Dec. 17, 1929. W. M. BROWER 1,739,748

ELECTRON TUBE SOCKET

Filed Aug. 26, 1926

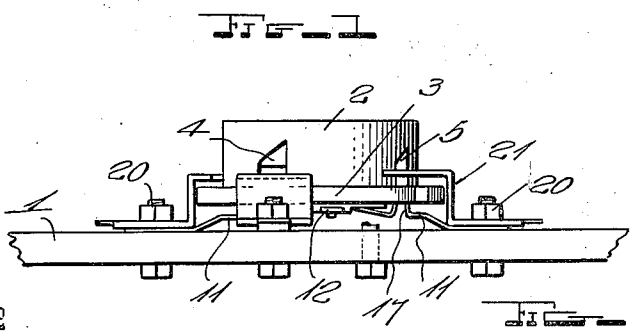


FIG. 1

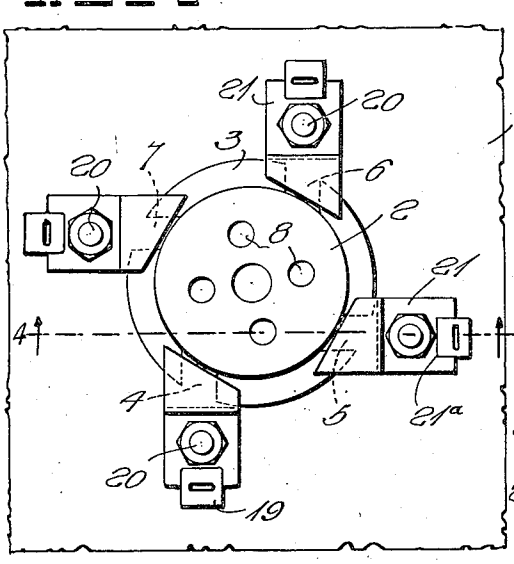


FIG. 2

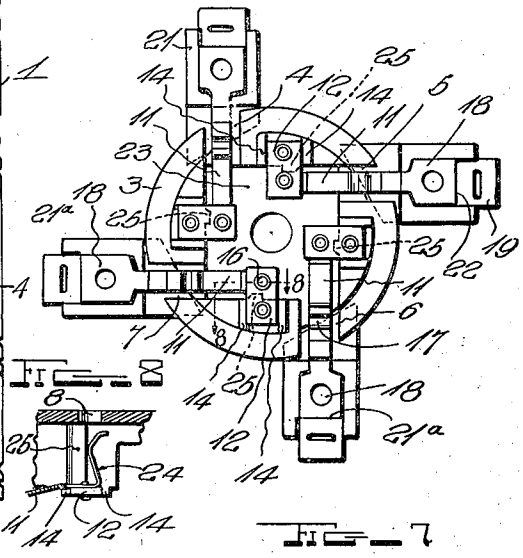


FIG. 3

FIG. 8

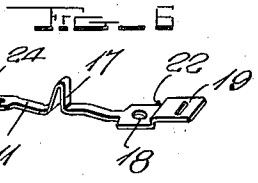


FIG. 6

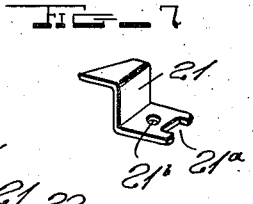


FIG. 7

FIG. 4

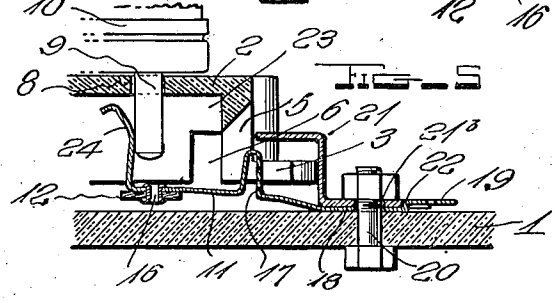


FIG. 5

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UNITED STATES PATENT OFFICE

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ELECTRON-TUBE SOCKET

Application filed August 26, 1926. Serial No. 131,635.

My invention relates broadly to electron tube sockets and more particularly to the construction of a resiliently mounted electron tube socket.

One of the objects of my invention is to provide a construction of resiliently mounted electron tube socket which may be readily manufactured inexpensively on a quantity production basis and which is very efficient in its characteristic of preventing shocks and undesired mechanical vibrations from being imparted to the electron tube mounted in the socket.

Another object of my invention is to provide a construction of electron tube socket having a minimum number of parts with the contacts within the socket extended and formed in such manner as to prevent the transfer of shocks and vibrations to the electrodes within the electron tube structure.

Another object of my invention is to provide a construction of electron tube socket having an insulating body portion cut away at intervals about the periphery thereof to enable the socket to readily move under conditions of shocks and vibrations for preventing the setting up of microphonic noises in the electron tubes mounted in the sockets.

Another object of my invention is to provide a construction of electron tube socket in which an insulated body portion is provided with an interiorly extending rectangular recess with grooves extending from the outer peripheral edge of the said body portion into said recess for admitting resilient contacts therethrough each capable of preventing the transfer of shocks and mechanical vibrations to the elements of an electron tube mounted in the socket.

Still another object of my invention resides in the construction of the contact members of the electron tube socket for preventing the transfer of undesired mechanical vibration to an electron tube carried by the socket.

