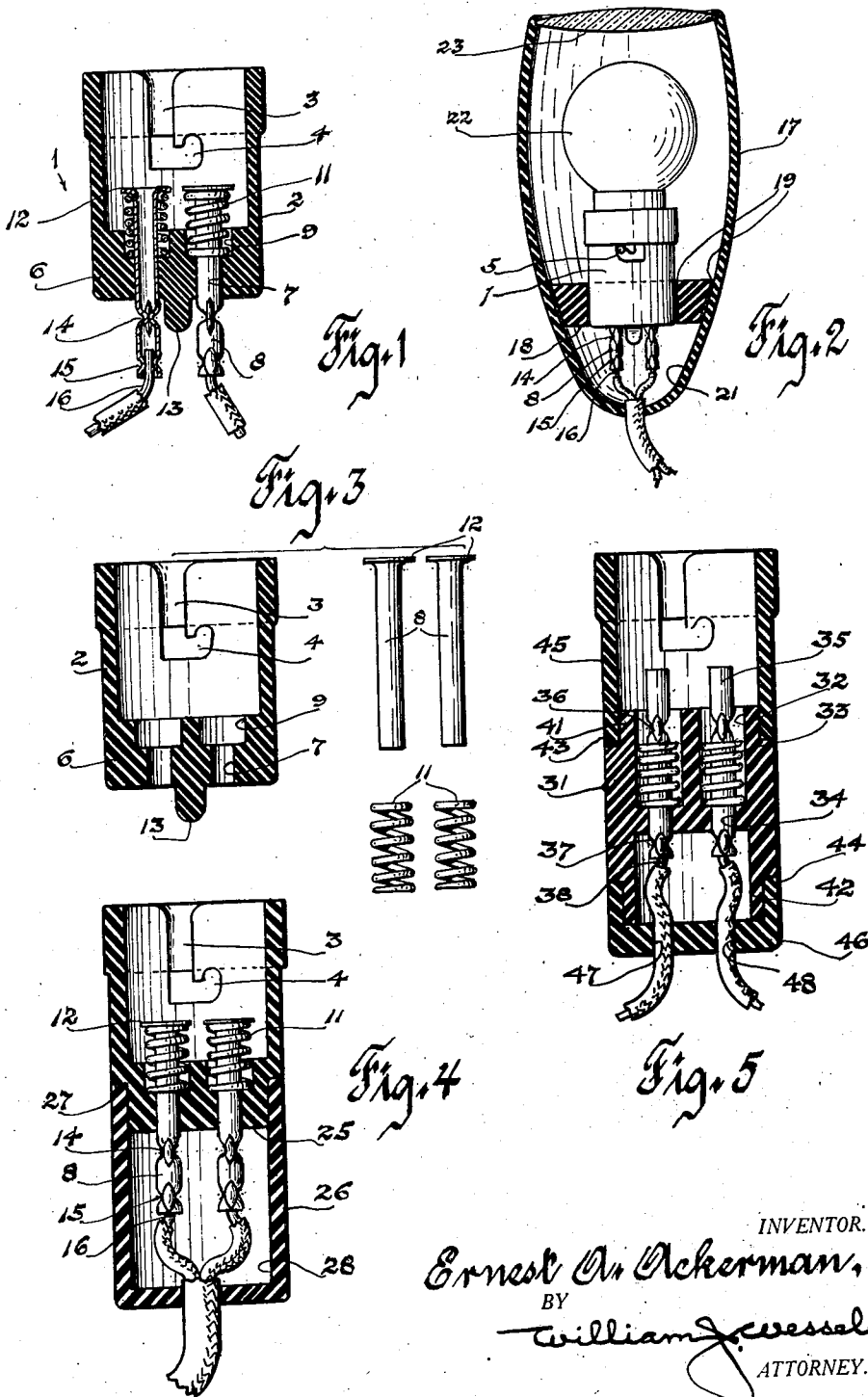


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 SOCKET FOR MINIATURE BULBS AND THE
 LIKE AND MOUNTING THEREFOR
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SOCKET FOR MINIATURE BULBS AND THE
LIKE AND MOUNTING THEREFOR

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1 Claim. (Cl. 173—328)

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This invention relates to a socket for miniature bulbs and the like and the mounting therefor. More particularly, the invention comprises means to receive a miniature bulb of conventional construction such as are used in automobiles, radio sets, control boards, and similar installations.

