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R. E. FITZGERALD

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PANEL-MOUNTED LAMP SOCKET

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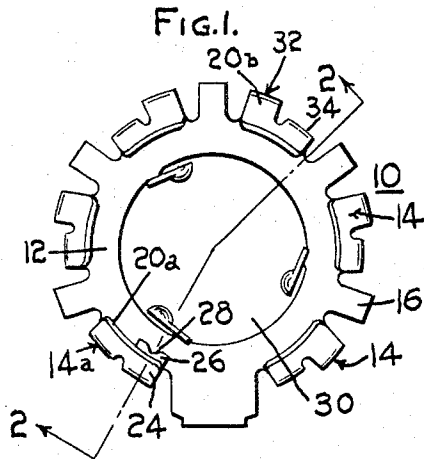


FIG. 4.

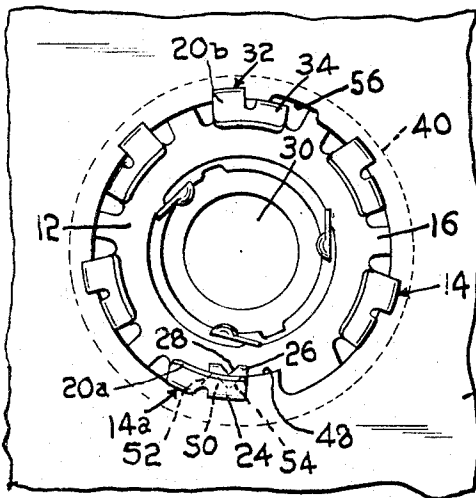


FIG. 5.

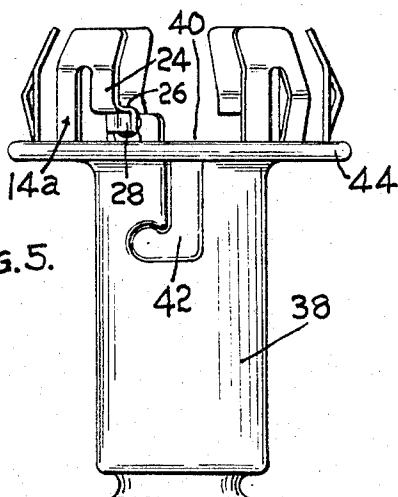
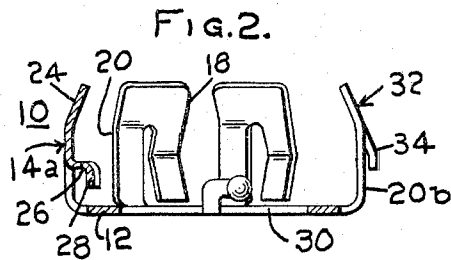


FIG. 3.

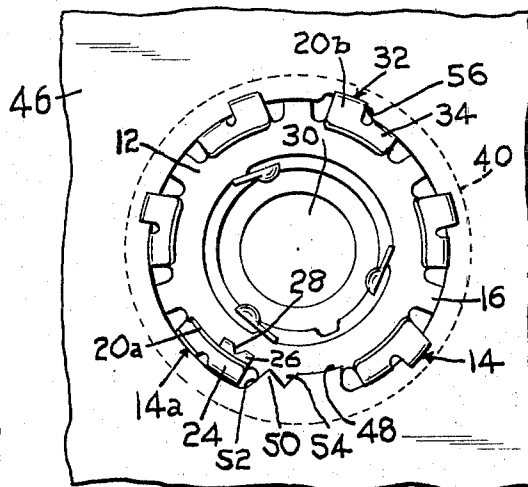
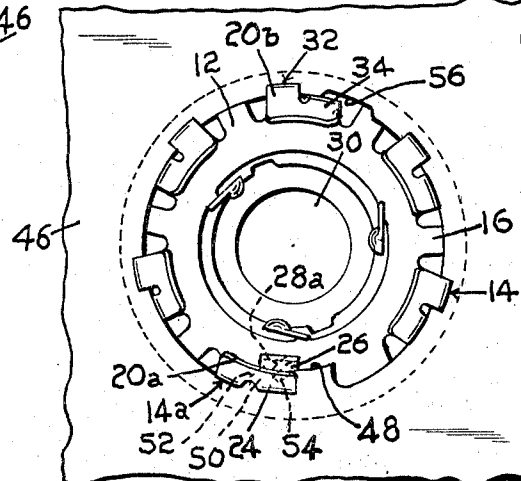


FIG. 6.



INVENTOR:
ROBERT E. FITZGERALD,
By *Gordon Heckerman*
ATT'Y.

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PANEL-MOUNTED LAMP SOCKET

Robert E. FitzGerald, Quincy, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

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ABSTRACT OF THE DISCLOSURE

This invention relates to a lamp socket mounting having a prong ring fastening device with means for making locking engagement to an apertured support. Locking engagement is made by a V-shaped flexing arm engaged against a V-shaped extension formed on the wall of the aperture.

Background of the invention

For many years plug button type fastening devices have been used to provide a means for engaging a lamp socket to an apertured support. The engagement with the support is usually not strong enough to resist accidental impact and may also be upset by prolonged vibration. The risk of having the engagement broken is particularly great in locations where there is a great deal of movement of objects such as the trunk of an automobile, for example.

Summary of the invention

This is a prong ring fastening device having a series of resilient mounting prongs, one with locking arm, generally U-shaped in configuration having a free terminal end with a V-formed portion for engagement with a matching element formed on the wall of a support. An opposing leg may be utilized which will engage over the opposite side of the aperture from that of the V-shaped portion on rotation of the fastening device or the device to which it is attached. A permanent locking variation can be made by having the arm bent at an angle to the axis of the fastener without the use of the V-shaped portion so that it snaps by a V-portion of the wall of the aperture locking it in position.

