June 23, 1925. 1,543,508

G. F. NEAL

ELECTRICAL INSULATOR

Filed Aug. 15, 1923

Fig. 1.

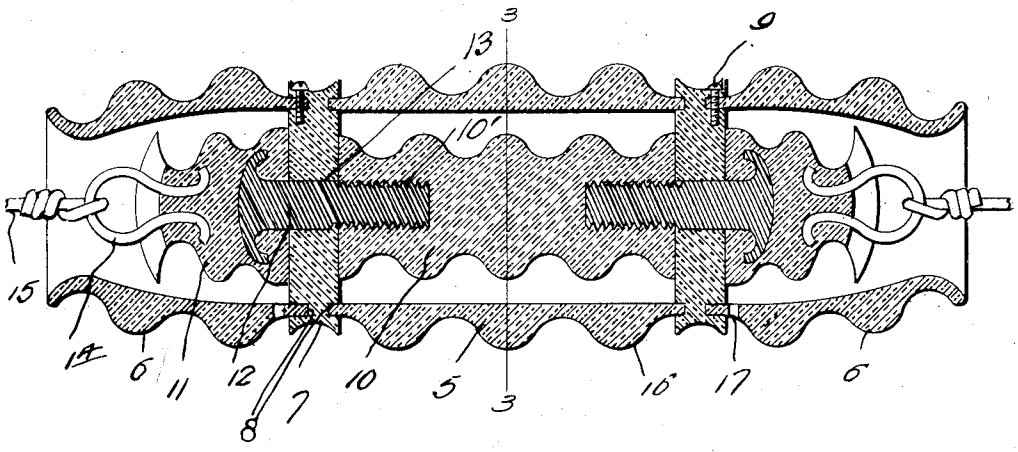


Fig. 2.

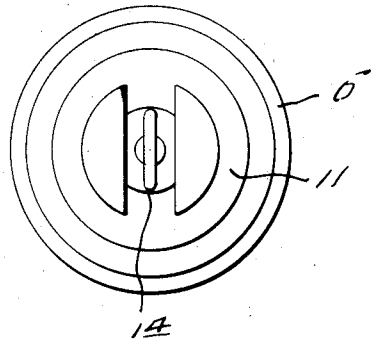
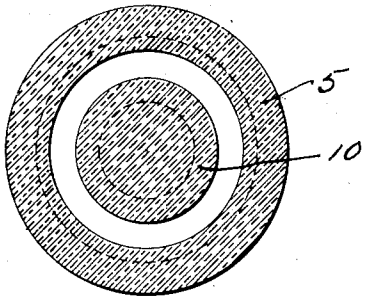


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE F. NEAL, OF OAKLYN, NEW JERSEY.

ELECTRICAL INSULATOR.

Application filed August 15, 1923. Serial No. 657,557.

To all whom it may concern:

Be it known that I, GEORGE F. NEAL, citizen of the United States, residing at Oaklyn, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Electrical Insulators, of which the following is a specification.

This invention relates to certain new and useful improvements in electrical insulators and has particular reference to a protected or encased insulator, especially useful for supporting the antenna wires of radio apparatus.

The primary object of the invention is to provide an insulator, through the use of which messages may be transmitted and received when it is raining, without any fear of losing any of the current supplied to the antenna because of the insulator becoming wet and allowing the current to pass over it to the ground.

A further object of the invention is to provide an insulator of the above kind and having the above characteristics which embraces the desired qualities of simplicity and durability of construction and efficiency in operation.

Still another object of the invention is to provide a device which is conveniently constructed in readily assembled parts which may be disassembled for renewal or repair purposes.

Other objects will become apparent as the nature of the invention is beter understood, and the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings, and claimed.

In the drawings, wherein like reference characters designate corresponding parts throughout the several views:

Figure 1 is a substantially central longitudinal sectional view of an insulator constructed in accordance with the present invention.

Figure 2 is an end elevational view of the device shown in Figure 1,

Figure 3 is a transverse sectional view, taken upon line 3—3 of Figure 1.