The invention has a special value as a means for quantity production at low cost without sacrificing satisfactory operation and length of service life.

The invention provides for reduction of parts to a minimum, including a body member and at least one resiliently supported contact member.

The principal object of the present invention is to provide an improved socket to receive miniature bulbs and the like.

Another object of the invention is to produce a socket for miniature bulbs constructed of a minimum number of parts and adapted for quantity production with high quality and long service life of the product.

Another object of the invention is to provide a socket for miniature bulbs adapted to a wide variety of uses and free of mechanical parts which are likely to get out of adjustment or require replacement and repair.

Another object of the invention is to provide a socket for miniature bulbs or the like formed of plastic material having insulating qualities and adapted for precision molding so as to require no machining of the parts and providing for rapid assembly and dependable operation.

Other and further objects of the invention will appear in the course of the following description.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claim, the annexed drawings and the following description setting forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but several of various forms in which the principle of the invention may be used.

In said annexed drawings:

Figure 1 is a central vertical sectional view, showing a socket to receive a miniature bulb and the like, embodying the principles of the invention;

Figure 2 is a central vertical sectional view of a utility lamp casing, having a socket and miniature bulb mounted therein, said socket and mounting therefor embodying the principles of the invention;

Figure 3 is an exploded view, showing the

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socket body member and parts therefor preliminary to assembling;

Figure 4 is a central vertical sectional view, showing a socket for a miniature bulb and the like, provided with a protective cap member; and

Figure 5 is a central vertical sectional view, showing a socket for a miniature bulb and the like, provided with a central body member and a removable socket shell at one end and a cap at the other end.

As is clearly shown in Figure 1 of the drawing, the socket 1 to receive the miniature bulb or the like consists of an integral body member 2 formed of Bakelite or other suitable plastic material, open at its upper end and preferably having a recess 3 at each side, with a lateral offset 4 to constitute a bayonet joint to receive the lateral lugs 5 on each side of a miniature bulb, such as are used in automobile tail-lights and the like. The base portion 6 of the body is molded with at least one passageway for a spring-pressed contact member. In the form shown in Figure 1 a pair of through parallel passageways 7 are provided to receive the reciprocable tubular contact members 8, and the upper end of each passageway 7 is provided with a countersunk recess 9 of a size adapted to receive a coiled spring 11 with its lower end resting in the base of said countersunk recess, and with its upper end bearing against a flared extension 12 formed at the top edge of the adjacent tubular contact member 8 and serving to exert tension endwise upwardly on the latter, upward movement of the member 8 being limited by stop means later referred to.

It will be observed that each tubular contact member 8 has a precision fit with its passageway 7 in the base portion 6. A rib 13 of arcuate form may be provided between the passageways 7 to prevent accidental displacement of the contact members and short circuiting of the apparatus. The tubular contact members 8 are of a length adequate to hold the springs under a slight degree of compression and have reciprocable movement in their passageways sufficient to permit the connection of the lateral lugs on the bulb with the locking portions of the bayonet joint recesses.

The assembly of the tubular contact members 8 with the body member 2 is of a very simple character, requiring merely the placing of a spring 11 in contact with the flared end portion of each of the contact members 8 and projecting the latter through its passageway in the base portion 6 of the body member 2 and putting the

