

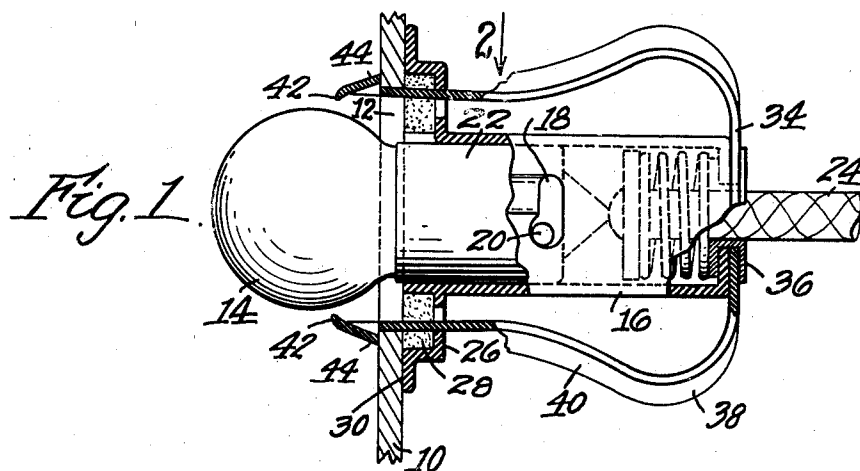
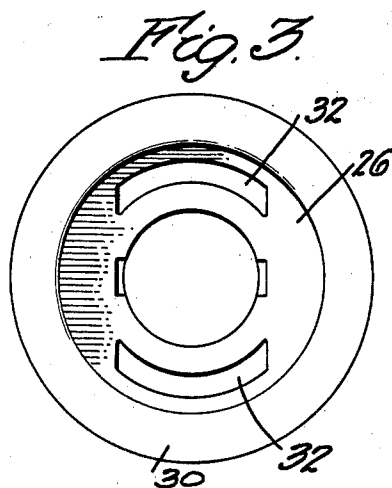
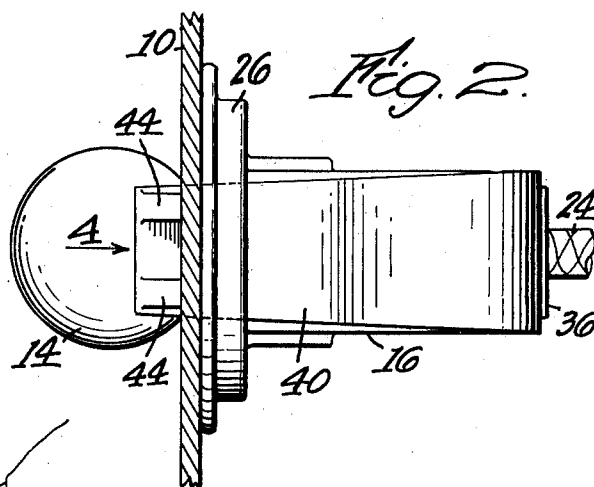
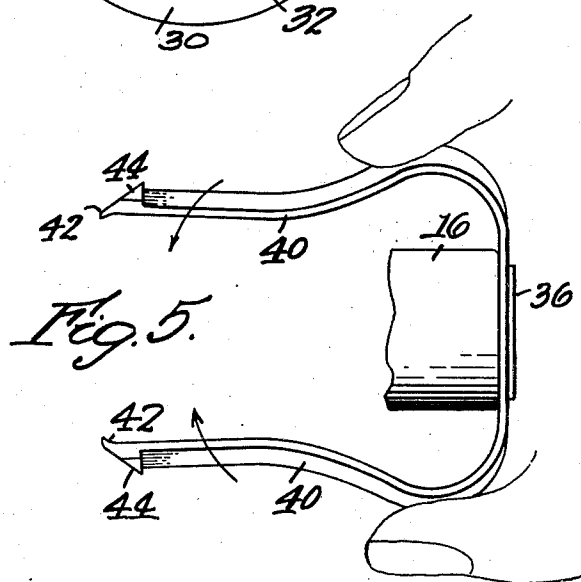
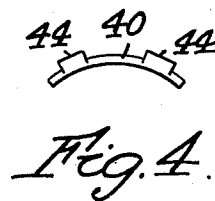
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LAMP SOCKET AND HOLDER

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LAMP SOCKET AND HOLDER

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This invention relates to lamp sockets and spring finger holding means therefor.

