

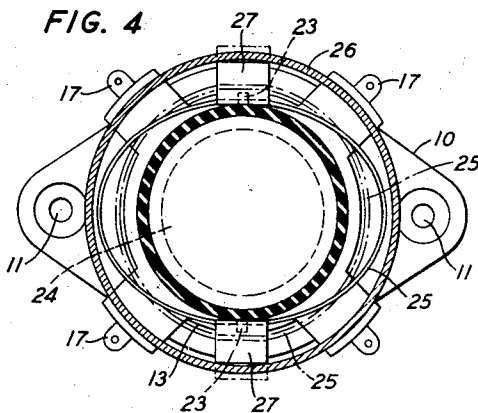
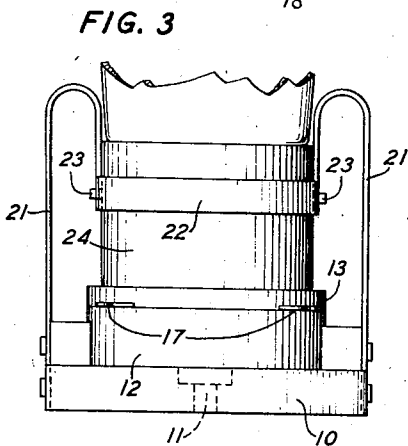
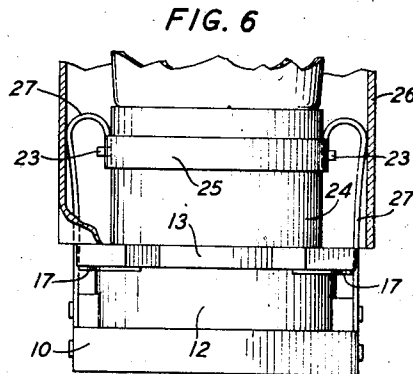
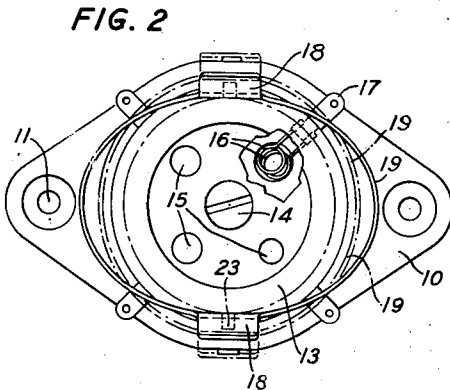
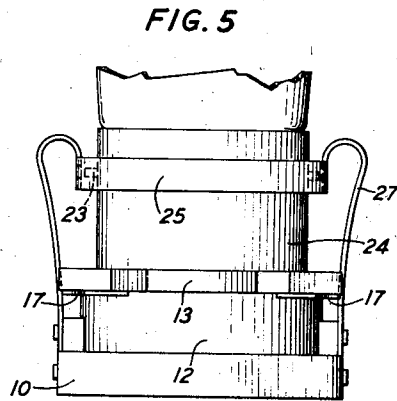
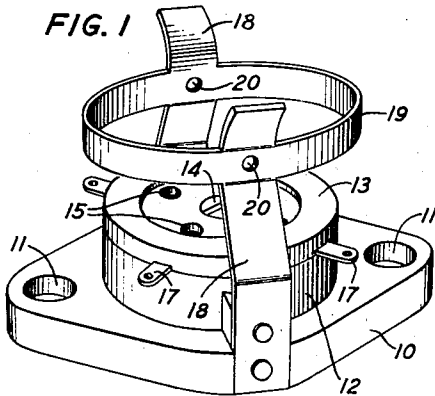
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MOUNTING FOR ELECTRICAL DEVICES

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MOUNTING FOR ELECTRICAL DEVICES

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8 Claims. (Cl. 173—328)

This invention relates to mountings for electrical devices and more particularly to sockets for electron discharge devices.

In thrust type sockets for electron discharge devices and the like, the device is usually held in the socket solely through the gripping action of the contact members of the socket upon the terminal prongs of the device. In instances where the device is subjected to shocks and vibrations, it often occurs that the engagement between the contact members and the terminal prongs is loosened so that an unsatisfactory electrical and mechanical contact results, and in some cases the device is dislodged from the socket.

