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[54] **REAR ENTRY CONTACT FOR A LAMP BULB SOCKET**
7 Claims, 8 Drawing Figs.

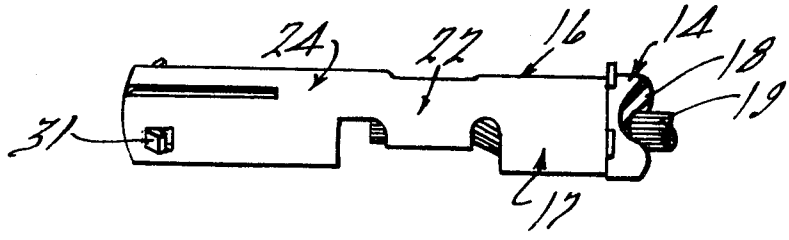
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[50] **Field of Search** 339/188, 193, 217, 252, 253

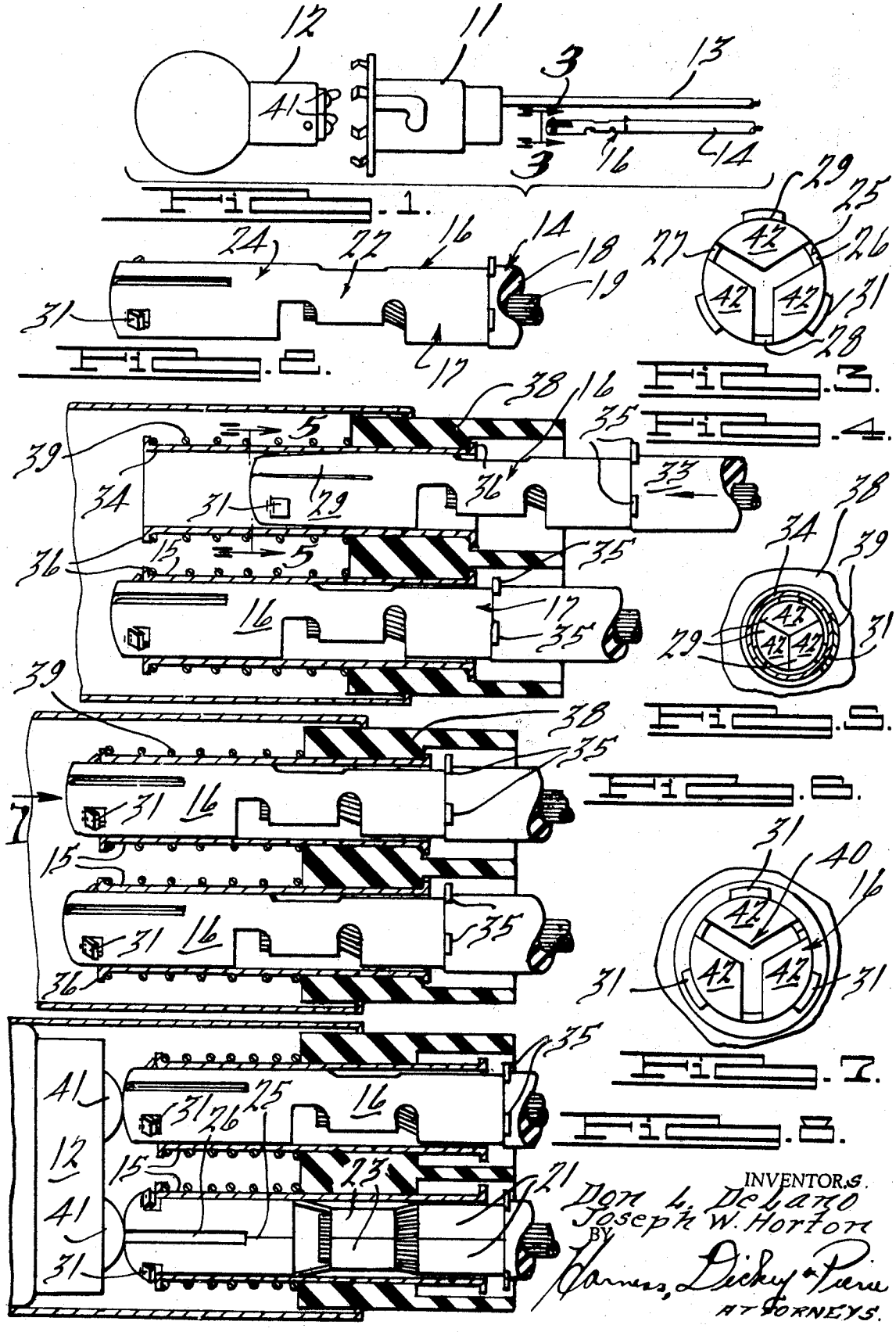
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ABSTRACT: The socket has one or a plurality of spring pressed sleeves for receiving a conducting clip on the end of one or more conductors which is insertable from the rear end to project beyond and lock to the forward end of the sleeve and form a terminal head which engages a contact of a light bulb.





