

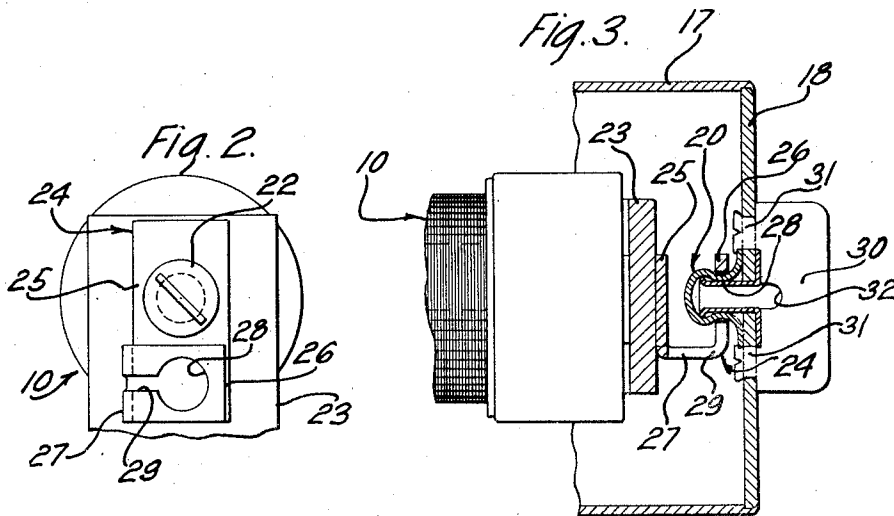
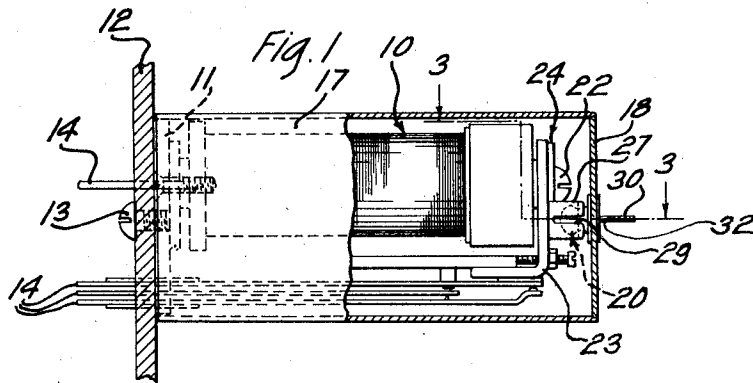
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INCLOSURE FOR DEVICES

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UNITED STATES PATENT OFFICE

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INCLOSURE FOR DEVICES

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This invention relates to inclosures for devices, and more particularly to means for inclosing small electrical devices, such as relays.

5 The primary object of this invention is to provide an improved means for inclosing devices which is simple in construction and adapted to be removed and replaced in a facile manner.

10 In accordance with the general features of this invention there is provided in one embodiment thereof as applied to the inclosing of electromagnetic relays a cover having a fastener for holding it in position, comprising
15 coaxial cooperating resilient snap members, one of which is fixed to the cover and the other to a supporting plate of the relay, the members being coaxial with the cover and serving when brought together into operative
20 relation to hold the cover in position.

It is believed that this invention will be clearly understood from the following description, taken in connection with the accompanying drawings, wherein

25 Fig. 1 is a side view, partly in section, of an inclosing cover and a fastener therefor shown applied to an electromagnetic relay and embodying the features of this invention;

30 Fig. 2 is an enlarged fragmentary end view of the relay, showing the fastener member which is fixed to the supporting plate of the relay, and

35 Fig. 3 is an enlarged plan section taken on the line 3—3 of Fig. 1.

Referring now to the drawings, and particularly to Fig. 1, the numeral 10 represents an electromagnetic relay such as is used in connection with telephonic systems. Fixed
40 to the left end of the relay is a circular plate 11 by means of which the relay 10 is mounted on a supporting strip 12 in the usual manner by screws 13, one of which is shown in Fig. 1, as extending through the strip and threaded
45 into the plate. A plurality of terminals 14 from the relay 10 extend through suitable apertures in the plate 11 and the strip 12 for connecting the relay to external conductors.

