Feb. 21, 1956 C. DARR 2,735,918

ELECTRICAL RELAY AND COVER THEREFOR

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Fig.1

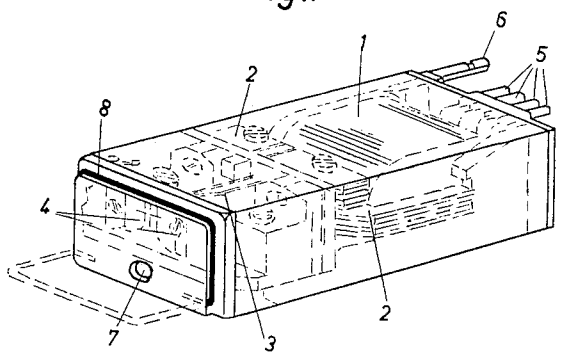
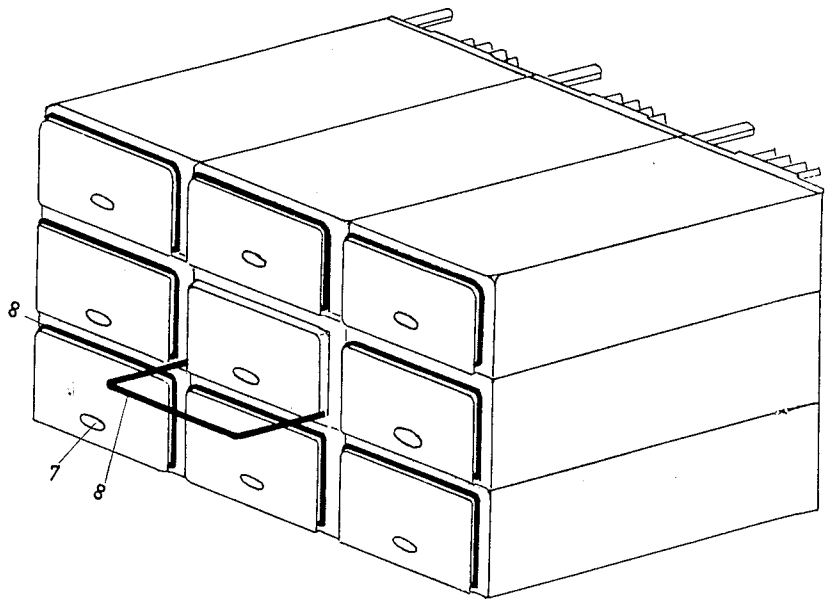


Fig.2



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ELECTRICAL RELAY AND COVER THEREFOR

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2 Claims. (Cl. 200—168)

This invention is concerned with the provision of a protective cover for sensitive electrical relays as they are for example used in signalling systems.

The object of the invention is to provide a cover for the above indicated purpose which is made of transparent insulating material, e. g., of Plexiglas or the like and provided with fastening means disposed in its wall, e. g., screws for removable mounting on a relay frame or board.

The foregoing object and other objects and features will become apparent from the following description of the accompanying drawings, wherein

Fig. 1 shows in diagrammatic representation a protective cover for relays; and

Fig. 2 indicates the manner of disposing a plurality of covers on a relay board.

Referring now to Fig. 1, the transparent protective cover is outlined by full lines. Within the cover is a highly sensitive polarized relay, e. g., a telegraph relay as indicated in dotted lines. Numeral 1 indicates the relay coil. The magnetic flux flows from the yoke and pole shoes 2 to the movable armature 3 which coacts with contacts 4. The armature terminal as well as the contacts 4 and the windings of the coil 1 are respectively connected with the soldering tabs 5.

The example shown is concerned with a relay that may be plugged into a suitable socket by means of the guide pins 6. The cover is fastened on the corresponding relay board, e. g., on a suitable base plate, by means of a screw 7. The head of the screw is sunk in the face wall of the cover sufficiently deep so that it is normally protected against random access.

The cover protects the operating personnel against the high potential which is often encountered in such relays.

A handle 8 is provided which is in insulated manner pivotally mounted on the face wall of the cover so that the relay which is by means of the screw 7 connected with such face wall can be safely removed even at times when its terminals carry current.

The invention offers outside of these protective features the possibility of observing the operation of the relay. In some circuits, the armature must assume a certain initial position upon starting operations, and the transparent face wall of the cover permits checking of this requirement at any time.

Another feature is that it is practically not necessary for the operating personnel to remove the relay from its jacked position or to remove the protective cover therefrom.

In order to prevent unauthorized removal of the cover and adjustment of the relay, the fastening screw 7 may be of the type requiring a special screw-driver which is placed at the disposal of only the trained personnel charged with checking and repairing the equipment. Such

personnel is familiar with the prevailing electrical conditions and may undertake adjustments during operation, if required by the use of suitable safety precautions. It is in such cases merely necessary to remove the screw 7 and thereafter the cover without loosening the jacked fastening of the relay on the board.

Fig. 2 shows how relays provided with the protective covers according to the invention may be disposed on boards in signalling systems side by side in superposed rows, forming a unitary assembly. Each relay may be individually removed by the use of its handle 8.

The form of the cover will of course depend on the structure and dimensions of a corresponding relay; it may assume other forms than that shown, e. g., a cylindrical form.

I claim:

1. In combination with a sensitive electrical relay having operating parts secured on a mounting plate carrying plug means electrically connected with said operating parts and extending rearwardly of said mounting plate for removably plugging said relay into a suitable socket, a cover for said operating relay parts consisting of a transparent shell made of insulating material and having a front wall and side walls rearwardly extending therefrom, said front wall forming a generally rectangular platelike portion projecting forwardly to form a peripheral rectangular recessed portion thereon, screw means extending from said front wall rearwardly to said mounting plate for removably securing said cover thereon, the head of said screw means being in fastened position thereof buried in a depression formed in the platelike portion of said front wall so as to be normally inaccessible, and a generally U-shaped handle having its legs pivotally mounted near the bottom of the opposite sides of said forwardly projecting rectangular platelike portion on the front wall of said cover for out-of-way disposal in normal position thereof along said peripheral rectangular recessed portion, whereby said handle can be rotated outwardly from such normal out-of-way position for the purpose of manipulating said cover, said relay and cover being removable as a unit when said screw means is in fastening position and said cover being removable individually upon loosening of said screw means while leaving said relay plugged to said socket.

2. The structure defined in claim 1, wherein a plurality of relays as specified are mounted in a bank in vertically successive horizontally extending rows with the bottom walls of the covers of the relays in one row disposed above and closely spaced from the top walls of the covers of relays disposed in the row therebelow and with the side walls of the relays in a row adjacent to and closely spaced from the side walls of adjacent relays and with the handles of said covers of the respective relays disposed in normal out-of-way position in a frontal plane substantially coinciding with the frontal plane of the forwardly projecting rectangular portions of the front walls of said covers.

References Cited in the file of this patent

UNITED STATES PATENTS

928,360	Clement	July 20, 1909
941,761	Corwin et al.	Nov. 30, 1909
1,672,976	Field	June 12, 1928
2,069,169	Leake	Jan. 26, 1937
2,198,704	Lazich	Apr. 30, 1940