Other and further objects of my invention will be understood from the specification hereinafter following by reference to the accompanying drawings in which:

Figure 1 is a side elevation illustrating the electron tube socket construction of my invention; Fig. 2 is a top plan view of the electron tube socket of my invention; Fig. 3 is a bottom plan view showing the arrangement of contacts for the electron tube socket construction of my invention; Fig. 4 is a cross-sectional view taken through the electron tube socket on line 4—4 of Fig. 2; Fig. 5 is an enlarged cross-sectional view showing one of the contact members of the electron tube socket construction of my invention illustrating the pins of an electron tube engaging one of the contacts in the socket; Fig. 6 is a perspective view of one of the contact members which I provide for the electron tube socket construction of my invention; Fig. 7 shows one of the limiting stops which I provide for controlling the movement of the electron tube socket under conditions of mechanical vibration; and Fig. 8 is a fragmentary view of a portion of the socket illustrating one of the shoulders in the recess in the tube socket for limiting the position of the contact members beneath the aperture of the base.

Referring to the drawings in more detail reference character 1 illustrates a base member on which the electron tube socket construction of my invention is supported. Reference character 2 indicates the insulated body portion of my electron tube socket construction having a lower peripheral flange 3 thereon. The insulated body portion 2 is provided with an internal rectangular recess 23, and extending from the internal recess to the peripheral edge of the socket I provide slots 4, 5, 6 and 7 which form entrances through which contact members 11 may pass. The upper portion of the insulated body portion 2 is apertured at 8 through which pins 9 of an electron tube 10 may pass for establishing connections with the contacts 11 in the rectangular recess within the insulated body portion 2. Each of the contacts 11 are formed as represented more clearly in Fig. 6 with an upwardly extending portion 24 forming a contact for each pin of an electron tube. Each contact member 11 is apertured at 16^a and riveted as represented at 16 to the strip 12 which is fastened to the lower surface of the insulated body portion 2. The strip 12 is securely anchored to the under surface of the

body portion of the electron tube socket by means of ledges 14 which extend parallel to a diametric line through the body structure 2. The contact 11 is provided with an anchoring portion 18 which is apertured and fastened as represented at 20 to a strip base member. The strip 11 is then offset with a shoulder at 22, the strip continuing as represented at 19 enabling the socket to be securely positioned with respect to the base by means of a limiting stop 21 which is secured over the contact strip 11 and extends over the peripheral flange 3 of the electron tube socket. The limiting stop 21 is shown more clearly in Fig. 7 as provided with an aperture 21^b through which bolt member 20 passes and cut away portion 21^a in which the contact 11 is firmly anchored.

Connections may be made to each of the contacts with associated amplification apparatus by soldering conductors to the portions 19 of the contact strips 11.

Each of the contact strips 11 is provided with a V-shaped offset portion 17 intermediate the length thereof and this V-shaped portion may freely move within the grooved portions 4, 5, 6 and 7 preventing the transfer of mechanical vibrations to the electrodes of an electron tube carried in the socket.

The interior walls of the rectangular recess 23 are each provided with short extended ledges 25 which limit the movement of the upwardly extending contact portion 24 in the direction of the pin 9 and in this manner the upwardly extending portions 24 are maintained in alignment below the apertures 8 and prevented from forming an obstruction against the passage of the pins projected from the electron tube base while at the same time good contact is insured between the pins and the contacts. Fig. 8 shows clearly the function of the shoulder 25 for preventing movement of contact members 24 beyond a given limit beneath apertures 8.

The electron tube socket construction of my invention has been found to be very practical in its construction and successful in operation, and while I have described one of the preferred embodiments of my invention I desire that it be understood that modifications may be made and that no limitations upon the invention are intended other than are imposed by the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. A resiliently mounted electron tube socket comprising an insulated body structure formed in the shape of a hollow inverted shell and apertured on its top for receiving the pin terminals of an electron tube, a plurality of supports projecting inwardly from opposite sides of said shell to a position below the apertured top of said socket, resilient contact strips secured to said supporting members, said insulated body structure being slotted adjacent said supports and said contact strips being arranged to pass through the slots in said body structure, each of said contact strips being shaped to provide a resilient mounting for said socket.

2. An electron tube socket comprising an insulated body structure centrally recessed in its lowest portion, a plurality of metallic strip members anchored to the lower portion of said insulated body structure and directed to a position within said insulated body structure, said body structure being slotted in positions adjacent each of said metallic strip members, contacts corresponding in number to the number of said slots each of said contents comprising a resilient strip of material anchored to the extremity of the respective metallic strip member and being provided with a V-shaped bend intermediate the ends of said strip member, said V-shaped bends being arranged to project into said slots for permitting relative movement of said electron tube socket under conditions of shock vibration.

3. An electron tube socket construction comprising an insulated body portion having a flat circular flange on the lower portion thereof, said body portion being slotted at a plurality of points about its periphery for providing entrances to the interior portion of said body portion, the top of said insulated body portion being apertured for receiving the pin terminals of an electron tube, a plurality of inwardly directed supporting strip members anchored to said body portion in positions below said apertured top portion and resilient contact members secured to said strip members and passing through said slots and each relatively movable within said slots for preventing the transfer of shocks and jars to an electron tube carried by said insulated body portion.

In testimony whereof I affix my signature.

WILLIAM M. BROWER.