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L. STEINBERGER

INSULATED CONNECTOR

Filed May 23, 1919

Fig. 1.

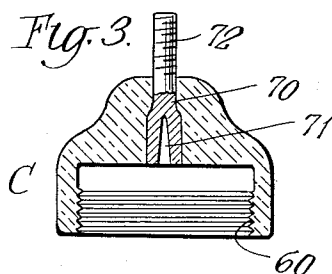
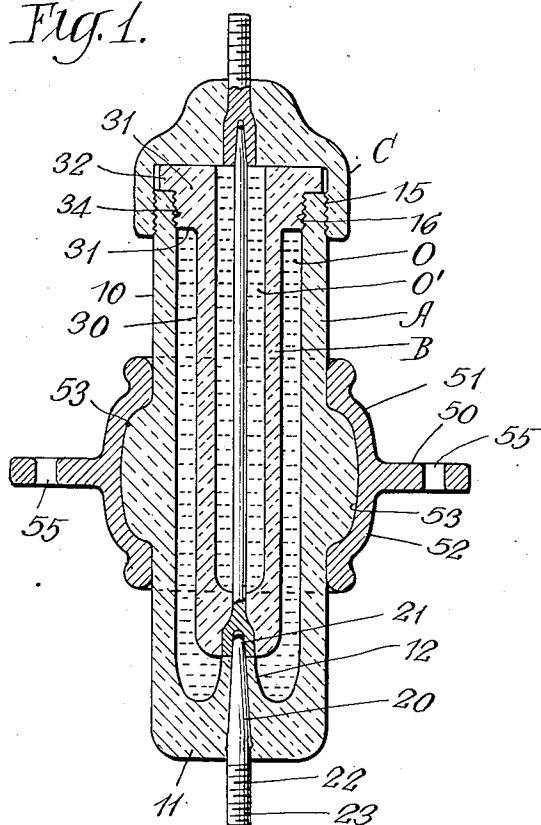
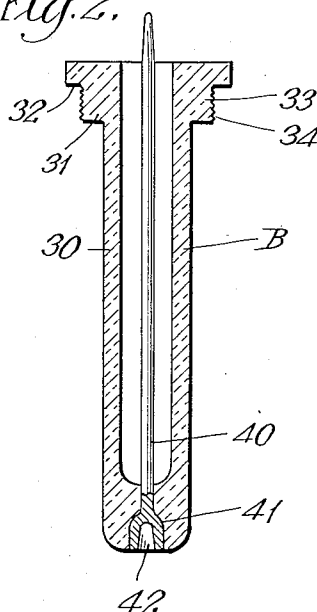


Fig. 2.



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LOUIS STEINBERGER, OF BROOKLYN, NEW YORK.

INSULATED CONNECTOR.

Application filed May 23, 1919. Serial No. 299,212.

To all whom it may concern:

Be it known that I, LOUIS STEINBERGER, a citizen of the United States, and a resident of the borough of Brooklyn, city and State of New York, have invented certain new and useful Improvements in Insulated Connectors, of which the following is a specification.

This invention relates to insulated connectors in which bodies of oil are utilized as insulating elements.

One of the objects of the invention is to provide an insulator comprising a plurality of bodies of oil as insulating elements, said bodies of oil being removable one from the other.

Another object of the invention is to provide a plurality of containers of insulating material one fitted within the other, said containers being arranged to receive separate and independent bodies of oil, the containers being bodily removable one from the other.

Another object of the invention is to provide in an insulator a plurality of oil containers, one of said containers fitting longitudinally within the other, each having molded therein or secured thereto portions of the conductor, the said conducting portions being arranged to contact one with the other when the containers are assembled to form the complete insulator body.

Other objects will appear from the subjoined specification and claims.

Referring to the drawing in which the same reference character indicates the same part in the several views:

Fig. 1 is a vertical longitudinal section of an insulated connector embodying my invention.

Fig. 2 shows a vertical section of the inner oil container with the central portion of the conductor permanently secured thereto.

Fig. 3 is a vertical section of the cap showing the upper portion of the conducting element permanently secured therein.

In the particular form of my invention as illustrated in the drawing, A is the outside oil container and insulator combined, B is the interiorly disposed oil container and insulator combined, and C is an insulated cap portion therefor.

A portion A is elongated and consists of the wall 10 and bottom 11, forming a centrally disposed cavity therein for holding a body of oil O. A centrally disposed projec-

tion 12 of insulating material extends upwardly from the bottom 11 of the container A, and within the center of the bottom and of the projection is secured a conducting element or portion 20 which projects upwardly from the insulating material at 21 and downwardly therefrom as at 22, the latter projection being screwthreaded at 23 for the purpose of securing thereto a lead (not shown.)

Screwthreads 15 and 16 are provided on the outer and inner surface of the upper end of the wall 10 as shown. The portion A and also the portion B are formed in the usual way by molding the insulating material into their required shapes. A supporting metallic ring 50 is so shaped that the central portion of the insulating material when it is molded or pressed therein is enlarged at the center. The ring 50 is provided with oppositely extending curved flanges 51 and 52 the inner walls of which form a concave surface 53 within which the insulating material is molded to form the aforesaid enlargement.

