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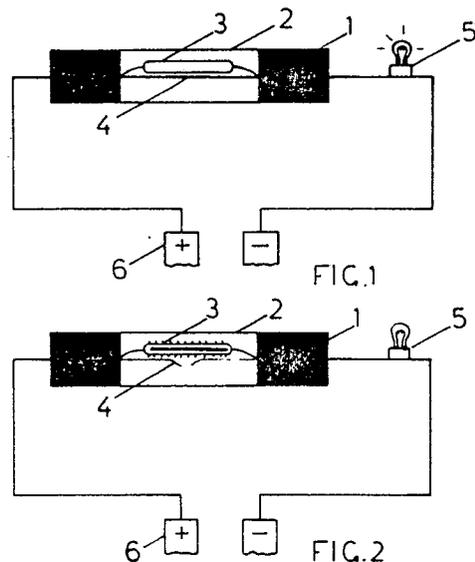
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Status-indicating fuse for D.C. current electrical systems.

A status-indicating fuse of the electrical system of automobiles, machinery and generally any mechanical device, has parallel with the fine melting wire (4) of fuses an indicator lamp (3), which operates with very low current intensities and which has a large electrical resistance. The entire system of the indicator lamp and the melting wire of the fuse are contained within the protective glass cover of the fuse (2). When the electrical system is functioning normally, current flows through the fuse through the fine melting wire, because this presents a very small resistance in comparison to the parallelly connected indicator lamp. At this stage, the indicator lamp does not light. However, for whatever reason a high current passes through the fine wire, this wire melts and the indicator lamp, which is now connected serially to the circuit, illuminates, thus showing the burnt fuse.



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Status-indicating fuse for D.C. current electrical systems.

The invention refers to a status-indicating fuse for D.C. current electrical systems, consisting of two bronze nickel plated jackets, the glass tube, the fine fuse wire and a small indicator lamp that is placed in parallel with the fine fuse wire. The fine wire, together with the indicator lamp, are enclosed within the glass tube.

As we know, fuses protect the conductors from overheating. As soon as the current goes beyond its nominal rating, the wire melts and the electrical supply is cut off. The novelty in our invention is that as soon as the fuse wire melts, the parallelly connected indicator lamp illuminates.

The advantages of this invention are: a) immediate detection of the burnt fuse, because of the light of the small indicator lamp, which pinpoints the burnt fuse, b) we can immediately replace the burnt fuse without the need to remove and inspect all the fuses, c) auxiliary lighting is unnecessary for the act of replacing the fuse, as this is provided by the burnt fuse's indicator lamp, d) we can avoid summoning an electrician, as almost the total of faults in an electrical system stem from the fuses.

An application of the invention is described below, with reference to drawings, which illustrate only one, specialized manifestation in which: Fig. 1, shows in a representational illustration the supply of electrical current from a D.C. source to a bulb which is protected by our status-indicating fuse. At this stage the bulb illuminates.

Fig. 2, shows, again, by representational illustration, the same circuit with fuse wire broken. At this stage, the indicator lamp of the fuse illuminates, while the bulb to which the current is supplied is extinguished. The status-indication fuse consists of two bronze nickel-plated jackets (1), which are conductively connected between them by the fuse wire (4). The indicator lamp (3), which has a high resistance value and which will illuminate with very low current levels, is connected in parallel with the fuse wire (4). The wire (4), together with the indicator lamp (3) are enclosed within a glass tube (2), which is covered at both its ends by the two jackets (1). A bulb (5) is placed serially to the indicator fuse and which is supplied by D.C. power supply (6). While the fuse wire (4) is intact the bulb (5) illuminates, supplied by the D.C. power supply source (6). The indicator lamp (3), which is connected in parallel with the fuse, does not illuminate as due to the very high resistance it presents to the current, the current almost totally flows through the wire. However, as soon as the wire (4) is cut, the indicator lamp (3) illuminates as it is now connected serially to the circuit and all the

current now flows through the lamp. The supply bulb (5) does not illuminate in this particular manifestation of our invention, because of the high resistance of the indicator lamp (3) which is serially connected to the circuit.

It must hereby be noted that the above description was made by reference to an illustrative and non-limiting embodiments of the invention. Thus, whatever change or amendment in the size, dimension, materials and accessories used, the method of manufacture, as well as the look and adaptation to fuses which utilize as their operating system the idea of our invention, is considered to be contained within the scope and the aims of the present invention.

Claims

1. Status-indicating fuse for D.C. current electrical systems, characterized by the fact that it consists of two metal jackets, which are connected conductively between them with a fine melting wire fuse, to which an indicator lamp is parallelly connected. The indicator lamp and the fuse wire are encapsulated in a glass tube, whose ends are covered by the two metal jackets. During the operational phase, current flows through the fuse wire because of the high resistance of the indicator lamp, with the result that the indicator lamp does not illuminate. If for whatever reason the fuse wire melts, the indicator lamp illuminates, thus showing us the burnt fuse.

