April 14, 1931. H. E. FULLER 1,800,827

AUDION RECEPTACLE

Filed Nov. 7, 1925

Fig. 1.

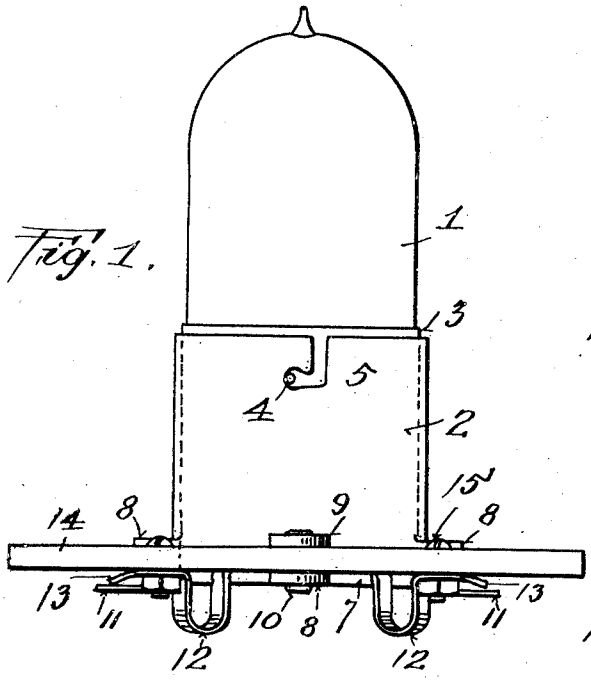


Fig. 3.

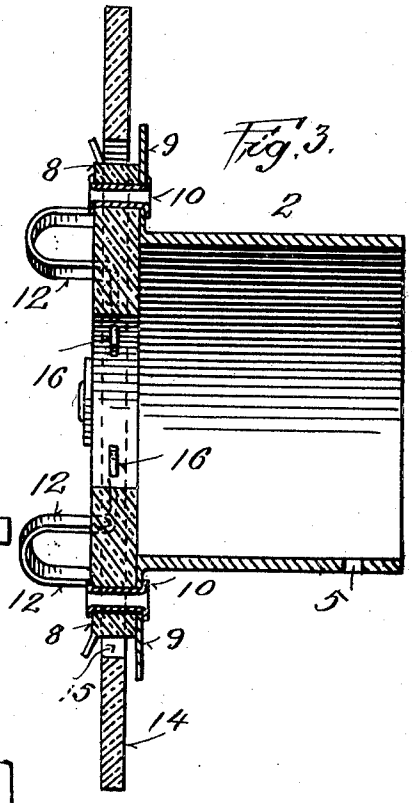


Fig. 2.

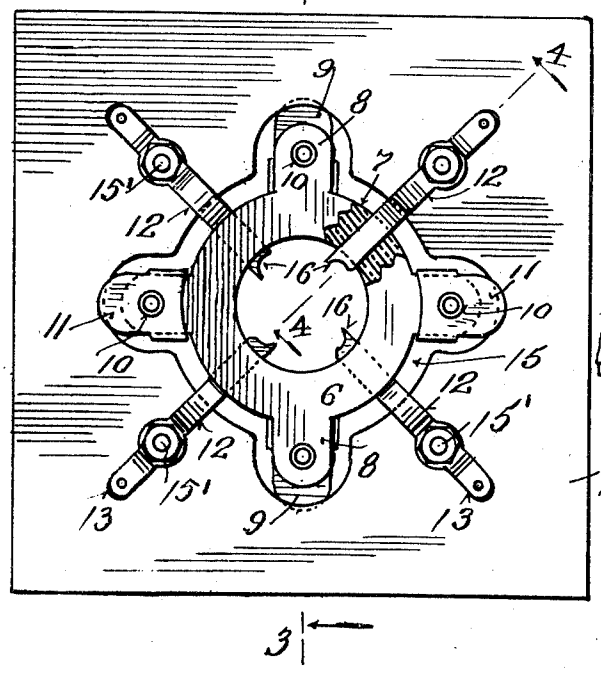
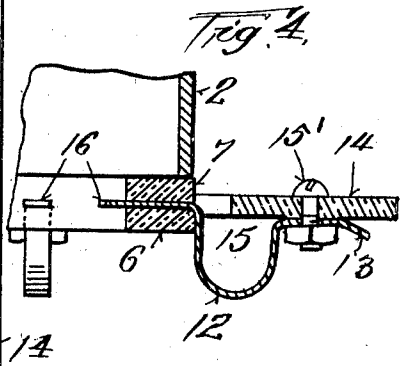


Fig. 4.



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UNITED STATES PATENT OFFICE

HAROLD E. FULLER, OF FOREST HILLS, NEW YORK, ASSIGNOR TO DE FOREST RADIO COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

AUDION RECEPTACLE

Application filed November 7, 1925. Serial No. 67,538.

This invention relates in general to audion sockets. One of the objects of this invention is to provide a resilient shock absorbing mounting for audion sockets. Another object of this invention is the provision of a new and novel audion socket or receptacle, which includes means for both resiliently supporting the socket of a base, as well as means for frictionally engaging the prongs on the audion or vacuum tubes to be received by the socket. The same resilient means also forms the contact clips for engagement with the prongs of the audion.

One of the objects of this invention is the provision of a shock absorbing vacuum tube receptacle which is simple in construction, efficient in operation, and economical of manufacture and maintenance.