One object of this invention is to securely lock an electrical device, such as an electron discharge device, in a socket therefor and thereby to prevent accidental dislodgement of the device and to maintain a satisfactory mechanical and electrical contact between the terminal prongs of the device and contact members in the socket.

In one embodiment of this invention, a mounting for electron discharge devices comprises a support which is provided with a plurality of apertures for receiving terminal prongs of the device, and a plurality of contact members within the support, disposed adjacent the apertures and adapted to engage the terminal prongs.

In accordance with a feature of this invention, means are provided for locking the device in the socket. In one form, the means includes an oval shaped or elliptical locking ring of resilient material, such as spring metal, which is mounted on the support and is adapted to encircle the base of the electron discharge device when the device is mounted in the socket. The smaller axis of the locking ring is substantially equal to or slightly smaller than the diameter of the base of the electron discharge device. When a device is to be inserted in the socket, the locking ring is flexed or distorted by the application of pressure to the end portions adjacent the ends of the larger axis of the ring so that the base of the device may pass freely through the ring and the terminal prongs on the device may be brought into engagement with the contact members. The pressure is then released and portions of the ring thereupon engage the device and lock it in the socket.

In another form suitable for installations wherein manual flexing of the ring is not feasible, the locking means may take the form of a substantially circular ring having a diameter slightly greater than that of the device to be inserted in the socket. The ring may be flexed so that portions thereof bear against the device, by a tubular shield member placed over the device and bearing against a flexible support for the ring.

If the device to be mounted in the socket is provided with bayonet pins in the usual manner, the ring may be provided with apertures for receiving the bayonet pins when the ring is in its closed or locking form.

The invention and the various features thereof will be understood more clearly and fully from the following detailed description with reference to the accompanying drawing in which:

Fig. 1 is a perspective view of a mounting for electron discharge devices, illustrative of one embodiment of this invention;

Fig. 2 is a plan view of the mounting shown in Fig. 1;

Fig. 3 is an elevational view of a modification of the mounting shown in Figs. 1 and 2, and illustrating an electron discharge device locked in the socket;

Fig. 4 is a plan view of another embodiment of this invention particularly suitable for installations wherein manual flexing of the locking ring is not feasible;

Fig. 5 is an elevational view of the mounting shown in Fig. 4 illustrating the locking ring in its open form; and

Fig. 6 is an elevational view of the mounting shown in Figs. 4 and 5, illustrating the locking ring in its closed form.

Referring now to the drawing, the mounting shown in Figs. 1 and 2 comprises a base 10 of insulating material having a plurality of apertures 11 therein for facilitating the attachment of the mounting to a suitable support, and a hollow cylindrical portion 12 which may be integral with the base 10. A plate member 13, of insulating material, is secured to the cylindrical portion 12, as by a screw 14, and is provided with a plurality of spaced apertures 15, adapted to receive the terminal prongs of a device, such as an electron discharge device. A plurality of contact members, which may be of the construction disclosed in a copending application of George R. Lum, Serial No. 482,747, filed September 18, 1930, and assigned to applicant's assignee, each includes intermeshed wire helices 16 disposed within the cylindrical portion 12 and in alignment with the apertures 15, and a metallic terminal 17 secured to the helices 16 and clamped between the plate 13 and the cylindrical portion 12.

A pair of flexible supports or arms 18, which may be of metal, are secured to the base 10 at one end and carry a flexible locking ring 19, which may be integral with the arms 18. The ring 19 is preferably oval shaped or elliptical as shown in Fig. 2, the minor axis of the ring being substantially equal to or slightly smaller than the diameter of the base of the device to be supported in the mounting.

When a device is to be inserted in the mount-

ing, the locking ring 19 is distorted or flexed, as by the manual application of pressure at the portions thereof adjacent the ends of the major axis, so that it assumes a form such as shown in dotted outline in Fig. 2. A portion of a device, such as the base of an electron discharge device, may then be passed freely through the ring and the terminals of the device may be inserted into the apertures 15 and brought into engagement with the contacts 16. The pressure on the ring 19 is then released, so that the ring resumes its oval or elliptical form and portions thereof engage the device to securely lock the device in the mounting.

