composed of two parts or members 12 and 13, which are made from any suitable insulating material, preferably of vitreous character, adapted to be molded, such as glass, or porcelain. The inner member 12 is preferably cylindrical, and its inner end is adapted to bear upon a suitable support, such as a part or member of a partition in a building. The outer end portion of the member 12 has a cavity 14 extending lengthwise of the member, and substantially at right angles with its inner end, so that the outer member hereinafter described, slidingly inserted in the cavity 14, is adapted to move toward and from the support on which the inner member bears. The portion of the inner member surrounding the mouth of the cavity 14, constitutes an annular clamping jaw 15, which surrounds the cavity, and is adapted to engage one side of a convolution formed by wrapping an insulated electric wire 16 around the outer member of the insulator. The outer member 13 is composed of a body portion, which is formed to enter and slide loosely in the cavity 14, the length of the member 13 being such that when the two members are operatively engaged with the wire to clamp the same, the inner end of the member 13 will not bear upon the bottom of the cavity 14, provision being thus made for firmly clamping the convolution of the wire between the jaws of the two members. The member 13 is provided with a head or flange 16 at its outer end, the inner side of which is grooved to form a clamping jaw 17 opposed to the clamping jaw 15 of the inner member. The diameter of said groove is approximately the same as the thickness of the cylindrical clamping jaw 15, whereby the wire will always be positively engaged and clamped no matter what its diameter may be. One edge of the head 16 is cut away to form a flat face 18 intersecting the clamping jaw 17, so that the jaw 17 is not continuous or annular, like the jaw 15, but is segmental, and has two ends opening upon the face 18 which is substantially tangential to the body of the member 13 so that stretches of the wire may extend side by side from a convolution surrounding said member as shown in Figs. 1 and 2. The members 12 and 13 are provided with alined orifices 19 for the reception of an attaching device, such as a screw or nail 20.

The described insulator is applied and engaged with the wire as follows: The members 12 and 13 are assembled, and the fastening device 20 is driven partly, but not wholly to place in the partition or support, the head of the fastening device being left extending so that the flange 16 of the outer member may be separated from the outer end of the inner member, as indicated at the left in Fig. 6, sufficiently to permit a convolution of the wire to be quickly wrapped around the member 13 between the two clamping jaws. The operator having thus wrapped the wire around the projecting

member 13, holds the free end of the wire in one hand and draws the wire taut from the insulator or other adjacent point to which the wire has already been attached. While the operator is thus holding the wire, he completes the insertion of the fastening device 20, and thus causes the jaws 15 and 17 to firmly clamp and hold the convolution last formed, the stretches of the wire extending from said convolution, passing through the ends of the segmental jaw 17, and over the tangential face 18 as indicated in Figs. 1 and 2. The wire is then conducted to the next point of support, and again secured by another insulator in the same manner. It will be seen that provision is made for quickly and securely installing and insulating electric wires. When the fastening device 20 is driven home after a convolution of wire has been formed on the outwardly-projected member 13, the segmental jaw 17 closes on all parts of the convolution, excepting the end portions thereof, as indicated in Figs. 1 and 2, said end portions passing tangentially in opposite directions over the flat face 18. The convolution is, however, clamped by the jaws throughout the greater portion of its length.

I claim:

1. An insulator comprising an inner member formed at its inner end to bear on a support, and provided at its outer end with a longitudinal cavity and with an annular coil-clamping jaw, and an outer member formed to slide in said cavity, said members having alined orifices to receive an attaching device, the outer member having a head or flange which is cut away at one edge to form a face which is substantially tangential to the body of the outer member, the inner side of said flange being provided with a groove forming a segmental coil-clamping jaw opposed to the jaw on the inner member, the diameter of said groove being approximately the same as the thickness of the clamping jaw of the inner member, said face permitting stretches of wire to extend side by side from a convolution clamped by the jaws.

2. An insulator comprising an inner member formed at its inner end to bear upon a support, and provided at its outer end with a longitudinal cavity and with an annular coil clamping jaw having a beveled edge and an outer member formed to slide in said cavity, said member having alined orifices to receive an attaching device, the outer member having a head or flange which is cut away at one edge to form a face which is substantially tangential to the body of the outer member, the inner side of said flange being provided with a groove forming a segmental coil-clamping jaw opposed to the jaw on the inner member, the diameter of said groove being approximately the same as the thickness of the clamping jaw of the inner member, said face permitting stretches of wire to extend side by side from a convolution clamped by the jaws.

In testimony whereof I have affixed my signature, in presence of two witnesses.

JOHN RUSSELL TUFTS, Jr.

Witnesses:
MARY H. TOMLIN,
WARREN NEEDHAM.