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W. MAJUSICK

2,439,480

LIGHT SOCKET

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FIG. 1.

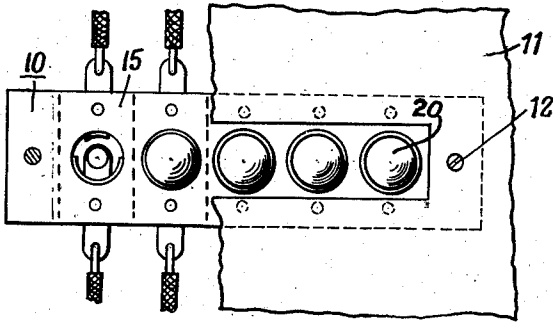


FIG. 2.

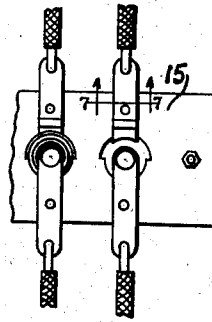


FIG. 4.

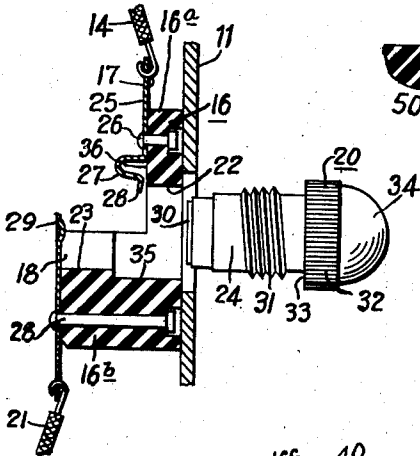


FIG. 7.

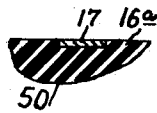


FIG. 3.

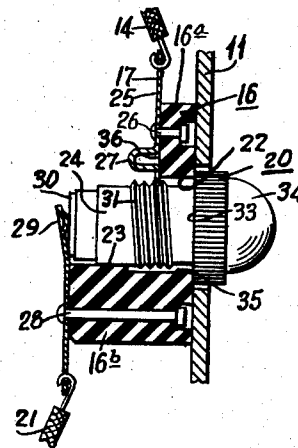


FIG. 5.

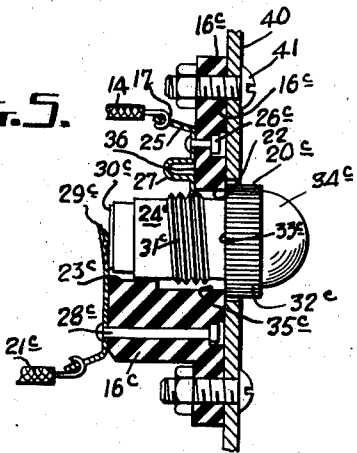
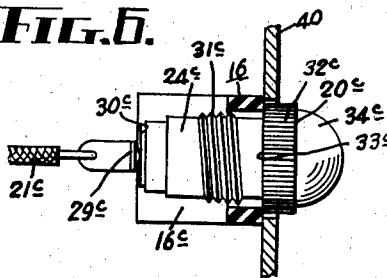


FIG. 6.



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LIGHT SOCKET

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3 Claims. (Cl. 173-358)

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This invention relates to a mounting socket for small light bulbs, and particularly to a mounting socket that is constructed and arranged to hold the light bulb securely in the socket against vibration and thereby prevent loosening of the same.

An object of the invention is to provide a mounting socket for a light bulb wherein the contact members for the light bulb provide spring means to retain the same in the socket as well as provide the means for carrying electric current to the light bulb.

Another object of the invention is to provide a mounting socket for a light bulb of the type that has threads provided on the base thereof wherein one of the contact members for engaging the base and carrying electric current to the light bulb is adapted to engage the threads on the base and thereby provide the means for permitting threaded insertion of the light bulb into the socket.

Still another object of the invention is to provide a light bulb mounting socket in accordance with the foregoing object wherein the contact member that engages the threads on the light bulb base is constructed as a spring pressure member for applying force upon the base to thereby securely hold the same in the light socket.

