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2,381,676

INSULATOR

Filed May 15, 1944

Fig. 1.

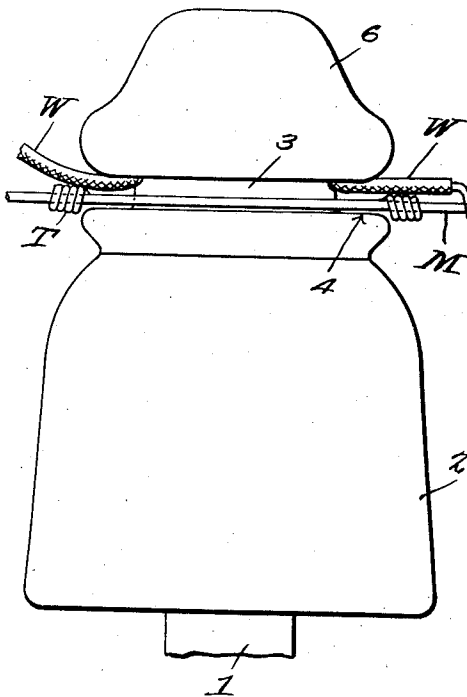


Fig. 2.

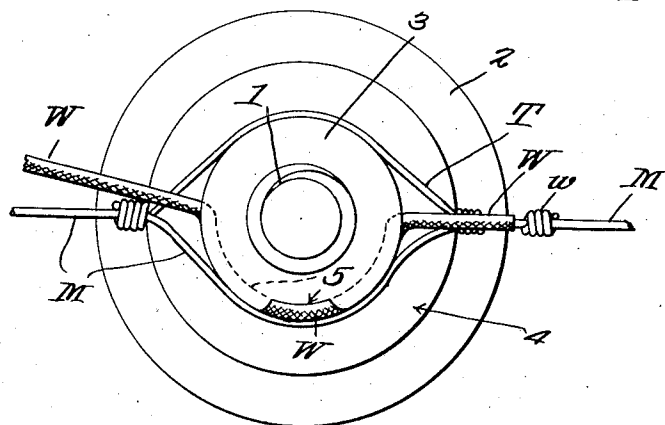
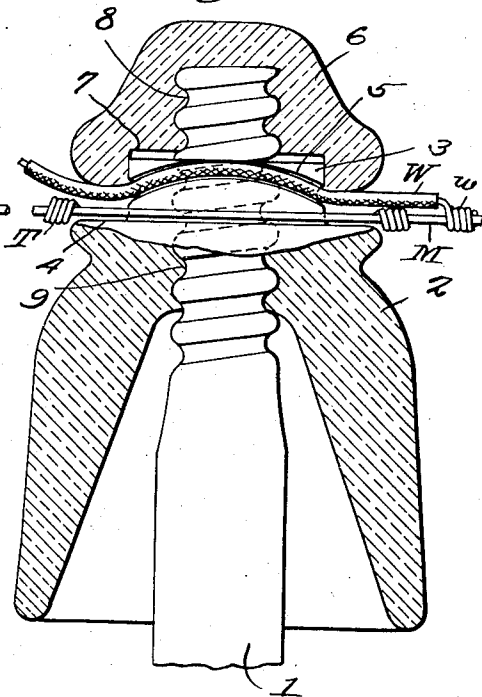


Fig. 3.

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INSULATOR

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1 Claim. (Cl. 174—156)

This invention relates to insulators for use in connection with the wires of telephone and telegraph systems.

It is a fact well known to those skilled in the art that in rainy weather and in heavy fogs, the connections between the main wires and a duplex wire are not satisfactory as commonly used because the moisture on the wires forms what is known as a "wet weather cross" or a high resistance short between the wires with the result that the system does not work properly and is noisy.

An object of the present invention is to provide a new and novel form of insulator for use at points where wires are taken off from the main wires, the construction of the insulator being such as to maintain a dry spot in the circuit so that the objectionable characteristics herein mentioned are eliminated in all kinds of weather.

It is another object of the invention to provide an insulator which does not require cutting of the wires when it is found desirable to replace a broken part.

With the foregoing and other objects in view which will appear as the description proceeds the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing

Figure 1 is a side elevation of the insulator showing the wires connected thereto.

Figure 2 is a vertical section through the insulator.

Figure 3 is a top plan view, the cap being removed.

Referring to the figures by characters of reference, 1 designates the usual pin on which insulators are mounted but it is to be understood that, if desired, other forms of supports can be used. This pin is engaged by the lower section 2 of the insulator which is formed of glass, porcelain or other suitable material and is provided, at its upper end, with a circular concentric boss 3 surrounded, at its base, by an annular shoulder 4. A wire-receiving groove 5 is provided in the periphery of the boss and terminates at diametrically opposed points, this groove being bowed upwardly as shown in Fig. 2 as well as extended partly around the boss. Thus the center of the

groove is at a much higher level than its ends. Obviously the groove could be arranged in any other position desired but it is essential at all times that the center of the groove be higher than its ends.

A cap 6 is provided and has a concentric recess 7 in the bottom thereof proportioned to receive the boss 3. This cap also has a threaded recess 8 extended upwardly thereinto from the recess and proportioned to receive the threaded end portion of pin 1 which, as shown, is extended through a threaded opening 9 formed in the base 2 and boss 3.

A main wire M is adapted to be secured to the insulator by extending it partly around the boss 3 and securing it by means of a tie-wire T which is extended about the opposite portion of the boss and fastened at its ends to the wire M.

The insulated connecting wire W of a "twist pair" or cable to be joined to two or more main wires M is inserted laterally to the curved groove 5 and thereafter the cap 6 is screwed downwardly onto the pin so that the boss 3 will be received within recess 7 and that portion of the wire in the groove will be surrounded and protected from moisture. This wire is of course secured to the main wire as shown for example, at w.

Obviously with the cap 6 in position on the pin 1 and surrounding the boss, there will be no danger of moisture flowing along wire W and forming a short. Instead a dry spot is maintained at all times where the wire is uppermost within the groove 5.

What is claimed is:

The combination with a main wire, a tie wire secured at its ends to the main wire, and a connecting wire joined at one end to the main wire, of an insulator including a threaded pin constituting a support, an insulator section engaging and supported by the pin, an upstanding boss concentric with the upper ends of the section and projecting between the main wire and the tie wire, there being an annular shoulder at the base of the boss for supporting said wire and a groove in the boss, said groove being inclined downwardly toward its end and providing a seat for the connecting wire, and a cap of insulating material engaging and housing the upper end of the pin, said cap having a recess proportioned to receive and house a portion of the boss and that portion of the wire contained within the groove, thereby to maintain a dry spot in the connecting wire and within the insulator.

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