Objects of the invention include the provision of a lamp socket and holder therefor which is adapted to be inserted thru an aperture in a panel from the rear side of the latter so that the lamp will extend out from the front side of the panel; the provision of a spring finger lamp socket holder which will securely hold the socket in place in a panel and which will not be subject to shaking loose from the same thru vibration such for instance as may be encountered in motor vehicles; the provision of a resilient holder for a lamp socket which is particularly adapted for application to panels of varying thicknesses without the necessity for adjustment; the provision of a resilient lamp socket holder in which the resilient holding means comprises elongated spring fingers which extend from the rear of the socket towards the lamp and which have a pivoting action adjacent the rear of the socket so that upon compression of the spring finger the ends thereof will not only bend inwardly but will have a slight movement in a direction away from the rear of the socket so that in combination with a fixed flange on the socket the holder may be used with varying panel thicknesses and still retain a firm holding action which is not subject to loosening due to vibration; and the provision of a resilient spring finger lamp socket holder in which the spring fingers extend from the rear of the socket beyond its lamp holding end and in which the socket is provided with a flange which cooperates with the forward ends of the spring finger to grasp a panel or other support therebetween to thus firmly locate and hold the lamp socket.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which

Fig. 1 is a side view of the structure embodying the invention, parts being in section;

Fig. 2 is a top plan view of a holder, looking in the direction of arrow 2 in Fig. 1;

Fig. 3 is a front view showing the socket flange;

Fig. 4 is an end view of one of the spring fingers, looking in the direction of arrow 4 in Fig. 2; and

Fig. 5 is a view of the spring fingers showing how they are compressed for insertion of the holder through an aperture in a support.

In the art to which the present invention relates, there has long existed the problem of providing an inexpensive lamp socket holder which

is capable of attachment to a panel by spring means and which would be free of danger of working loose thru vibration. This is particularly true in the automotive industries in which small lamps are used to a great extent on dashboards, and other thin partitions, such lamps, of course, being subject to vibration of the automobile. At the same time, there is the problem of providing a single simple design of lamp socket holder which can be used in conjunction with various thicknesses of panels, such panels varying as much as 25 thousandths of an inch. Up to the present time, lamp socket holders of the present type have almost universally been made with some short spring arrangement attached to the forward or lamp-receiving end of the socket, which renders it impossible to obtain much resilience. The present invention overcomes the present difficulties aforesaid and at the same time retains and enhances the advantages of the spring finger constructions of the prior art, by a novel structure which provides long spring fingers obtaining greater resilience.

Referring to the drawing in detail, the numeral 10 indicates a supporting panel such as for instance the dashboard of an automobile or other partition. This panel is apertured as at 12 for the reception of the lamp 14. A cylindrical socket 16 is provided and this socket is equipped with the conventional bayonet-type joint 18 for the reception and holding of pins 20 on the lamp base 22. The socket is open at its forward end for the reception of the lamp base and at its rearward end is restricted to a small opening for the insertion of a cord such as that shown at 24. The end of the cord is equipped with the conventional spring and washer construction as shown in Fig. 1, for resiliently securing the lamp in place.

At its forward end, the socket 16 is provided with an outstanding circular flange 26 which is equipped with a Z bend for the reception of a felt or other washer 28 and also to provide a flat surface 30 to abut the rear side of the panel 10. The flange 26 is also provided with a pair of diametrically opposite arcuate slots 32 for a purpose to be described.

At the rear end of the socket, a plate 34 of spring metal is secured as by means of an eyelet 36 or by any other convenient or desired means. This plate is bent forwardly in the general direction of the axis of the socket 16 and this bend is provided with a reverse curve 38 for the purpose of imparting additional resiliency to the spring finger 40. From the reverse curve, the

fingers extend forwardly through slots 32 which are of a width several times greater than the thickness of the fingers so that a radial play may be permitted. It will be noted that the spring fingers 40 tend to straighten out towards the plane of the plate 34 but are restrained from this action by the outer walls of the slots 32, and since the slots 32 are radially spaced from the walls of the socket 16, fingers 40 are normally substantially spaced from the socket walls.

