April 14, 1925. 1,533,209

J. W. RADU

VACUUM TUBE HOLDER

Filed Nov. 26, 1920

Fig. 1.

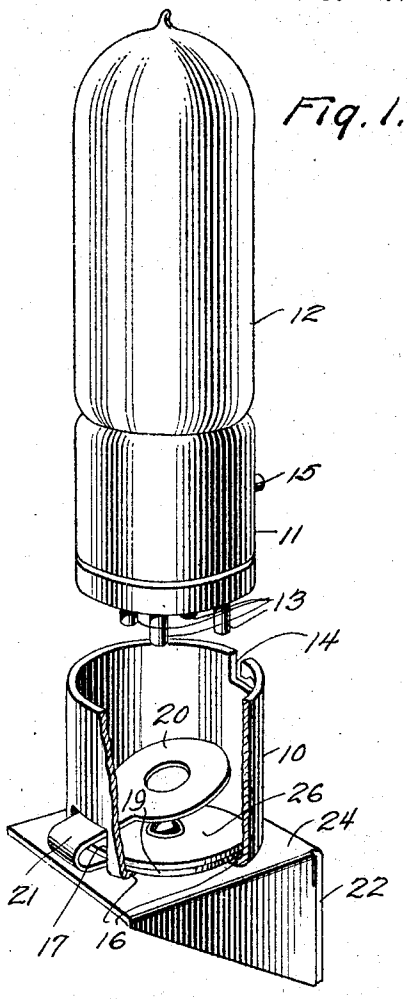


Fig. 3

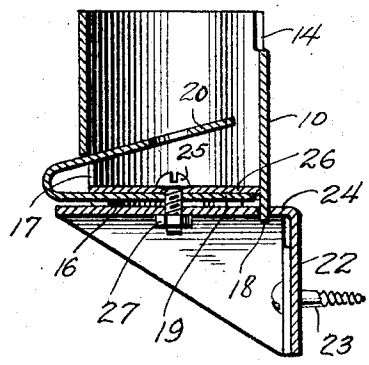
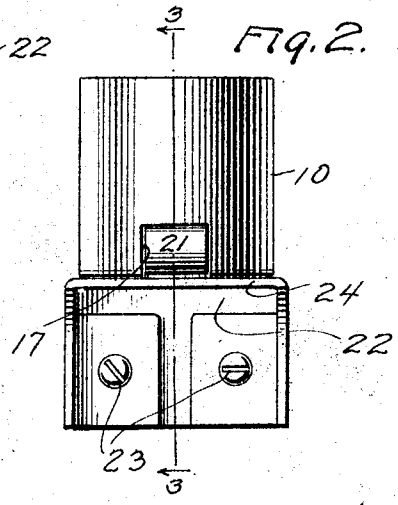


Fig. 2.



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Att'y.

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UNITED STATES PATENT OFFICE.

JOHN W. RADU, OF NEW YORK, N. Y., ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

VACUUM-TUBE HOLDER.

Application filed November 26, 1920. Serial No. 426,404.

To all whom it may concern:

Be it known that I, JOHN W. RADU, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Vacuum-Tube Holders, of which the following is a full, clear, concise, and exact description.

This invention relates to socket structures and more particularly to a socket for use in portable vacuum tube apparatus such as an ionization manometer in which socket the vacuum tube may be carried when not in use.

This invention has for its object the provision of a socket which will firmly support a vacuum tube inserted therein and which is of such a construction that the tube cannot fall out.

The invention comprises a socket into which the tube may be inserted and to which it may be locked by a bayonet slot construction acting in combination with a resilient means arranged in the socket which operates on the base of the tube to hold it in place.

This invention will be better understood by having reference to the following specification and accompanying drawings wherein is disclosed the preferred embodiment of the invention and in which Fig. 1 is an elevation of a tube and socket, the socket being partially broken away, Fig. 2 is a side elevation of the socket and Fig. 3 is a section on the line 3—3 of Fig. 2.

The socket comprises a cylindrical shell 10 which is adapted to receive the base 11 of a vacuum tube 12, having terminals 13. Such a vacuum tube is disclosed in the patent to Shreeve, 1,325,865, December 23, 1919 for vacuum tube sockets. In the shell is provided a bayonet joint slot 14 with which the pin 15 on the base 11 cooperates in the well known way to lock the base in the socket. The lower edge of the shell 10 is turned in to form a flange 16. This flange is interrupted at one point by a slot 17 cut in the wall of the shell. At a point opposite said slot a member 18 projects downwardly from its shell, said member comprising a portion of the shell not turned in at the forming of the flange.