Still another object of the invention is to provide a light socket in accordance with the foregoing object wherein the contact member that engages the threads on the base of the light bulb is adapted to be moved against a positive stop when the light bulb has been inserted into the socket a predetermined distance, so that further threaded insertion of light bulb is prevented and the contact member will apply force upon the threads in the base of the light bulb to securely hold the same in the light socket against loosening as a result of vibration.

Still another object of the invention is to provide a light socket for a light bulb in accordance with the foregoing object wherein at least one of the contact members for the light bulb is adapted to exert a transverse force upon the light bulb to hold the same in engagement with the socket, whereby the frictional contact thereof with the socket wall and the contact member will prevent loosening of the bulb in the socket.

Still another object of the invention provides a light bulb socket in accordance with the foregoing object wherein the light bulb socket is adapted to be clamped between one of the contact members for the light bulb and a shoulder provided on the light bulb to thereby provide

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means for supplying a force parallel to the axis of the light bulb that is applied upon the threads on the base of the light bulb, to thereby prevent the same from loosening in the socket due to vibrations.

A further object of the invention is to provide a light bulb socket that is provided with smooth bored holes adapted to receive a light bulb that has threads on the base thereof, and wherein one of the contact members for the light bulb is adapted to engage threads on the base of the light bulb whereby the same can be threadedly received within the smooth bored holes in the socket, and wherein the contact members for the light bulb are spring members that are adapted to apply pressure upon the light bulb to thereby frictionally retain the same against the walls of the socket to prevent the same from loosening in the socket as the result of vibration.

Still another object of the invention is to provide a light bulb socket in accordance with the foregoing object wherein the contact members for the light bulbs, or spring members, that are constructed and arranged in a manner that the forces applied upon the light bulb by the members are directed in opposite directions with respect to one another so that the base of the light bulb is retained between opposed resilient members which thereby apply a clamping pressure upon the base of the light bulb to retain the same securely within the socket.

Still another object of the invention is to provide a light bulb socket in accordance with any of the foregoing objects wherein a plurality of the sockets are arranged in a continuous strip for providing a light mounting strip to receive a plurality of bulbs of similar construction.

Further objects and advantages will become apparent from the drawings in the following description.

In the drawings:

Figure 1 is an elevational view of a light bulb mounting strip incorporating features of the light bulb socket of this invention.

Figure 2 is a rear elevational view of the apparatus illustrated in Figure 1.

Figure 3 is a cross-sectional view of the light bulb mounting socket of this invention illustrating the use of a light bulb therein.

Figure 4 is a cross-sectional view similar to Figure 3, but showing the light bulb positioned as ready for insertion within the socket.

Figure 5 is a cross-sectional view similar to Figure 3 illustrating the use of the light bulb mounting socket as a single unit.

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Figure 6 is a cross-sectional view of the light bulb mounting socket illustrated in Figure 5 and is taken substantially along line 6—6 of Figure 5.

Figure 7 is a fragmentary cross-sectional view taken along lines 7—7 of Figure 2.

Referring to Figures 1 to 4 inclusive, the light bulb socket of this invention is illustrated as being incorporated in a light bulb mounting strip wherein a plurality of individual light bulbs are carried in a single strip for mounting upon a panel member. While the preferred form of the invention has been illustrated as being incorporated in a mounting strip for a plurality of bulbs yet it will be readily understood that any one of the light bulb mounting sockets can be used individually, and independently, for mounting a single light bulb upon a panel. This feature is more particularly illustrated in Figures 5 and 6 of the drawings and will be hereinafter described.

As illustrated in the drawings, the light bulb mounting strip 10 may be mounted upon any panel 11 of an apparatus that is adapted to receive the mounting strip 10. Bolts or screws 12 are provided to secure the mounting strip 10 to the panel 11. The light bulb mounting strip 10 can be considered as being composed of a plurality of individual light bulb mounting sockets 15, when the entire strip 10 is divided into the individual components as illustrated by the dot-dash lines. The light bulb mounting strip 10, and thus the bulb socket 15, is constructed of an electrical insulating material so that the contact members can be mounted directly upon the strip 10.

The light bulb socket 15 therefore consists of a base 16 that is substantially L-shaped, as illustrated in Figure 4. The base member 15 is therefore provided with a base portion 16a that is substantially lower than the base portion 16b. The base portion 16a carries a contact member 17, and the base portion 16b carries a contact member 18. The contact member 17 is adapted to engage the side wall of a light bulb 20 that is inserted in the socket 15, and the contact member 18 is adapted to engage the base portion of the light bulb 20. These contact members 17 and 18 are adapted to be suitably connected to the electric wires 19 and 20 respectively for carrying electric current into the light bulb 20 when the same is inserted in the light socket as illustrated in Figure 3.

