Oct. 10, 1939. H. R. C. ANTHONY 2,175,768

SOCKET MEMBER

Filed June 19, 1937

Fig. 1.

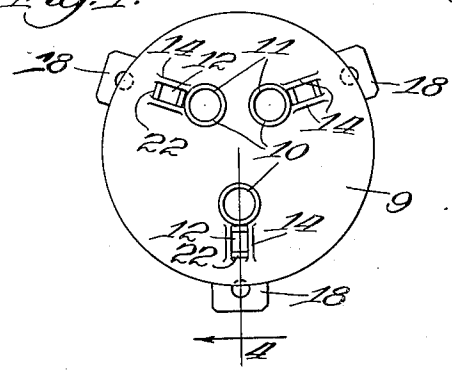


Fig. 2.

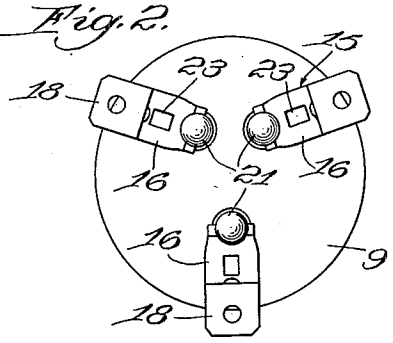


Fig. 3.

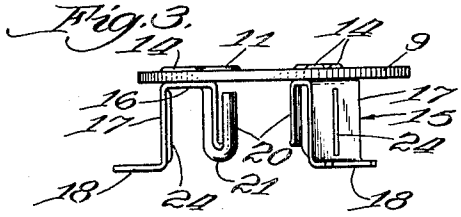


Fig. 4.

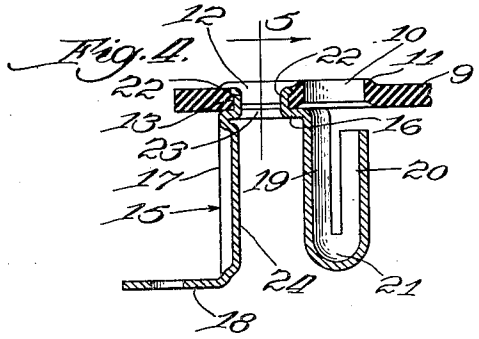


Fig. 5.

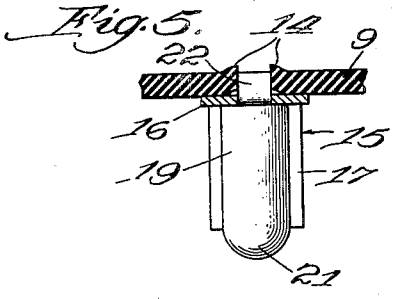


Fig. 6.

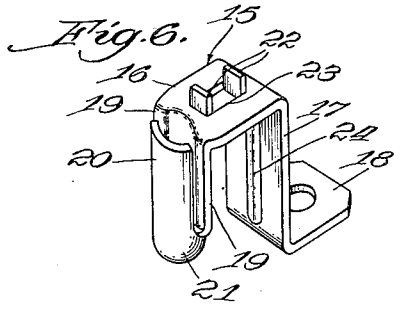


Fig. 7.

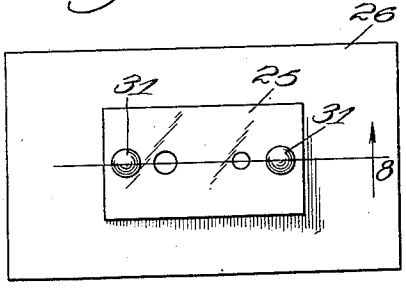
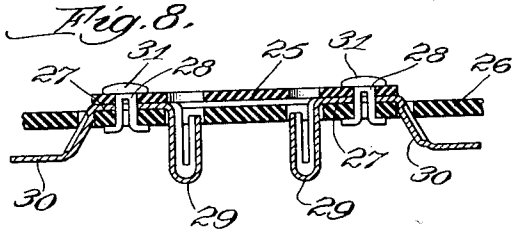


Fig. 8.



Inventor:
Herman R. C. Anthony.
By Christie, Wills, Davis, Hirschl & Dawson.
Attys.

Patented Oct. 10, 1939 2,175,768

UNITED STATES PATENT OFFICE

2,175,768

SOCKET MEMBER

Herman R. C. Anthony, Madison, Wis., assignor to Ray-O-Vac Company, a corporation of Wisconsin

Application June 19, 1937, Serial No. 149,262

3 Claims. (Cl. 173—328)

This invention relates to socket members, and more particularly to a socket member provided with contacts which may be permanently secured to a radio battery, or the like, and receive the prongs of a plug member without danger of short circuiting or misconnection.

