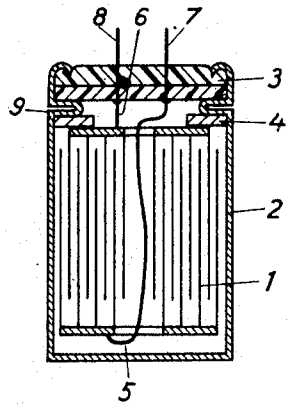
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ELECTRIC CONDENSER ENCLOSED IN A METAL ENVELOPE AND PROVIDED WITH A PROTECTOR BREAKABLE BY AN INTERIOR OVERPRESSURE

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ELECTRIC CONDENSER ENCLOSED IN A METAL ENVELOPE AND PROVIDED WITH A PROTECTOR BREAKABLE BY AN INTERIOR OVERPRESSURE

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The present invention refers to an improvement in electric condensers of the type wound of a metallized dielectric foil and enclosed in a hermetic metal envelope and that is provided with a wire outlet, serving as a protector device by being arranged to be torn off in case of an inferior overpressure.

Condensers wound up of metallized foil, for instance paper, have certain self-healing properties and, therefore, at appearing faults, do not give a short-circuit that could blow an exteriorly connected fuse, as is the case, for example, in condensers wound of a metal foil. Therefore, during certain circumstances, specially at alternating current operation, an excessive heating of the condenser might occur. At certain temperatures these condensers are instable as regards temperature, an increased temperatue giving increased losses and consequently increased heating, whereby interaction between increase of temperature and increase of losses finally causes ignition, provided the current is not interrupted in time.

In order to avoid the danger of fire the above-mentioned protector device is introduced. Before ignition occurs, organic material in the condenser is charred and formation of gas appears, that gives an overpressure inside the envelope. The closing cover, usually being made weaker than the envelope, is camberred and the outlet wire, stretched between the winding and the cover, is torn off, interrupting the current and, consequently, the heating. The known device has, however, the disadvantage that because the gas formation does not cease immediately, the pressure continues to increase during a certain limited time after the interruption of the current, whereby the cover is usually blown off from the envelope. Generally, adjacent apparatus is dirtied by the impregnation material used in the condenser. Furthermore, the device cannot be used when it is desired to close the cover by means of a rigid plate that is sealed to the envelope by a casting of epoxy resin. Because of the epoxy adhering strongly to the walls of the envelope, a movement of the cover and thereby breaking of the wire is impossible.

According to the invention these disadvantages are avoided by the provision of an annular crease, such as is usually used in the known devices as a stopping flange for a cover inserted in the opening of the envelope, said crease being pressed together in the axial direction of the envelope, whereby the crease has sides that are substantially parallel, so that the crease is yieldable to axial tensions in the envelope caused by an interior overpressure in the condenser. By this arrangement an increase of the volume of the envelope is facilitated to give space for the gas developed after the interruption of current, so that the envelope cannot burst by the gas pressure.

The invention will be further described by means of an embodiment with reference to the attached drawing, that shows a view of the condenser in cross section.

A condenser winding **1** of metallized paper is enclosed in a cup-shaped envelope **2** that is hermetically closed by means of a cover **3**. In the cover two connection terminals are fixed, which by means of wires **5** and **6** are connected to the electrodes of the condenser, whereby the wire **6** is stretched between the fixing points in the winding and cover respectively. The cover is provided with a crease **9**, against which the cover **3** rests. The crease is made bigger than is usually necessary to give support for the cover, and is, furthermore, pressed together in the axial direction of the envelope, so that the sides of the crease are parallel and practically fit to each other. A plate **4**, located below the crease, prevents a displacement of the condenser winding in direction towards the cover.

If the condenser should be overheated, so that gas formation occurs, the cover will be pressed upwards, when sufficient pressure has appeared, and thereby the crease will be somewhat straightened out. Already at the beginning of the movement the wire **6** will be torn off interrupting the current supply. The additional formation of gas will only give as a consequence that the crease is further straightened out, whereby a bursting of the envelope is effectively avoided.

I claim:

1. An electrical circuit component comprising a generally tubular shell sealed at both ends by end walls to provide a hermetically closed envelope, a capacitor unit disposed in said shell spaced apart from one of said end walls, anchoring means within the shell engaging said capacitor unit to prevent displacement thereof toward said one end wall, and a lead-in wire extending through said one end wall secured thereto and anchored at its inner end to one terminal of the capacitor in electrical connection therewith, the wire portion within the shell being substantially tautly held between said one end wall and the anchor point at said terminal, the side wall of said shell being made of pliable material and including a tightly contracted accordion fold disposed lengthwise intermediate said one end wall and said anchor point, said fold being at least partly opened lengthwise in response to a gas pressure built up in the shell, thereby correspondingly increasing the length of the shell, said increase in length causing rupture of the tautly held lead-in wire portion and a decrease in pressure in the shell.

2. An electrical circuit component comprising a substantially cup-shaped shell, a capacitor unit in said shell, a closure member sealing the shell, thereby providing a hermetically closed casing, a retaining member protruding from the inner shell wall spaced apart from said closure member, a lead-in wire extending through said closure member secured thereto and electrically connected to one terminal of the capacitor unit, the wire portion within the shell being tensioned to pull said capacitor unit against the retaining member on the side thereof opposite the closure member to secure the capacitor unit in a position lengthwise spaced apart from the closure member and to stretch the lead-in wire, the side wall of the cup-shaped member being made of pliable material and including a peripheral substantially closed accordion fold disposed lengthwise intermediate said closure member and said retaining member, said fold being flattened at least partly in response to a gas pressure built up in the shell, thereby correspondingly increasing the length thereof, said increase in length causing rupture of the lead-in wire and a decrease in the pressure in the shell.

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