The base member 15 is provided with a smooth bore hole 22 through the same that is coaxial with a second smooth bore hole 23 extending through the base portion 16b. The smooth bore holes 22 and 23 are adapted to receive the base 24 of the light bulb 20.

The contact member 17 is provided with a flat section 25 that rests upon the base portion 16a in a recess 50, and is secured thereto by means of the rivet 26. The contact member 17 terminates in a U-shaped end portion 27 that has a tip 28 formed at a right angle to one of the legs of the U-shaped portion 27 to thereby extend outwardly from the same, and which overlaps the edge of the smooth bore hole 22, as illustrated in Figure 4. The U-shaped end portion 27 of the contact member 17 does not have the leg portions thereof exactly parallel, so that the leg portion that carries the tip 28 can be resiliently urged toward the opposite leg portion and thereby cause the end portion 27 to function as a spring member.

The contact member 18 is positioned upon the

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base portion 16b in a recess similar to that in which the contact member 17 is placed and is secured to the base portion 16b by means of the rivet 28, and is provided with an extending end portion 29 that is adapted to engage the central contact on the bottom surface 30 of the light bulb 20.

A light bulb 20 has the base portion 24 thereof constructed as a metal sleeve that is provided with the threads 31 thereon. The head 32 of the light bulb is of larger diameter than the base portion 24 thereby providing a shoulder 33 between the head 32 and the base 24. The translucent bulb portion 34 extends beyond the head 32, and the usual filament is provided in the translucent portion of the light bulb 20. Electric current is transmitted to the filament in the light bulb through the metal sleeve of the base 24 and through the contact provided on the bottom surface 30 of the light bulb. It will of course be understood that the contact 30 is suitably insulated from the metal sleeve 24 in any conventional manner as is well-known in the art.

When the light bulb 20 is inserted into the socket 15, as illustrated in Figure 3, the tip 28 of the contact 17 will engage the thread 31 on the base 24 of the light bulb 20. The light bulb 20 may therefore be threadedly received within the socket 15 even though the socket walls, that is the smooth bored holes 22 and 23, do not have any thread in them. As the bulb 20 is threaded inwardly into the socket 15, the thread 31 riding over the tip 28 of the contact member 17, the shoulder 33 on the light bulb 20 will ultimately engage the front face 35 of the socket 15 and thereby prevent the light bulb from entering any further into the socket 15.

When the shoulder 33 engages the face 35 of the socket 15, further rotation of the light bulb 20 in the socket will cause the U-shaped end section of the contact member 17 to be drawn downwardly toward the rear face 36 of the base portion 16a until the tip 28 engages the rear wall 36. When this occurs, the base portion 16a will be clamped between the shoulder 33 on the light bulb 20 and the tip 28 on the contact member 17. The U-shaped spring end portion 27 of the contact member 17 now has a tendency to move the light bulb 20 in a direction transverse to its axis and thereby cause the base 24 to engage the surface of the smooth bore hole 23. It will also be noted that the spring member 27 has a tendency to urge the light bulb in a leftward direction, as viewed in Figures 3 and 4, to thereby retain the shoulder 33 against the face 35 of the base portion 16. The frictional engagement of the base portion 16 against the shoulder 33 of the light bulb 20, this engagement being retained under constant spring tension as developed by the member 27, will prevent the light bulb from rotating when it is vibrated.

When the light bulb 20 is fully inserted into the socket 15, as illustrated in Figure 3, the end 29 of the contact member 18 will engage the central portion of the base 24 of the light bulb 20 and spring in a leftward direction as illustrated in Figure 3 to thereby apply spring pressure upon the light bulb in a rightward direction tending to urge the bulb against the tip 28 of the spring member 27. It will therefore be noted that the two spring members have a tendency to work in opposite directions, that is to apply forces in opposite directions, so that the base 24 of the light bulb is continuously retained under spring pressure between the spring members 27 and 18, to

thereby resiliently clamp the base 24 between the end of contact member 18 and the end of contact member 17.