The invention resides substantially in the construction, combination, location and relative arrangement of parts as will be fully hereinafter set forth.

Referring to the drawings in which the same reference numerals will be used throughout the several views to indicate the same parts,—

Fig. 1 is a side elevational view of the socket of my invention showing a vacuum tube secured in place.

Fig. 2 is a bottom plan view of the socket of my invention with some parts broken away.

Fig. 3 is a vertical cross-sectional view of the socket of my invention taken on the line 3—3 of Fig. 2, looking in the direction of the arrows.

Fig. 4 is an enlarged sectional view of the detail of resiliently mounting the socket taken on the line 4—4, of Fig. 3, looking in the direction of the arrows.

As is well known in the radio art any relative movement between the elements of the vacuum tube, that is the grid, plate and filament causes variations of the electrical constants of the circuits connected thereto. Therefore, whenever the socket in which is secured a vacuum tube is jarred or set in vibration, microphonic sounds are set up in any circuits connected thereto, by reason of the relative vibration of these parts. It is, therefore, every essential that such tubes be mounted in such a manner that any shocks or vibrations of the supporting means may be absorbed before they reach the tube itself. By means of the construction disclosed herein, I have been able to eliminate such undesirable microphonic sounds set up by vibrations of the supporting means.

In the drawings 1 indicates in general a well known vacuum tube or audion secured in place in a socket 2 by means of a bayonet pin 4 mounted on the base 3 of the tube and secured in the bayonet slot of the socket tube. At the bottom of the socket 2 are secured concentric rings 6 and 7, having integral projections 8 which are secured to corresponding integral projections 9 on the socket 2 by means of rivets 10. On two of the integral projections 8 are secured small metal tabs 11, for the purpose which will be stated hereinafter. Rigidly secured to a base 14, having the central opening 15 therethrough, are a number of substantially U-shaped spring clips 12, bolted to the base 14, by means of bolts 15′. These spring clips 12 are arranged at one end 13 to have secured thereto connecting leads, while the other end projects through radial slots between the rings 6 and 7, and have on their inner projecting ends small notches 16. The tabs 11 are secured to the projections 8 of the rings, projecting slightly beyond the opening 15 in the base 14, so as to limit the motion of the rings and the supported socket. It will be seen, therefore, that when a vacuum tube is slipped into the socket 2, its prongs will when rotated force the spring clips 12 radially outward, so that the prongs will be snapped into the notches 16 and at the same time the bayonet pins will travel circumferentially into its notch 5. Besides frictionally engaging the prongs of the spring clips, I also provide an electrical connection from the prongs to the ends 13 to which the circuit wires are to be connected. The socket 2 and its attached rings are not in contact at any place with the base 14, but are supported within the central opening by means of the resilient spring clips 12. Thus any shocks given to the base 14 will be absorbed by the resilient mounting be-

fore they reach the socket 2 and any tube that may be in it. It is evident, therefore, that the spring clips serve at once three functions; that is supporting the socket resiliently upon the outer base 14, providing frictionally engaging means for securing the tubes within the socket and providing means for connecting external circuits to the prongs of the tube.

I am aware that many changes and modifications will readily occur to those skilled in the art, and therefore, I do not desire to have my illustrations taken in a limiting sense, but rather for illustrative purposes only, and I intend rather that my invention be confined within the limits described in the appended claims.

What I claim as new and useful and of my own invention and desire to secure by Letters Patent is—

1. In an audion receptacle, a base having a central opening therein, a socket, insulating rings on said socket, a plurality of spring means on said base, slidably mounted between said rings and forming a resilient support for said socket on said base.

2. In an audion receptacle, a base having a central opening therein, a socket, insulating rings on said socket, a plurality of spring means on said base slidably mounted between said rings and projecting into the central opening of said rings so as to be adapted to receive the prongs of an audion.

3. In an audion receptacle, a base having a central opening therein, a socket, insulating rings on said socket, a plurality of spring means on said base slidably mounted between said rings, and projecting into the central opening of said rings in such a manner as to provide contact clips for completing the circuits to the prongs of an audion.

4. In an audion receptacle, a base having a central opening therethrough, a socket, ring means on said socket, and resilient supports on said base extending slidably through said ring means, and projecting into the central opening of said ring forming means whereby the socket is resiliently supported on said base.

5. In an audion receptacle, a base having a central opening therethrough, a socket, ring means on said socket, and resilient supports on said base extending slidably through said ring means, and having notches in the ends thereof for clamping an audion in the socket by means of frictional engagement with its prongs.

6. In a device of the character described, a base plate having an opening therein, a radio tube socket comprising a circular member positioned within said opening, a plurality of spring supports each having one end rigidly fastened to said base plate and the other end slidably passing through said socket, the free ends of each spring being notched to partially surround the contact prong of a vacuum tube and adapted to be forced outwardly in a radial direction through said socket when the tube is inserted in proper position in said socket.

7. In a device of the character described a base plate having an opening therein, a radio tube socket comprising a circular member of smaller diameter than the opening in said plate, a plurality of spring members each attached at one end to said plate and freely passing at their other ends through said circular member to provide a resilient support for said socket, the inner ends of said springs being notched to engage the contact points of a radio tube.

In testimony whereof I have hereunto set my hand on this 4th day of November, A. D. 1925.

HAROLD E. FULLER.