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REAR ENTRY CONTACT FOR A LAMP BULB SOCKET

BACKGROUND OF THE INVENTION

While rear entrance clips on the end of conductors have been employed heretofore for insertion within a sleeve, none are known which lock to the end of the sleeve and form the terminal head for engaging a contact of a light bulb to connect it directly to a conductor as practiced by the present invention.

SUMMARY OF THE INVENTION

The invention pertains to a socket having a cylindrical body containing bayonet slots for securing a lamp bulb in the forward end and having mounting means by which it is secured to a support. The socket has one or more spring pressed sleeves therein which forms a support for a clip on a conductor which engages the lamp bulb end of the sleeve and forms a terminal head which engages the contact of the lamp bulb. The present invention is drawn to the formed clip to the end of a conductor which is attached to a harness and which must enter the rear end of the sleeve and be advanced forwardly until the forward end projects from the sleeve sufficiently to permit lanced-out fingers to engage the end thereof and form a fixed head thereon directly connected to the conductor. The head end when attached to the end of the sleeve forms a terminal for engaging a contact on the light bulb supported within the socket. With this arrangement there is only one releasable terminal between the conductor and the contact on the base of the lamp bulb.

The clip is formed from a stamping which when rolled to cylindrical form has an end collar which encompasses and is secured to the insulating cover of the conductor. A spaced collar is secured to the plurality of wires of the conductor. The forward end contains three slots which separate the end into three sections which are flanged inwardly to form an engaging head. Each section has a lanced-out finger which engages the forward end of the sleeve in which it is inserted to have the flanged end and fingers project beyond the sleeve and fixed thereto against removal therefrom. The clip and sleeve are movable axially within the socket and are urged outwardly toward the lamp bulb base by a spring encompassing the sleeve.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an exploded view of a socket, lamp bulb and a conductor embodying features of the present invention;

FIG. 2 is an enlarged view of the clip on the end of a conductor illustrated in FIG. 1;

FIG. 3 is an enlarged view of the end of the clip illustrated in FIG. 1, as viewed from line 3–3 thereof;

FIG. 4 is an enlarged sectional view of the socket illustrated in FIG. 1 for a two-filament lamp bulb with a clip fixed within one of the sleeves and a second clip inserted part way into a second sleeve;

FIG. 5 is a broken sectional view of the structure illustrated in FIG. 4, taken on the line 5–5 thereof;

FIG. 6 is a view of the structure illustrated in FIG. 4, with both of the clips in secured position within both sleeves of the socket;

FIG. 7 is an end view of the structure illustrated in FIG. 6, as viewed from the point 7 thereof, and

