Sept. 5, 1939. J. MARSZALSKI 2,172,086

ELECTRIC SOCKET AND ELECTRIC BULB BASE

Filed July 25, 1938

Fig. 1.

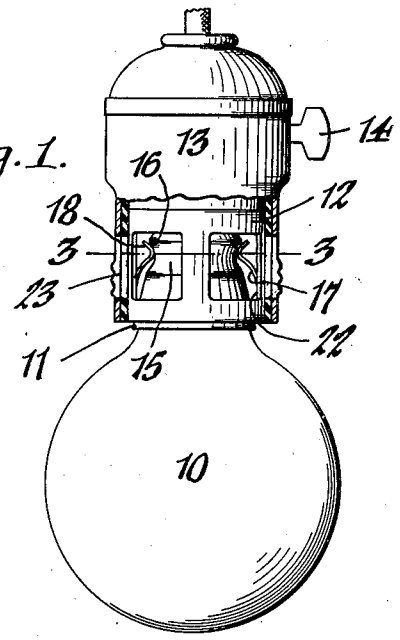


Fig. 2.

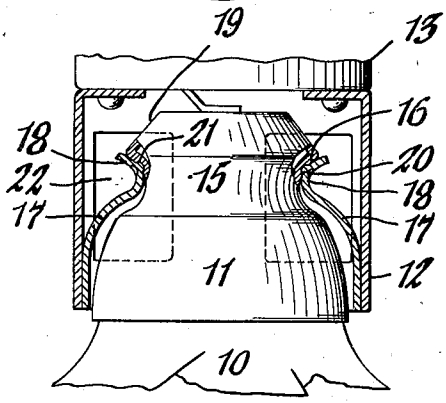
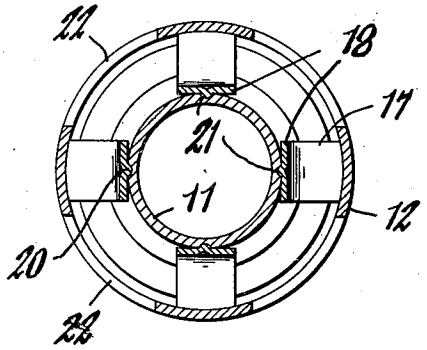


Fig. 3.



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ELECTRIC SOCKET AND ELECTRIC BULB BASE

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3 Claims. (Cl. 176—32)

This invention relates to certain new and useful improvements in electrical connectors of the socket and plug type for effecting the connection of lamp bulbs and the like to a source of current.

It has for one of its objects to provide an electrical connector of this character which is so designed as to effect a firm and positive connection of its component parts by a forward or end thrust of the plug element into the socket element.

A further object of the invention is the provision of a simple and inexpensive plug and socket connector which is rugged in construction, which is not liable to break connection due to external vibrations, and which is designed to afford ventilation between its plug and socket elements.

Other features of the invention reside in the construction and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawing:

Figure 1 is a side elevation of my improved connector as applied to a lamp bulb and socket. Figure 2 is an enlarged central longitudinal section thereof. Figure 3 is a horizontal section taken on line 3—3, Figure 1.

Similar characters of reference indicate corresponding parts throughout the several views.

By way of example, my electrical connector has been shown in connection with an electric lamp or bulb 10 whose base or plug-in element 11 is attached in any suitable manner to the top of the bulb. The socket element of the connector, into which the plug-in element of the lamp is insertable for supporting it and for establishing the circuit of the lamp, is indicated at 12 and is shown as secured to and suspended from a suitable holder or fitting 13 housing the customary switch elements controlled by the turn-button 14.

The plug-in element 11 is substantially of frusto-conical shape and is provided with an annular groove or recess 15 of approximately arcuate shape in cross-section and defining an inwardly-sloping and downwardly-facing contact face or shoulder 16 at its upper side. The socket element 12 is substantially cylindrical in shape and has a plurality of spring tongues 17 secured at their lower ends to the interior of the socket element and extending upwardly and inwardly into the same for contacting and interlocking engagement with the annular groove 15 of the plug-in element. By way of illustration, four of these spring contact tongues are disposed radially of and equi-distant about the socket 12 to centrally support the lamp therein, and, as shown in Figures 1 and 2, these tongues curve inwardly to provide the properly yieldable flexure and terminate at their upper ends in reversely bent contact or locking heads or portions 18 which are adapted to releasably engage and snap into firm gripping contact with the plug-groove 15.

When inserting the lamp-plug in the socket, the beveled upper end 19 of the former first engages the curved portions of the spring contact tongues 17 and spreads them outwardly, and upon the final thrust or forward stroke, the tongues spring inwardly into the plug-groove and their locking portions 18 interlock to make firm contact with the shoulder 16. By this construction the lamp is assured a firm and positive electrical contact with the socket, and furthermore, the lamp is effectually held against displacement from external vibrations, the spring tongues firmly gripping and clamping the lamp in place at all times.

If desired, the locking portions 18 of the spring tongues 17 may be provided with teats 20 and the opposing shoulder 16 of the plug-groove 15 may have companion depressions 21, whereby the lamp is effectually held against turning in its socket after insertion.

For the purpose of effecting the circulation of air about the plug and socket elements and preventing their over-heating as well as that of the suspension holder 13, I provide the side wall of the socket 12 with vent-openings 22 through which the heat is dissipated. These openings are preferably alternately arranged relatively to the spring tongues 17, and the fitting 13 has like openings 23 therein which register with vent openings 22.

I claim as my invention:

1. An electrical connector for electric lamps, comprising a plug-in element having an annular groove therein defining a downwardly-facing shoulder, and a socket element of larger diameter than said plug-in element to provide an air space thereabout and having spring tongues contained within the same and extending upwardly and inwardly from the bottom thereof and terminating at their upper free ends in contact-heads releasably engageable with the groove of said plug-in element and in interlocking contact with the shoulder thereof.

2. An electrical connector for electric lamps, comprising a plug-in element having an annular groove therein defining a downwardly-facing shoulder, and a socket element of larger diameter

than said plug-in element to provide an air space thereabout and having spring tongues contained within the same and extending upwardly and inwardly from the bottom thereof and terminating at their upper free ends in contact-heads releasably engageable with the groove of said plug-in element and in interlocking contact with the shoulder thereof, said socket element having vent openings in the side wall thereof between said tongues.

3. An electrical connector for electric lamps, comprising a plug-in element having an annular groove therein defining a downwardly-facing shoulder, said element being substantially frusto-conical in shape and having its lead-in end beveled, and a socket element of larger diameter than said plug-in element to provide an air space thereabout and having inwardly-curved spring tongues on the interior thereof, said tongues being secured at their outer ends to the inner wall of the socket element and terminating at their curved ends in reversely bent contact-heads for releasable interlocking engagement with said groove behind the shoulder thereof upon inserting the plug element into the socket element, the latter having vent openings in the side wall thereof between said tongues.

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