50 Surrounding the relay 10 is a cylindrical can or cover 17, the internal diameter of

which is slightly greater than the diameter of the circular plate 11, which is entered into the left open end of the cover when the latter is mounted on the relay. The right end of the cover 17 is provided with a wall 18 which, as shown in the drawings, is a disc inserted in the end of the cylindrical cover flush with the end thereof and suitably secured thereto by spinning the edge of the cover over the edge of the disc, or otherwise. The purpose
60 of the cover 17 is to maintain the inclosed parts securely against injury and free from magnetic disturbances from external sources and from entry of dust or foreign particles. Secured centrally and permanently to the
65 wall 18 of the cover 17 and projecting from the inner surface of the wall within the cover is a two part, spring ball type snap fastener member 20, by means of riveting in a well known manner, as clearly shown in Fig. 3.
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Fixed by means of a screw 22 to a supporting angle plate 23 at the right end of the relay 10 is a socket member 24 which, as viewed in Fig. 3, is of a U-formation with spaced arms 25 and 26 integrally connected
75 together by an arm 27. The arm 26 is provided with a substantially circular slot 28 slightly smaller in diameter than the ball end of the member 20 with which it is coaxially aligned when the cover 17 is mounted
80 upon the circular plate 11 at the opposite end of the relay. The slot 28 at one side, as shown in Fig. 2, connects with a comparatively narrow slot 29 which extends to and across the arm 27 to the arm 25, thereby providing a resilient socket for the ball end of
85 the member 20 which when inserted therein serves to yieldably hold the cover 17 in position surrounding the relay, with no part of the cover engaging the working parts of
90 the relay.

Although in the embodiment of this invention, as shown in the drawings, the snap fastener members 20 and 24 are illustrated and described as fixed to the cover 17 and the relay 10, respectively, it will be apparent that the position of these members may be reversed and still be effective.

Relays used on telephone exchange switchboards are mounted very close together in
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vertical and longitudinal rows and to readily remove the covers 17 therefrom an outwardly and laterally extending handle 30 is mounted centrally on the wall 18 of the cover 17 with projecting tongues 31 of the handle extending through apertures formed in the wall. The inner ends of the tongues 31 are staked to secure the handle 30 to the wall 18 simultaneously with the riveting of the fastener member 20 to the wall, and in such a manner that the inner edges of the tongues 31 are staked over the inner peripheral edge of the fastener member 20 at diametrically opposite points, while at the opposite face of the wall 18 the handle 30 also extends over the outer flange of the member 20. This construction, it will be apparent, provides for a very secure fastening of the fastener member 20 to the cover 17.

When mounting the cover 17 in position the left open end thereof is slid over the right end of the relay 10 and moved toward the left end of the relay and onto the circular plate 11, the spring ball end of the fastener member 20 when centered snapping into the resilient socket provided by the slots 28 and 29 of the fastener member 24, which is fixed to the relay. The cover 17 when thus mounted, it will be apparent, is yieldably held in position upon the relay 10 and it may be readily removed therefrom by grasping the handle 30 thereof and drawing it toward the right. A central slot 32 is formed in the handle 30 into which a suitable tool may be inserted for disengaging the cooperating snap fastener members 20 and 24 in case they do not readily separate when the handle 30 is grasped by the hand, or when surrounding apparatus prevents the removal by hand. It will be apparent that the cover 17 is supported at one end upon the disc 11 and centered, supported and retained at the opposite end by the cooperating snap fastener members 20 and 24 and that the cover may be freely rotated when in position without contacting with any working part of the relay 10. Also the cover 17 is substantially dust proof, particularly at its outer closed end, since no openings between the cover and the fastener member 20 fixed thereto occur which permits the entrance of dust.

Although this invention is illustrated and described as applied to a particular device, it is not limited to this one application, but may be adapted for a variety of other purposes, and the invention is only to be limited by the spirit and scope of the appended claims.

What is claimed is:

1. In combination with an electrical device, a cover therefor, a socket member secured to the device, and a cooperating member fastened to and extending from an inner wall of the cover adapted to engage within the

socket member for yieldably holding the cover in position.

2. In combination with an electrical device, a cover therefor, a resilient socket member secured to one end of the device, and a cooperating ball shaped member fastened to and extending from an inner wall of the cover adapted to engage within the socket member for yieldably holding the cover in position.

3. In combination with a device to be inclosed, a cover therefor, a member secured to the device, a cooperating member fastened centrally to and extending from an inner wall of the cover adapted to engage said other member for yieldably holding the cover in position, and a handle fastened centrally to the cover and also with the holding member secured to the cover, the handle provided with a slot for the entrance of a tool.

4. In combination with a device to be inclosed, a cover therefor, a member having spaced parallel integral arms, one of which is secured to the device and the other having an aperture and a slot extending radially therefrom to provide a resilient socket, a cooperating member fastened centrally to and extending from an inner wall of the cover adapted to engage said other member for yieldably holding the cover in position, and a handle fastened centrally to the cover with portions thereof engaging over diametrically opposite points of the flanges of the holding member which is secured to the cover.

5. In combination with a device to be inclosed, a cylindrical cover therefor having an end wall, a member secured to the device having a resilient socket portion axially aligned with the cover, and a cooperating ball shaped member fastened axially to and extending from the inner surface of the end wall of the cover adapted to engage within the socket portion of the first member for slidably holding the cover in position.

In witness whereof, I hereunto subscribe my name this 13th day of August, A. D. 1930.

FLOYD W. BENNETT.