The primary object of the invention is to provide an extremely simple and inexpensive socket member which is reliable in operation and may be permanently connected to dry batteries when assembled at the factory.

The invention is illustrated in a preferred embodiment in the accompanying drawing, in which:

Figure 1 is a top plan view of a socket member embodying the invention; Fig. 2, a bottom plan view of the same; Fig. 3, an elevational view; Fig. 4, a fragmentary sectional view, taken as indicated at line 4 of Fig. 1; Fig. 5, a fragmentary sectional view, taken as indicated at line 5 of Fig. 4; Fig. 6, a perspective view of a spring metal contact member before being permanently connected to a disk member; Fig. 7, a plan view of a slightly modified construction; and Fig. 8, a sectional view, taken as indicated at line 8 of Fig. 7.

In the preferred embodiment illustrated in Figs. 1–6, inclusive, an insulating disc 9 is provided with apertures 10 to receive connecting prongs of an associated plug member. The upper face may be provided with embossed rings 11, if the disc is made of moisture resistant vulcanized fiber, or the like. The disc is further provided with rectangular perforations 12 which may have countersunk shoulder portions 13 so that when the connecting teeth on the contact member are clinched to the disc, the metal will not extend above the plane of the upper face of the disc. As a further precaution against short circuiting, ribs 14 may be embossed from the disc adjacent to the perforations 12. The contact member 15, best shown in Fig. 6, is made of spring metal and has a reach portion 16 provided at one end with a downwardly extending terminal 17 having a foot 18 to receive a connecting wire or be soldered directly to a dry cell. The latter portion of the contact member may serve as a supporting leg for the socket member. The other end of the reach is provided with a pair of contact fingers 19 and 20 which are disposed beneath a perforation 10 and are of arcuate cross-section so as to snugly receive a prong of the plug member.

An important feature of the present invention is the connection between the contact fingers as it is designed to form a strong connection which will resist separation of the upper ends of the integrally formed fingers. This connection or elbow 21 is dome-shaped and is resistant to bending to a remarkable degree. A pair of upwardly extending teeth 22 may be struck from a perforation 23 in the reach portion of the contact member and these teeth may be projected through the perforation 12 and clinched to the disc in a manner to provide a very rigid connection. If desired, the terminal portion 17 may be provided with a stiffening rib 24, as will be readily understood by reference to the drawing.

In the embodiment illustrated in Fig. 7, a two prong socket is shown wherein an upper perforated insulating disc 25 is superposed on a lower perforated insulating disc 26. The reach portion 27 of the contact members is perforated to receive a rivet 28 which extends through both discs and the contact member. The lower end of the rivet is clinched under the insulating discs. The contacting fingers are connected by a dome-shaped elbow 29 in the manner described above. The opposite ends of the reaches are provided with wiring terminals 30. The heads 31 of the rivets preferably are enameled or covered with some other suitable insulating material so that there is no danger of short circuiting the contacts. The perforations through the insulating disc may be of different diameters so that there will be no danger of a misconnection, as is well understood in the art.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

I claim:

1. In apparatus of the character set forth, a spring metal contact for a socket comprising: a pair of arcuate integrally formed contact fingers connected only at their lower ends by a cup-shaped elbow portion, and a reach portion formed integrally with the upper end of one of said fingers and adapted to secure the contact to a supporting insulating disc, the companion finger being supported solely by the elbow portion.

2. A contact as specified in claim 1, in which the reach portion has an I-shaped slot to provide a pair of arms, said arms being adapted to extend through a rectangular slot in the supporting disc and be clinched so as to prevent rotation of the contact member with respect to said disc.

3. In apparatus of the character set forth, a socket comprising: a single-thickness disc of insulating material provided with round perforations for the prongs of the plug member, and adjacent rectangular perforations for receiving the fastening means of contact members, the marginal portions at the round perforations and the lateral marginal portions of the rectangular perforations being biased upwardly to shield the associated contact members; and a contact member for each pair of disc perforations comprising a pair of integrally formed arcuate contact fingers connected at their lower ends by a cup-shaped elbow portion, one of said fingers being supported solely by said elbow portion, and a reach portion formed integrally with the upper end of the other finger and having a pair of upwardly extending arms which project through a rectangular slot in the supporting disc and are clinched so as to hold the contact fingers in proper registration with a round perforation with the upper ends of the arms disposed beneath the biased portion of the insulating material.

HERMAN R. C. ANTHONY.