Jan. 17, 1923. 1,656,431

L. EDENBURG

ELECTRICAL CONDENSER

Filed Nov. 24, 1925

Fig. 1

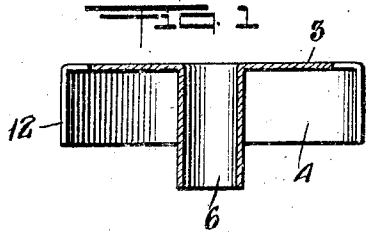


Fig. 2

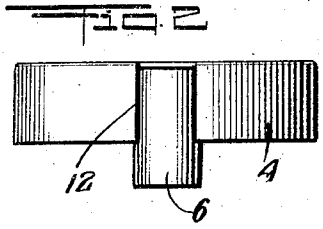


Fig. 3

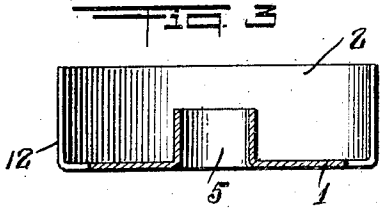


Fig. 4

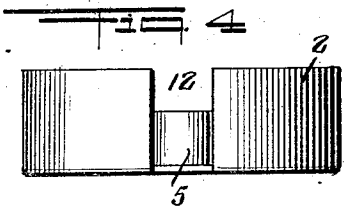


Fig. 5

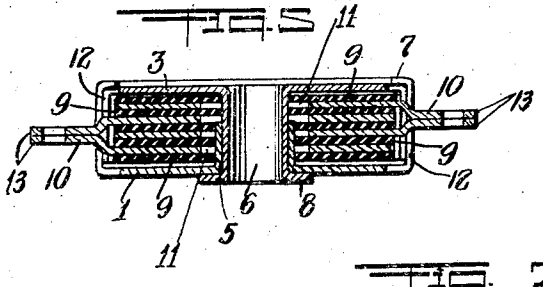


Fig. 6

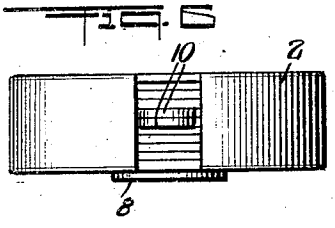
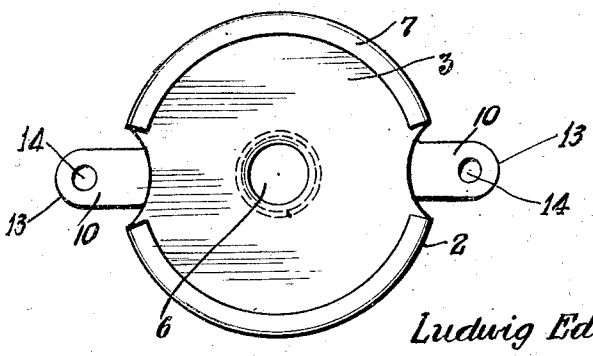


Fig. 7



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UNITED STATES PATENT OFFICE.

LUDWIG EDENBURG, OF NEW YORK, N. Y., ASSIGNOR TO DUBILIER CONDENSER CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

ELECTRICAL CONDENSER.

Application filed November 24, 1925. Serial No. 71,197.

This invention relates to improvements in electrical condensers, particularly, electrical condensers of constant capacity; and one of the objects of this invention is to provide a condenser of simple construction securely encased in a light but strong protective covering which can be easily affixed to the condenser and through which project the terminals of the condenser to enable it to be connected to an outside circuit.

The nature and scope of the invention are fully set forth in the following description taken with the accompanying drawings whereon is illustrated a preferred embodiment of my invention. But this disclosure is by way of example only, and I may change the structure actually shown and described without departing from the principle of the invention, as the same is indicated by the broad and general meanings of the terms in which the claims appended hereto are expressed.

On the drawings,

Figure 1 is a section; and Figure 2 is a side elevation of one part or member of the casing or covering for my condenser;

Figure 3 is a section; and Figure 4 is a side elevation of another part or member of said casing or cover;

Figure 5 is a transverse section of the condenser;

Figure 6 is an end view thereof; and

Figure 7 is a top plan of same.

The same numerals identify the same parts throughout.

In practice, the condenser is housed in a covering or casing which consists of a member or section comprising, as shown particularly in Figures 3 and 4, a bottom 1 surrounded by a rim 2, this section thus being cup-shaped. To co-operate with this member or section, I provide a similar section including a top 3 and rim 4 of such size as to fit snugly within the rim 2 when the two sections or members of the casing are assembled. From the bottom 1 of the first section projects a central hollow boss 5 and from the top 3 of the other section, depends a tubular extension or boss 6 which fits into the boss 5, the two sections and the bosses 5 and 6 being intended to telescope one within the other. When the two sections are so assembled, the edge of the rim 2 of the lower section is crimped over upon the top 3 of the other section as indicated at 7 in Figures 5 and 7; and the lower end of the extension thus projecting through the boss 5, is expanded and flanged over against the bottom of the lower section, as indicated in Figures 5 and 6 by the numeral 8.