15 If the device, such as an electron discharge device, to be supported in the mounting, is provided with bayonet pins, the arms 18 and ring 19 may be provided with apertures 20 to receive the bayonet pins.

20 In another embodiment of this invention, shown in Fig. 3, the supports or flexible arms 21 carrying the locking ring 22 may be substantially J-shaped to provide a longer spring. The arms 21 and ring 22 may be provided with apertures for receiving bayonet pins 23 extending from the base 24 of the device to be supported on the mounting.

A mounting in accordance with another embodiment of this invention, shown in Figs. 4, 5, and 6, is particularly suitable for installations wherein manual flexing of the locking ring is not feasible. In this embodiment, the locking ring 25 is normally substantially circular in form, as shown in dotted outline in Fig. 4, and is of a diameter sufficiently large to allow passage of a portion of a device, such as the base 24 of an electron discharge device, therethrough. When the device has been inserted through the ring, the latter is flexed by a cylindrical metallic shield 26 which engages substantially J-shaped arms 27 supporting the ring, and distorts the ring into a substantially elliptical form, as shown in Fig. 4. The ring 25 and arms 27 may be provided with apertures for receiving bayonet pins 23 on the device 24.

45 Although a number of specific embodiments of this invention have been shown and described, it will be understood, of course, that numerous modifications may be made therein without departing from the scope and spirit of this invention as defined in the appended claims.

What is claimed is:

1. A mounting for an electrical device having external terminals, comprising a support, contact members on said support, and a ring member mounted on said support and adapted to encompass and to frictionally engage a portion of said device, said ring member being of a form different from said portion and resilient whereby its form may be altered to allow free passage of said portion therethrough.

2. A mounting for an electrical device having a circular base portion and terminals extending therefrom, comprising a support, contact members on said support for engaging said terminals, and means for holding said device upon said support including an oval shaped member mounted on said support and adapted to encompass and to frictionally engage said base portion, said member being resilient and of such size that it may be distorted to allow free passage of said base portion therethrough.

3. A mounting for an electrical device having

a base portion and terminal prongs extending therefrom, comprising a support having apertures therein for receiving said prongs, contact members on said support positioned adjacent said apertures, and means for holding said device upon said support including a flexible elliptical member mounted on said support and adapted to encompass said base portion, the minor axis of said elliptical member being substantially equal to the diameter of said base portion.

4. A mounting for an electrical device having external terminals, comprising a support, contact members on said support for engaging said terminals, a plurality of flexible members extending from said support, and a ring carried by said flexible members and adapted to encompass and to frictionally engage a portion of said device, said ring being of a form different from said portion and flexible to allow passage of said portion therethrough.

5. A mounting for an electrical device having a base portion and terminal prongs extending from said base portion, comprising a support, contact members on said support for engaging said terminal prongs, a plurality of substantially J-shaped flexible members secured at one end to said support, and a flexible substantially elliptical ring secured to the other end of said flexible members and adapted to encompass said base portion and having means therein to lock said device to said support.

6. A mounting for an electrical device having external terminals and a bayonet pin, comprising a support, contact members on said support for engaging said terminals, and a flexible locking ring mounted on said support and adapted to encompass a portion of said device, said locking ring having an aperture for receiving said bayonet pin and being of a form different from said portion but having its smallest diameter substantially equal to the largest diameter of said portion.

7. A mounting for an electrical device having a base portion, terminal prongs and a bayonet pin extending from said base portion, comprising a support having apertures for receiving said prongs, contact members on said support disposed adjacent said apertures, and means for locking said device to said support including a flexible substantially elliptical ring mounted on said support and adapted to encompass said base portion, the minor axis of said ring being substantially equal to the diameter of said base portion, said ring having an aperture for receiving said bayonet pin.

8. A mounting for an electrical device having an external terminal, comprising a support, contact means on said support for engaging said terminal, a continuous closed ring member adapted to encompass a portion of said device and having one diametral dimension larger than the greatest diametral dimension of said portion, and a pair of spaced supporting members extending from said support and secured to said ring member at spaced portions thereof, said ring member and said supporting members being resilient whereby the form of said ring member is alterable to allow free passage of said portion therethrough and to allow frictional engagement thereof with said portion.

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