In Figures 5 and 6 the construction of the light bulb socket previously described with regard to Figures 1 to 4 has been illustrated as being applied to a single mounting socket. In this arrangement all of the constructional features are of the same as those that have been previously described so that the corresponding elements will bear the same reference numerals as those previously referred to except that they will be given the suffix "C."

The light bulb mounting socket 15a, as illustrated in Figure 5, is adapted to be secured to the panel 40 by means of suitable screws or bolts 41. In Figure 6 it will be noted that the width of the light socket 15a is only slightly greater than the diameter of the light bulb 20a. This therefore provides a light bulb mounting socket that is constructed in a manner that will permit it to be mounted in a minimum space requirement. This feature is particularly advantageous when a plurality of light bulbs are to be mounted in a single strip as previously described with regard to Figure 1, because the overall dimensional length of the strip can be considerably less than with structures heretofore known. The convenience of this feature will be appreciated when it is understood that the diameter of the shoulder, or head 32 of the light bulb 20a is for example only $\frac{3}{8}$ of an inch, and the maximum width of the socket 15a is only $\frac{1}{2}$ an inch. The maximum dimension of the light bulb therefore approximately fixes the minimum dimension in which it can be placed, when the light bulb mounting socket of this invention is used in combination therewith.

In the foregoing description of the light bulb mounting socket of this invention, the contact members 17 and 18 have been specifically described as being retained upon the base 16 by means of rivets. However, it is entirely within the scope of this invention that the contact members 17 and 18 can be molded directly into the base member, should the base member be constructed by any of the conventional and well known practices.

While the invention disclosed and described herein constitutes a preferred form of the invention, yet it will be understood that the apparatus is capable of mechanical alteration without departing from the spirit of the invention, and that all modifications that fall within the scope of the appended claims are intended to be included herein.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A light socket comprising, a substantially L-shaped body member forming thereby a thick portion with a ledge portion extending therefrom, a smooth walled hole in said body member to receive the threaded base of a light bulb, said hole being positioned in said body member with a portion thereof in said ledge portion, a spring leaf contact member secured to said thick portion

and projecting over said hole to engage the central contact of a light bulb, and a second spring leaf contact member secured to said ledge portion and having one end thereof projecting into said hole for engagement with threads on a light bulb.

2. A light socket comprising, a substantially L-shaped body member forming thereby a thick portion with a ledge portion extending therefrom, a smooth walled hole in said body member to receive the threaded base of a light bulb, said hole being positioned in said body member with a portion thereof in said ledge portion, a spring leaf contact member secured to said thick portion and projecting over said hole to engage the central contact of a light bulb, and a second spring leaf contact member secured to said ledge portion and having one end thereof projecting into said hole for engagement with threads on a light bulb, said spring leaf contact members being disposed radially of said hole on diametrically opposite sides thereof.

3. In combination, a light socket comprising, a substantially L-shaped body member forming thereby a thick portion with a ledge portion extending therefrom, a smooth walled hole in said body member to receive the threaded base of a light bulb, said hole being positioned in said body member with a portion thereof in said ledge portion, a spring leaf contact member secured to said thick portion and projecting over said hole to engage the central contact of a light bulb, and a second spring leaf contact member secured to said ledge portion and having one end thereof projecting into said hole for engagement with threads on a light bulb, said spring leaf contact members being disposed radially of said hole on diametrically opposite sides thereof, and a light bulb having a threaded base with a shoulder thereon positioned in said hole with said projecting end of said second contact member engaging the threads on the light bulb base, said shoulder engaging said ledge to limit the insertion of the light bulb into said body member and to clamp said ledge between said second contact member and said shoulder.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
55 693,087	Uytenbogaart	Feb. 11, 1902
1,033,347	Richardson	July 23, 1912
1,036,010	Russell	Aug. 20, 1912
1,104,577	Thomas	July 21, 1914
1,219,908	Both	Mar. 20, 1917
1,352,636	Stretton et al.	Sept. 14, 1920
1,774,515	Johnson	Sept. 2, 1930
1,779,804	Dubilier	Oct. 28, 1930
1,927,254	Benjamin	Sept. 19, 1933
2,071,769	Schlicker	Feb. 23, 1937
65 2,124,083	Rypinski	July 19, 1938
2,297,374	Tingle	Sept. 29, 1942
2,308,016	Mihalyi	Jan. 12, 1943