

Dec. 24, 1963

W. E. STARK

3,115,308

SNAP-IN HOUSING

Filed Dec. 26, 1961

FIG. 1

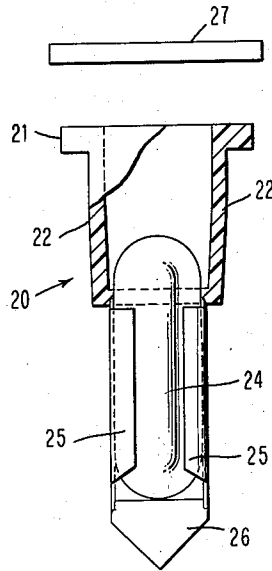
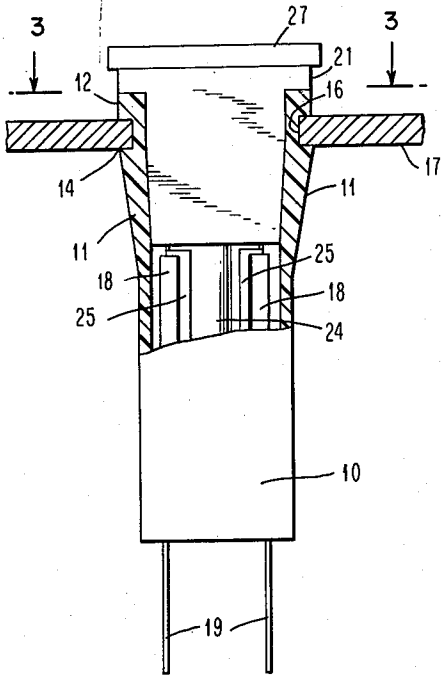


FIG. 2

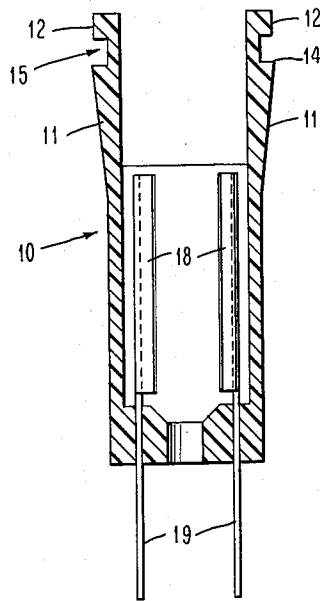


FIG. 3

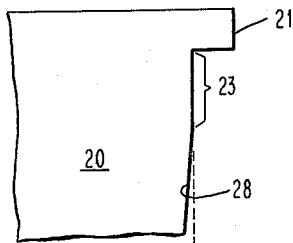
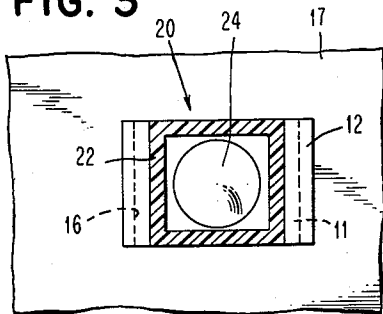


FIG. 4

INVENTOR
WILLIAM E. STARK

BY *John L. Studing*

ATTORNEY

1

3,115,308

SNAP-IN HOUSING

William E. Stark, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 26, 1961, Ser. No. 161,995

2 Claims. (Cl. 240—8.16)

This invention relates to a housing for an electrical component that can be easily and quickly mounted in an aperture in a support and more particularly to a housing that permits easy replacement of the component.

Heretofore lamps, switches, fuses and the like have been secured in an aperture in a panel by threaded rings acting against a flange, bolts through the panel and housing, and spring clips or arms acting against the back of the panel. In most instances this required that the assembler or serviceman have access to the back of the panel when replacing a burned out lamp, defective switch or blown fuse. Also in most instances the leads had to be unsoldered before the defective component could be removed.

It is therefore the principal object of this invention to provide a housing for an electrical component that can be inserted in an aperture in a panel or the like from either the front or back.

Another object is to provide a housing in which a component can be removed and replaced without disturbing the housing.

A further object is to provide a housing for an electrical component in which the component provides a means for locking the housing in an aperture in a panel as well as locking itself in the housing.

Another object is to provide a housing for an electrical component that permits easy and quick replacement of the component without disturbing the housing.

The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of the preferred embodiment of the invention, as illustrated in the accompanying drawings:

In the drawings:

FIG. 1 is a front elevation of the invention partially in cross section.

FIG. 2 is an exploded view of the invention partially in cross section.

FIG. 3 is a cross section taken through 3—3 of FIG. 1 showing the connectors around the lamp.

FIG. 4 is an enlarged view of a portion of the cap member showing the limiting shoulder and locking surface.