Bolt holes 55 are provided in the radially extending ring 50 through which bolts (not shown) may be passed to secure the insulated connector to any suitable support (not shown) as well understood.

The inner oil container B is substantially the length of the outer container A, but it is necessarily of less diameter, the wall 30 being provided at its upper end with a stepped flange 31, the upper step 32 of which extends nearly over the top of the wall 10 of the outer container A to form a closure therefor. The inner step 33 is screwthreaded at 34 to engage the screwthreads 16 on the inner surface of the wall 10 of the container A.

Molded into the bottom of the body B is the central conducting rod 40 which has a head portion 41 anchored therein, which head portion is provided with a socket 42 within which fits the projecting head 21 of the lower conducting portion 20 when the containers are assembled one within the other. A body of oil O' substantially fills the chamber in the portion B and thus immediately surrounds the central conducting element 40.

The cap portion C is also made of insulating material and is molded into the shape shown, the lower flange of which is screwthreaded at 60 so as to engage the screw-

threads 15 on the outer surface of the wall 10 of the outer container A, and when in place it forms a closure for the inner container B. When the cap is secured in place by screwing the same to the upper portion of the outer container A, the conducting member 70, which is molded within the central portion of the cap and which extends therethrough, engages the upper end of the rod 40 of the central conducting member. This engagement is effected by reason of the fact that a centrally disposed socket 71 is provided in the lower end of the conducting member 70 into which the upper portion of the conducting member 40 enters and makes contact with the walls thereof. All the insulating and conducting parts are so fitted that when they are assembled, the several conducting elements will make a good contact and afford an efficient electrical conductor. The conducting portion 70 extends upwardly from the cap at 72 and is screw threaded as shown to properly secure a lead (not shown) thereto. A body of oil O' substantially fills the central container, as shown.

From the above described construction it will be seen that the three elements, namely, the central element B, the cap C and the outer element A are provided with portions of the conducting member, which portions fit into each other when the containers are assembled. The container B may be removed bodily from the container A by first removing the cap C therefrom.

In operation it will be seen that before the composite insulator will break down, the voltage will necessarily have to break through the body of oil O', through the wall of the interior oil container B, through the body of oil O and then through the wall of the outer container A before reaching the flanges 51 and 52 of the sleeve 50.

The assembly of the parts is very clear from the above construction. The central container B is first inserted longitudinally within the container A, the two coacting conductors 20 and 40 fitting each other tightly when the upper portion of the container B is screwed in place in the container A. The body of oil O is of course first placed within the container A and the oil O' is placed within the container B either before or after placing the same within the container A. The cap C is then screwed down into place until the parts are drawn closely together and the three conducting elements 20, 40 and 70 form an efficient conductor so as to make a proper electrical connection.

The insulating material of which the parts are made may be any suitable material, but I prefer to use that material well known in the art as electrose.

As changes of construction could be made

within the scope of my invention, I intend that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a device of the class described, an insulator comprising nested and closed containers, one of said containers forming the closure for the other container, coacting conductors carried by said containers and a cap of insulating material forming the closure of the first mentioned container, said cap having a conductor molded therein arranged to engage the conductor carried by the innermost container.

2. An insulator having an outer container, an inner container, means on said inner container forming a closure for the outer container, a cap engaging the outer container and forming a closure for the inner container, and a conductor section carried by each of said containers and said cap, said conductor sections being in electrical contact one with another to form a continuous conductor through the insulator when the parts are assembled.

3. A composite insulator comprising an elongated insulator body having a chamber formed therein, liquid insulation carried thereby, a removable container of insulating material for liquid insulation projecting into the chamber and surrounded by the liquid insulation contained therein and a removable cap of insulating material for excluding foreign matter from said removable container, said chambered bodies and cap having coacting conducting elements secured to and extending through each.

4. A composite insulator comprising an elongated insulator body having a chamber formed therein, liquid insulation carried thereby, a removable container of insulating material for liquid insulation projecting into the chamber and surrounded by the liquid insulation contained therein and a removable cap of insulating material for excluding foreign matter from said removable container, and separate conductors carried by said insulator body, said removable container and said cap arranged for engagement with one another to effectively convey current through the assembled insulator.

5. An insulator comprising a plurality of containers mounted one within the other, a flange on an inner container forming a closure for the adjacent outer container, a cap forming a closure for the innermost container, said cap having securing means engaging the outer-most container, and conductor sections extending through each of said containers and the cap, said conductor sections contacting one with the other when

the insulator is assembled to form a continuous electrical conductor therethrough.

6. An insulator comprising a plurality of containers mounted one within the other, each containing fluid insulation, a flange on an inner container forming a closure for the adjacent outer container, a cap forming a closure for the innermost container, said cap having securing means engaging the outermost container, and conductor sections extending through each of said containers

and the cap, said conductor sections contacting one with another when the insulator is assembled to form a continuous electrical conductor therethrough.

In witness whereof, I have hereunto set my hand at the borough of Manhattan, city and State of New York, this 19th day of May, 1919.

LOUIS STEINBERGER.

In presence of—

ISABEL R. FLETCHER.