Referring more in detail to the drawings, the present invention includes an outer cylindrical insulator member or shell preferably tapered smaller toward its end and composed of an intermediate section 5 and end sections 6 joined in end to end relation by means of a pair of supporting and spacing discs 7. The discs 7 are provided with a peripheral groove about which the antenna wire may be wrapped, and are also formed in their opposite faces with marginal annular grooves 8 for snug reception of the adjacent ends of the sections 5 and 6 as shown in Figure 1, the end section 6 being retained in place by means of radial screws 9 passing therethrough and through the discs 7.

The insulator further embodies an inner solid insulator member or core composed of an intermediate section 10 and similar end sections 11, which are held in connected end to end relation and in spaced relation at opposite sides of the discs 7 by means of screws 12 having their heads embedded in the end sections 11 and passing through central openings 13 in the discs 7, said screws being threaded into threaded sockets 10′ provided in the ends of the intermediate section 10 of the inner insulating member. The inner insulator member is of relatively small diameter, so as to lie in spaced relation to the outer insulator member throughout, and is positioned concentric with the outer insulator member by means of the construction above described.

In order to facilitate suspension of the insulator, suitable eye members 14 are embedded in the outer ends of the sections 11 of the inner insulator member for connection to suspension wires 15 that extend into the open ends of the outer insulator member.

The two insulator members are provided with external peripheral corrugations defining ribs 16 which facilitate draining of water from said members and such water as may find its way into the open ends of the sections 6 may readily drain from the latter through openings 17 provided in the bottoms of the latter adjacent the discs 7 at the outer sides of said discs.

From the above description, it is believed that the construction and manner of use, as well as the advantages of the invention will be readily understood and appreciated by those skilled in the art.

Minor changes may be made without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

1. In an insulator of the class described, an outer tubular insulating shell, an inner

insulator core rigidly connected to said shell and disposed concentrically within and spaced therefrom, means upon the ends of the core for facilitating suspension of the insulator, said shell and core each embodying central and a pair of end sections, disks arranged between said sections, the inner or intermediate section of the core having threaded sockets formed in the ends thereof, screws having their heads embedded in the inner ends of the end sections of said core, said screws passing through openings in said disks and being threaded into the sockets in the ends of the intermediate section of the core for rigidly connecting the sections of the latter together, said disks having annular marginal grooves in their outer faces and the inner end of each end section of said shell extending into the adjacent coacting groove.

2. In an insulator of the class described, an outer tubular insulating shell, an inner insulator core rigidly connected to said shell and disposed concentrically within and spaced therefrom, means upon the ends of the core for facilitating suspension of the insulator, said shell and core each embodying central and a pair of end sections, disks arranged between said sections, the inner or intermediate section of the core having threaded sockets formed in the ends thereof, screws having their heads embedded in the inner ends of the end sections of said core, said screws passing through openings in said disks and being threaded into the sockets in the ends of the intermediate section of the core for rigidly connecting the sections of the latter together, said disks having annular marginal grooves in their outer faces and the inner end of each end section of said shell extending into the adjacent coacting groove, and means passing through the inner ends of the end sections of said shell for rigidly attaching the latter to said disks.

3. In an insulator of the class described, an outer tubular insulating shell, an inner insulator core rigidly connected to said shell and disposed concentrically within and spaced therefrom, means upon the ends of the core for facilitating suspension of the insulator, said shell and core each embodying central and a pair of end sections, disks arranged between said sections, the inner or intermediate section of the core having threaded sockets formed in the ends thereof, screws having their heads embedded in the inner ends of the end sections of said core, said screws passing through openings in said disks and being threaded into the sockets in the ends of the intermediate section of the core for rigidly connecting the sections of the latter together, said disks having annular marginal grooves in their outer faces and the inner end of each end section of said shell extending into the adjacent coacting groove, and means passing through the inner ends of the end sections of said shell for rigidly attaching the latter to said disks, all of said insulator sections being provided with peripheral corrugations defining annular ribs, the end sections of said shell having drain openings formed therein.

In testimony whereof I affix my signature.

GEORGE F. NEAL.