Arranged in the shell is a resilient element comprising the circular base member 19 and the disc 20 joined together by a resilient shank 21 formed with a return bend. This element is so arranged in the shell that the base 19 rests on the flange 16 and the shank lies in the slot 17.

A bracket 22, formed from a single piece of sheet metal cut and bent to the desired shape, is provided for supporting the socket. This bracket may be attached by screws 23 to the cover of a box containing electrical apparatus with which a vacuum tube is to be used. The shell rests upon the shelf 24 of the bracket and is attached thereto by means of the bolt 25. This bolt 25 passes through an aperture in a washer 26 arranged in the shell between the base 19 and disc 20 of the resilient element and apertures in the base 19 and shelf 24 and is provided with a nut 27 by means of which the parts are clamped in position. The projection 18 passes through an aperture in the shelf 24 and prevents rotation of the shell relative to the bracket. In the disc 20 is an aperture by means of which access may be had to the head of the bolt 25.

In the use of this device the bracket 22 is attached to the cover of the apparatus containing box in such a way that a vacuum socket may be readily inserted in or removed from the tube. When a vacuum tube of the type referred to is placed in this socket, the terminals contact with the disc 20 and the resiliency of the shank 21 maintains the pin 15 on the base in position in the slot 14 to lock the tube in the socket against accidental removal. The bracket 22 may, however, be dispensed with and the shell attached directly to the box cover by means of a screw substituted for the bolt 25.

What is claimed is:

1. A holder for vacuum tubes comprising a cylindrical shell having a slot at one end, an inwardly projecting flange on said shell adjacent said slot, a member arranged in said shell, a resilient shank having a return bend extending from said member through said slot, and means for holding said member against said flange.

2. A holder for vacuum tubes comprising a cylindrical shell having a slot at one end, an inwardly projecting flange in said shell adjacent said slot, a member arranged in said shell, a resilient shank having a return bend extending from said member through

said slot, a washer, and means for clamping said member between said washer and said flange.

3. A holder for vacuum tubes comprising a cylindrical shell having a slot at one end, an inwardly projecting flange in said shell adjacent said slot, a resilient element in said shell, said element comprising two members arranged within the shell and connected by a shank having a return bend extending through said slot and means to hold one of said members against said flange.

4. A holder for vacuum tubes comprising a cylindrical shell having a slot at one end, an inwardly projecting flange in said shell adjacent said slot, a resilient element in said shell, said element comprising two members arranged within the shell and connected by a shank having a return bend extending through said slot, a washer and means to clamp one of said members between said washer and said flange.

5. A holder for vacuum tubes comprising a support, a shell carried by said support, said shell having an inwardly projecting flange, a resilient member in said shell and means for holding the said member against said flange, said means also serving to clamp said shell to said support.

6. A holder for vacuum tubes comprising a support, a shell carried by said support, said shell having an inwardly projecting flange, a resilient element in said shell including a base member, and means for clamping said base member against said flange and for attaching said shell to said support.

7. A holder for vacuum tubes comprising a support, a shell carried by said support, said shell having an inwardly projecting flange, a resilient element in said shell including a base member, a washer, and means for clamping said base member between said washer and said flange and for attaching said shell to said support.

8. A holder for vacuum tubes comprising a support, a shell having an inwardly projecting flange carried by said support, said shell having a slot adjacent said flange, a resilient element in said shell comprising two members connected by a return bend shank extending through said slot, and means for clamping one of said members against the flange and for attaching said shell to said support.

9. A holder for vacuum tubes comprising a support, a shell having an inwardly projecting flange carried by said support, said shell having a slot adjacent one edge, a resilient element in said shell comprising two members connected by a return bend shank extending through said slot, a washer and means for clamping one of said members between said washer and the flange and for attaching said shell to said support.

10. A holder for vacuum tubes comprising a support, a shell carried by said support, an abutment within said shell, a resilient member supported by said abutment, and means to maintain said resilient member in contact with said abutment and to attach said shell to said support.

11. A holder for vacuum tubes comprising a support, a shell carried by said support, an abutment within said shell, a resilient member in said shell, a bolt to maintain said resilient member in contact with said abutment and to attach said shell to said support, and means to prevent rotation of said shell.

In witness whereof, I hereunto subscribe my name this 20th day of November A. D., 1920.

JOHN W. RADU.