The body of the condenser within this casing comprises sheets of mica or other insulation 9 and thin sheets or plates of some metallic substance such as metal foil, indicated by the numeral 10. The plates 10 and sheets 9 are, of course, of the same contour as the casing which may be cylindrical, or have some other form and these plates are perforated in the middle, as shown at 11, so that they do not make contact with either the boss 5 or extension 6. The rims 2 and 4 of the upper and lower sections of the casing are slotted as indicated at 12, to provide recesses through which tabs on the conductive elements or sheets of foil 10 may project to the exterior of the condenser to provide terminals therefor. The recesses 12 are at preferably diametrically opposite points in the rims 2 and 4, though they may be otherwise located and the portions of the conductive elements 10 which project out through the registering recesses 12, of course, clear the sides of these recesses, so that the elements 10 do not make contact with the casing at all. The projecting portions of the elements 10 are indicated by the numeral 13 and they are bent into contact with each other to make the terminal of the condenser as stiff as possible, and these projecting portions may be perforated to provide openings 14 to facilitate the attachment of a wire or other conductor to the tabs or terminals 13 so as to connect the condenser into circuit.

The upper and lower sections of the casing are preferably of metal and when the body of the condenser, consisting of the insulating sheets 9 and conductive elements 10, is made up, and put into the casing, the casing is closed by crimping over the edge of the rim 2, and the lower edge of the extension 6 with the condenser inside of the casing. Pressure is thus applied to both the center and the periphery, and the conductive elements with the insulation 9 on the interior of the casing, is thus firmly compressed throughout, and the sheets of insulation 9 and conductive elements 10 are forced into firm contact over substantially their entire areas. A very compact and tightly compressed condenser can thus be obtained even

when very thin material is used in making the upper and lower sections or members of the casing, because even when relatively light sections are utilized, the two sections can be held together very firmly due to their engagement with each other at the center and circumference, and caused to give the degree of pressure required on the stack or body of the casing inside of the condenser.

In making up this condenser, the body of dielectric sheets 9 and conductive elements 10 can be treated in any manner required as by impregnating it with wax or the like insulation and pumping out air from the interior of the body 1 to enable this condenser to maintain its capacity as constant as possible and to make it durable, capable of being handled and proof against injury while in service.

The recesses 12 in the sides of the two sections or members of the casing will, of course, be wide enough so that the tabs or projecting portions 13 of the conductive elements 10 project through these recesses, there will be plenty of space between these tabs and the lateral edges of the recesses, and no contact between the elements 10 and the casing at any point exists.

Having described my invention, what I believe to be new and desire to secure and protect by Letters Patent of the United States is:—

1. A condenser comprising a body of conductive elements separated by insulation, and a covering for said condenser, the covering comprising a pair of sections which engage each other at the center and around the periphery thereof to compress the body of the condenser between them.

2. A condenser comprising a body of conductive elements separated by insulation, and a covering for said condenser, the covering comprising a pair of sections which engage each other at the center and around the periphery thereof to compress the body of the condenser between them, said sections having registering recesses through which project the terminals of the condenser to enable it to be connected to an outside circuit.

3. A condenser comprising a body including sheets of conductive material separated by insulation, and a protective covering for said condenser, said covering comprising a casing consisting of two sections which telescope into each other, one of said sections having a central hollow boss, and the other, a hollow tubular extension which passes through the boss and is expanded at its extremity, to engage the first section at the middle thereof, the first section engaging the second section around the circumference thereof, so that the body of the condenser is held firmly between said sections.

4. A condenser comprising a body including sheets of conductive material separated by insulation, and a protective covering for said condenser, said covering comprising a casing consisting of two sections which telescope into each other, one of said sections having a central hollow boss, and the other, a hollow tubular extension which passes through the boss and is expanded at its extremity, to engage the first section at the middle thereof, the first section engaging the second section around the circumference thereof, so that the body of the condenser is held firmly between said sections, each of said sections having registering recesses through which the terminals of the condenser may project to enable the condenser to be connected to an outside circuit.

5. A condenser comprising a body including sheets of conductive material separated by sheets of insulation and a protective covering for said condenser, the covering comprising a casing including two sections, one of which has a hollow boss and the other of which has a tubular extension which passes through said boss and is expanded at its extremity.

6. A condenser comprising a body including sheets of conductive material separated by sheets of insulation and a protective covering for said condenser, said covering comprising a casing of two sections with peripheral rims, one of which telescopes within the other, said rims having registering recesses through which project the terminals of the condenser.

In testimony whereof I affix my signature.

LUDWIG EDENBURG.