2. Status-indicating fuse for D.C. current electrical systems, according to the above claim 1, characterized by the fact that the type of indicator lamp connected in parallel to the fuse wire, is non-limiting.

3. Status-indicating fuse for D.C. current electrical systems, according to the above claim 1, characterized by the fact that it covers all types of fuses that are used in the functioning of machinery, automobiles and generally all mechanical systems that utilize an electrical system.

4. Status-indicating fuse for D.C. current electrical systems, according to whichever of the above claims 1-3, as is indicatively described and illustrated in the accompanying drawings.

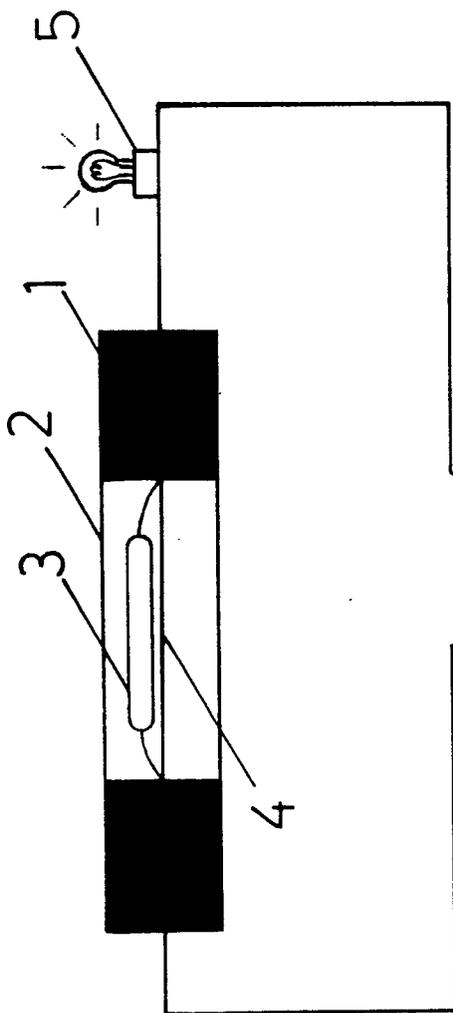


FIG.1

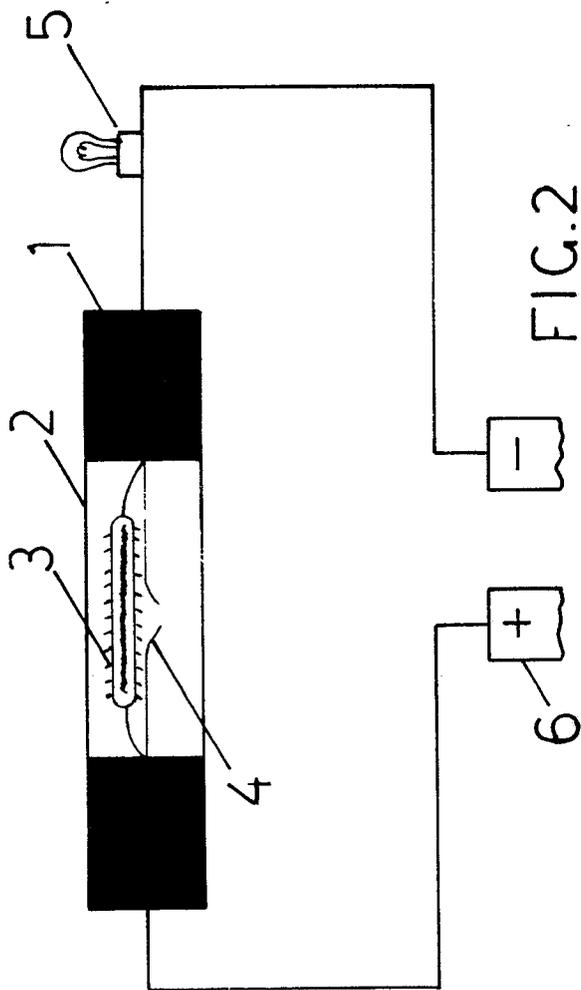


FIG.2



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	US-A-4 514 723 (D.T. LEAL) * abstract, column 2, line 67 - column 3, line 9; figure 1 * ---	1-4	H 01 H 85/32
X	DE-U-8 503 054 (Y.CH. CHANG) * page 1, line 1 - page 2, line 17, page 3, lines 4-7; claims 1-6; figures 1,2 * ---	1-4	
X	DE-A-2 741 779 (LED ALERT INC.) * claims 1,3; page 9, paragraphs 1,2; figures 1,3,4 * ---	1,3,4	
A	US-A-4 695 815 (CH. HWANG) * abstract; figures 1-3 * -----	1-4	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			H 01 H 85/00
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 16-01-1989	Examiner RUPPERT W
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			