Description of the drawing

FIG. 1 is a top plan view of the prong ring;

FIG. 2 is a section taken on the line 2-2 of FIGURE 1;

FIG. 3 is a top plan view of the prong ring attached to a socket and engaged with an apertured support prior to location;

FIG. 4 is a top plan view similar to that of FIGURE 3 showing the prong ring rotated into locking position;

FIG. 5 is a side elevation of a socket having the prong ring of FIGURE 1 attached thereto.

FIG. 6 is a plan view of a variation of the socket shown in FIGURES 3 and 4.

Description of the preferred embodiments

In the drawing, there is shown an annular ring numbered 10, comprising a ring-like base portion 12, having an outer peripheral edge. The outer peripheral edge has a series of resilient support engaging spring fingers or prongs 14, spaced around the circumference thereof and extending therefrom and a series of extensions 16, protruding from the outer peripheral edge of the plane of the base portion 12.

A number of the spring fingers 14 are formed to provide an inverted U-shaped configuration. One arm 18 of the spring finger 14 is in spaced relation to a support portion 20, which is bent to provide an outwardly ex-

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tending knuckle and which is integral with the bight portion of the spring finger 14, as is the arm 18. One of the spring fingers 14^a is formed to provide a locking finger which has a support portion 20^a connected to a resilient locking portion 24, by a bight portion. The locking portion 24 has a right angle bend formed in it to provide a shoulder 26, and has a flexible support-engaging finger portion which is bent on a lateral plane and which is in angular relationship to the plane of the base portion 12 to form an arced or V-shaped engagement portion 28. The locking portion 28 is extended inwardly toward the axis of a central aperture 30 formed in the base portion 12.

A locking finger 32 is formed extending from the opposite side of the base portion 12, from that of the locking finger 14^a and in opposed relationship therewith. The locking finger 32 comprises a support portion 20^b connected by a bight portion to a locking member 34. The locking member 34 is simply one of the spring fingers 14, which is cut short proximate the shallow knuckle. The locking member 34 extends outwardly away from the axis of the central aperture 30, as shown in FIGURE 2.

The annular ring member 10, is shown as embodied in a lamp socket which is formed from a conductive material and comprises a tubular casing 38, having an open end 40, to receive an electric lamp base and another open end which is provided for the passage of leads. Pressed out slots or keyways 42, are formed in the tubular casing 38, which provides locking cooperation with pins or projections on a lamp base. Of course, the improved annular ring member 10 may be used with wedge base bulbs and a different means of engaging the bulb well-known in the art would be used rather than the slots 42. The open end 40 is provided with an outwardly extending circumferential flange 44, the peripheral edge is bent over and clinched on top of the extensions 16, of the annular ring member 10, whose axis forms a continuation of the axis of the tubular casing 38.

A support 46, which may be the interior of the trunk of a motor vehicle includes an engagement aperture 48, which has a locking tab 50, extending from the edge of the engagement aperture inwardly. The locking tab 50 has an arced camming portion 52, which terminates in a V-shaped slot 54. On the opposite side of the engagement aperture 48, from the locking tab 50, a rectangular notch 56 is formed for a purpose to be explained herein-after.

To engage the lamp socket with the engagement aperture 48, the spring fingers 14 are pressed against the inner wall of the engagement aperture 48, flexing them inwardly with the locking finger 32 within the rectangular notch 56, and the locking finger 14^a in close proximity to the locking tab 50. Subsequent rotation of the lamp socket positions the locking fingers in confronting relationship with the support and causes the V-shaped engagement portion 28 of locking finger 14^a to be received in the V-shaped slot 54 of locking tab 50, thus securing the socket in position.

A variation of the locking finger 14^a is shown in FIGURE 6, wherein the engagement portion 28^a is formed having a flat surface which is not arced or V-shaped as in the engagement portion 28, but rather is formed to lie on a plane which is parallel in relation to the axis of the annular ring member 10 and inclined to a radius extending normal to the axis. If the variation is engaged with an apertured support similar to the apertured support 46, then as rotation occurred the engagement portion 28^a would flex inwardly over the camming portion 52, and would snap behind the camming portion 52, within the V-slot 54, thereby locking it permanently in position.

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With reference to the foregoing description it is to be understood that what has been disclosed herein represents only two embodiments of the invention and is to be construed as illustrative rather than restrictive in nature and that the invention is best described by the following claims.

I claim:

1. A prong ring fastening device comprising a base portion having a series of flexible prongs extending therefrom in a right angle relation therewith and having a generally U-shaped configuration including an arm integral with said base portion and a flexible support-engaging finger portion connected to said arc by a bight portion; one of said prongs comprising a first locking means shaped to confront a surface of said support upon axial and rotative movement of said device against said support to prevent axial removal therefrom; and another of said prongs comprising a second locking means shaped to releasably engage said support to inhibit releasing rotation of said device.

2. A prong ring fastening device as set forth in claim 1 wherein said secondary locking means has a V-shaped configuration proximate the free terminal end thereof, the apex of said V-shaped configuration directed away from the center of said prong ring.

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3. A prong ring fastening device as set forth in claim 2 wherein said support-engaging portion of said secondary locking means has an angle bend formed therein, between the free terminal end and the bight portion, providing a shoulder.

4. A prong ring fastening device as set forth in claim 4 wherein said support-engaging portion of said first locking means is bent outwardly away from the center of said prong ring fastening device.

5. A prong ring fastening device as set forth in claim 1 wherein the finger portion of said secondary locking finger is formed to lie on a plane parallel with the axis of insertion of said device and at an angle with a radius extending therefrom.

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25 RICHARD E. MOORE, *Primary Examiner*.