FIG. 8 is a view of the structure illustrated in FIG. 6, with one of the clips turned 90° relative to the other clip, both shown in engagement with the contacts on the base of a light bulb.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In FIG. 1, a socket 11 is illustrated for supporting a lamp bulb 12 and connecting it to a pair of conductors 13 and 14 forming a part of a harness. The conductors 13 and 14 have a clip 16 on the ends for insertion within sleeves 15 which are axially movable within the socket. The clip 16 is made from spring-type conducting material being stamped from a sheet and rolled into substantially cylindrical form as illustrated in the FIGS. A collar 17 on the rear end of the clip has fingers 21 which are squeezed together over the insulating material 18 of a conductor 19. A second collar 22 has its fingers 23 squeezed about the wires of the conductor 19 to be in fixed conducting relation therewith. The forward cylindrical end 24 of the clip has its edges 25 disposed in abutting relation, as illustrated in FIG. 8. Three slots 26, 27 and 28 are provided in the cylindrical end 24, as illustrated more specifically in FIG. 3. The slots are disposed 120° from each other forming three spring pressed sections 29, which permits the ends to move together as illustrated in FIG. 5, when being inserted within a sleeve of a socket. The inward deflection is produced by a lanced-out tab 31 in each of the sections 29 which extend outwardly and when passed through the sleeve, move the ends of the sections 29 to substantial engaged position.

In FIG. 4, one of the clips 16 is illustrated as having been moved to the forward end of the sleeve 15 with the tabs 31 extending over the end thereof. The clip 16 on a conductor 33 is shown only partially inserted within a sleeve 34 with the sections 29 disposed in collapsed position caused by the engagement of the tabs 31 with the inner wall of the sleeve. When completely inserted the tabs will engage the end of the sleeve 34 and prevent the clip from being withdrawn. It will be noted that the collar 17 has fingers 35 disposed outwardly thereof to limit insertion of the clip through the sleeve. Sufficient space is provided between the fingers 35 and the rear end of the sleeve 34 to permit the tabs 31 to pass beyond the forward end of the sleeve. The sleeves 15 and 34 have flanges 36 on the ends to limit the sleeves, movement within an insulating body 38 of the socket. The sleeves are urged forwardly by a coil spring 39 which is disposed thereabout. Since the clips are on the ends of the conductors 13 and 14 which are part of a harness, they cannot be inserted from the forward end of the socket. Once the clips have been inserted within the sleeves, they are not removable and are retained in fixed position forming a head 40 for engaging contacts 41 in the base of the bulb 12. The head is formed by inwardly flanged ends 42 at the forward end of the sections 29.

I claim:

1. In a clip on the end of a conductor for forming a terminal for a lamp bulb socket, a member having on the rear end attachment means for securement to an electric conductor and on the opposite end a head end divided into a plurality of spring sections which are movable toward each other, and which are flanged inwardly to form a substantially closed end at least one of the sections having a rigid locking element thereon for preventing the reverse movement of the member after said head end has been moved beyond the end of an aperture in a socket element, said head end forming a terminal the projecting end of which is directly engaged by a contact on a light bulb when supported within a socket.

2. In a clip as recited in claim 1, wherein said aperture is provided in a spring pressed sleeve in a socket, said sleeve having flanged ends which permit axial movement of the sleeve and clip when engaged by a contact of a light bulb.

3. In a clip as recited in claim 1, wherein said member is formed from a sheet of material with the head end rolled into cylindrical form having the abutted edges notched to form a slot.

4. In a clip as recited in claim 3, wherein three sections are provided in the head end formed by said slot and two additional slots equally spaced from said first slot to form the three like spring sections.

5. In a clip as recited in claim 4, wherein the ends of the three sections are flanged inwardly and disposed in spaced relation to form a closed end which is directly engageable by the contact of a light bulb within a socket.

6. In a clip as recited in claim 5, wherein the locking element is a rigid lanced out finger in each of the three sections.

7. In a clip as recited in claim 6, wherein the opposite end of the member has fingers extending outwardly therefrom in position to abut the opposite end of the aperture wall to limit the movement of the clip therein.