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adjacent spring 11 under a slight degree of pressure, followed by the deformation of the tubular member 8 below the base portion 6 into a transverse crimp 14 which will serve as a stop to limit the upward movement of the tubular contact member to a point of suitable height to cooperate with the base of the contact members on the lamp bulb. The transverse crimp 14 may serve the double purpose of acting as a stop to limit the upward movement of the tubular contact member and as a means for holding the conducting wire 16 within the interior of and providing an electrical contact with the adjacent tubular contact member. However, it is preferred to utilize a second transverse crimp 15 as shown in Figure 1 to form a suitable electrical contact with its conducting wire 16. The parts, when so assembled, may be utilized by being permanently mounted in a casing, switchboard or the like, or may be provided with a cap member at the lower end (see Fig. 4) to protect the terminal wires and reciprocable contact members 8 from injury or short circuiting. When mounted in a fixture such as the casing 17, the socket member may be provided with a beveled disc 18 of suitable plastic material, having a plastic binder 19 applied to its marginal areas of contact with the socket and casing, the terminal wires being received within the free space 21 at the lower end of the casing. After the bulb 22 is interlockingly engaged in the socket, the lens 23 of the utility lamp shown in Figure 2 is snapped into place in the resilient plastic casing shell.

When the socket is to be mounted at the end of a conducting cable, it is desirable to have the lower end of the body member 25 formed of reduced size with a cap member 26 engaged thereover and seated against the annular shoulder 27. Due to the fact that the body member 25 and cap 26 are precision molded, the latter frictionally engages the reduced lower end of the body member 25. The cap member 26 may be formed as part of a handle, lever, or other suitable element. The hollow interior portion 28 of the cap member is of suitable size to receive the free ends of the resiliently supported tubular contact members 8, as well as a portion of the flexible cable, so that free motion of the contact members will not be interfered with.

It occasionally becomes necessary to supply the contact members with different forms of the recessed shells for receiving the bulb, and in such case the body member is formed, as illustrated in Figure 5, as a central part 31 of sufficient length to provide for elongated recesses 32 adapted to receive the springs 33 seated against the lower ends of said recesses. Suitable passageways 34 for the tubular conductors 35 are provided centrally of the lower ends of said recesses, and each of the tubular members is provided with a transverse crimp 36 adapted to bear against the upper end of the spring 33. Each tubular member is also provided with an additional transverse crimp 37 adapted to serve the dual function of limiting the upward movement of the tubular contact member 35 and of providing electrical contact with its conductor cable 38. For most purposes a separate crimp similar to the crimp 15 shown in Figure 1 is used to connect with the conducting cable as the dual purpose crimp is only suited to complete unit assembly with an appliance or an extension cord as carried on in a plant. The cen-

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tral member 31 is provided with reduced portions 41, 42, at its respective ends, providing annular shoulders 43, 44. A cylindrical shell 45 of suitable character is engaged with the reduced upper end 44 by means of a friction fit or other suitable fastening means with its lower end bearing against the shoulder 43. At the opposite end of the central member 31 a cap member 46 is provided, said cap member engaging over the reduced portion 42 and bearing against the annular shoulder 44. The cap member may be provided with separate passageways 47, 48, for the conductors leading to the respective tubular contact members 35.

To those skilled in the art to which my invention relates many changes in construction and widely differing embodiments and applications of the invention will be apparent without departing from the spirit and scope thereof. My disclosures and the description herein are purely illustrative and not intended to be in any sense limiting.

Other modes of applying the principle of my invention may be employed instead of those explained, change being made as regards the mechanism herein disclosed, provided the means stated by the following claim or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

30 An electric socket for a miniature bulb of elongated cylindrical shape and formed of insulating material, said socket consisting of an intermediate base connected at one end to an open ended chamber adapted to receive a bulb and an enclosure at its opposite end removably, telescopically, frictionally engaging said base, said base being formed with a pair of parallel through openings, tubular contact members extending through and slidably fitting said openings, said 40 openings inwardly of said chamber being enlarged, coiled springs mounted in said enlarged portions and engaging the adjacent ends of said contact members and tending to move them endwise, said contact members extending into said enclosure and provided with transversely crimped walls engaging said base to limit the movement of said contact members under the influence of said springs, and conductors extending through the end wall of said enclosure and into said contact members, said members being transversely crimped into engagement with said conductors to secure an electrical connection therewith.

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