The embodiment shown in the drawings houses a lamp. It is obvious that a switch, fuse or circuit component may be substituted for the lamp.

According to the present invention the base of the housing is formed of resilient plastic. The main body is hollow and is provided with two upstanding parallel arms having grooves formed in the outer surfaces thereof that are adapted to engage the edge of an aperture formed in a panel in which the housing is to be secured. Molded in parallel relation in the hollow body portion of the base are two arcuate spring contacts. A wedge-shaped cap member of similar plastic carrying the component is adapted to be inserted between the upstanding arms of the base forcing them into contact with the edges of the aperture. The component secured in the cap member is provided with a pair of parallel contacts that engage the contacts in the base when the cap is inserted.

As shown in the accompanying drawing the base 10 is substantially rectangular having resilient arms 11 formed on the upper portion thereof. The inner surfaces of these arms are substantially parallel. The upper end of each arm is provided with a flange 12. Each arm 11 is tapered

2

from a shoulder 14 to its base and forms a groove 15 with flange 12 to accommodate the edge of an aperture 16 in panel 17. Molded in the hollow portion of the base 10 is a pair of arcuate contacts 18 of spring material having tails 19 extending beyond the bottom of the base.

The cap member 20 is formed of plastic and is substantially rectangular with laterally extending flanges 21. The side walls 22 are slightly tapered making it wedge-shaped along the longitudinal axis only. Between the flange 21 and the start of the taper is an area 23 perpendicular to the flange that forms a locking medium as will be described later. Secured in the bottom of cap 20 is the head of a lamp 24 the leads of which are connected to two arcuate contact members 25. The contacts extend parallel to the lamp and each other and are in turn molded into a wedge-shaped plastic tip 26. A lens 27 is secured by a well known means to the top of the cap member.

In assembling the housing in a panel an aperture such as 16 is provided that is slightly larger than the overall dimensions of the bottom portion of the base. The base 10 of the housing may be inserted from the front or rear of a panel. If, from the front, the slight taper on the arms 11 will cause them to be sprung inwardly until the shoulder 14 is reached at which point the arms will snap in, engaging groove 15 with the edges of the aperture. If inserted from the rear of the panel, the arms 11 are manually sprung inwardly to permit the groove 15 to engage the panel. In either instance the housing will be firmly held in the panel permitting the soldering of leads to the tails 19.

When the cap member containing the lamp is inserted, the wedge-shaped surfaces 28 will force the arms with their grooves into tighter engagement with the supporting panel and further insertion will cause the surfaces 23 to lock the housing in place.

It is obvious that this form of housing permits the easy replacement of the cap 20 and its lamp 24 without disturbing the base member 10 and the connections to the tails 19. It is also apparent that a fuse, condenser, switch or other components could be molded in the cap in place of the lamp.

While the invention has been particularly shown and described with reference to a preferred embodiment thereof, it will be understood by those skilled in the art that the foregoing and other changes in form and details may be made therein without departing from the spirit and scope of the invention.

What is claimed is:

1. A lamp housing and the like having a body member for mounting in an apertured support said member being formed of resilient synthetic plastic material, comprising a hollow body portion having a pair of arms formed at one end thereof, said arms each having a flange adjacent to the free end of said arm and extending outward laterally, each arm being tapered from a shoulder forming a groove with said flange to a point near the base of said arm, said groove serving as a means for securing said body portion in the aperture of said support, arcuate contacts of spring material secured in parallel relation within the cavity of said body portion, said contacts having tails extending out of the base of said body, and a hollow wedge-shaped cap member of similar plastic having a translucent cover on the wider end thereof, one end of a lamp secured in the narrower end of said cap member with the contacts thereof extending parallel thereto and to each other, the lower end of said lamp and contacts being secured in a wedge-shaped block, said cap member when inserted between the arms of said body member with said arcuate contacts and lamp contacts engaged will spread said arms into locking engagement with said aperture to firmly hold said housing in said support.

3

2. In a lamp housing for insertion in an apertured support,
the combination of a body member having resilient
arms grooved to engage the edges of said aperture,
contacts in said body extending through the base there-
of, and
a wedge shaped cover member having a lens thereon
and a lamp therein adapted when inserted between
said arms with said lamp and contacts engaged to
firmly lock said housing in said support.

5

10

4

References Cited in the file of this patent

UNITED STATES PATENTS

1,911,610	Douglas	May 30, 1933
2,647,222	Nieset	July 28, 1953
2,723,383	Franz	Nov. 8, 1955
2,802,958	Curley	Aug. 13, 1957
2,946,994	Dumke et al.	July 26, 1960
2,948,773	Hawes	Aug. 9, 1960
3,007,599	Greasley	Nov. 7, 1961