Spring fingers 40 extend somewhat beyond the flange surface 30 and their free ends terminate in inwardly bent projections 42, rearwardly of which there are projections 44 stuck up for the purpose of abutment against the panel 10. As shown in Fig. 4, the fingers 40 are transversely curved for additional strength and slots 32 are correspondingly curved to accommodate the same.

In the operation of the device, the lamp may be assembled in the socket and then the spring fingers may be grasped as shown in Fig. 5 so as to compress the fingers 40 in a radial direction so that the ends of the fingers may be inserted thru the aperture 12 in the panel 10. The bent projections 42 will assist in locating the aperture when it is in an out-of-the-way position. As soon as projections 44 have passed beyond the outer surface of the panel, the spring fingers may be released and they will then expand due to their inherent resiliency and grasp the edge of the aperture in the panel so that the flange 26 abuts the rear edge of the panel and the socket is thereby firmly held in position. Clearly the comparatively great length of the spring fingers 40 provides a much greater resiliency than has been possible heretofore in short spring fingers which are supported at the forward or flanged end of the socket. Also, a very important result of the present construction is that when the spring fingers are radially contracted, they will pivot about a point in the plate 34 approximately in line with the outer surface of the socket 16, and since the fingers are spaced from the surface of the socket in normal condition or in panel gripping position, it will be seen that the pivoting of the finger towards the socket will result in a slight travel of the free ends of the spring fingers in a direction away from the plate 34, since the ends of the fingers will travel on an arc whose center would be the pivot point of the fingers. Hence, by contracting the spring fingers sufficiently, a panel of greater thickness than that shown can be used as the lamp socket support, and the same gripping action is obtained.

It will therefore be seen that there has been provided a spring finger lamp socket holder which can be used with various thicknesses of panel supports without adjustment and which will be retained in its support regardless of the ordinary vibrations encountered in motor vehicles, due to the great pressure exerted by the long spring fingers.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. As an article of manufacture, a light bulb socket, a plurality of spring metal fingers attached to said socket transversely thereof at one end

so that said fingers extend outwardly radially of said socket, said fingers being reversely directed from adjacent said end towards the other end of the socket, but remaining spaced therefrom throughout their lengths, and terminating in free ends, said fingers being pivotable adjacent their points of attachment, whereby their free ends may approach said socket and retreat from their points of attachment, means on said free ends for securement to a support, the radial and reversely directed portions of said fingers providing a hand grip of a diameter greatly in excess of said socket for easy manipulation thereof and of said fingers.

2. As an article of manufacture, a generally cylindrical socket having a bulb receiving opening at one end and a conductor opening at its other end, a flange on the socket adjacent the bulb opening, a plurality of apertures in said flange, a plurality of spring fingers attached to said socket adjacent the conductor opening and extending towards and beyond said bulb opening, said fingers passing through said apertures and terminating in free ends, the latter being effective to clamp an object against said flange.

3. As an article of manufacture, a generally cylindrical light bulb socket having a bulb receiving opening at one end, a plurality of spring fingers attached to said socket remote from said bulb opening, said fingers extending away from the socket near their points of attachment and being reversely curved towards the socket and in the direction of the bulb opening, said fingers being free at their ends and spaced from said socket in parallel relation thereto, said fingers being capable of pivotal action near their points of attachment to the socket, means on the free ends of the fingers for attachment to a support, said spring fingers providing an enlarged hand grip for easy manipulation of said socket and fingers during attachment thereof to a support.

4. As an article of manufacture, as recited in claim 3, in which the socket is provided with a flange adjacent the bulb opening, there being means in said flange effective to receive said fingers adjacent their ends.

5. As an article of manufacture, a light bulb socket having a substantially closed end and an open end, a plurality of resilient fingers attached to the exterior of said socket at said closed end and extending generally radially away from said socket for a short distance, said fingers being reversely curved to extend back toward and into substantially parallel and relatively close but spaced relation to said socket towards said open end of said socket, said fingers terminating in free ends, means on said free ends for attachment to a support, the parts of said fingers located between the attachment and the parallel portions forming an enlarged hand grip for manipulating said socket and said fingers.

6. An article of manufacture as recited in claim 5, in which the free ends of said fingers cooperate with a flange at the open end of said socket to clamp an object therebetween.

7. An article of manufacture as recited in claim 5 in which there is an outstanding flange at the open end of said socket, said fingers passing thru said flange and beyond the same.

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