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TUBE HOLDER

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Fig. 1

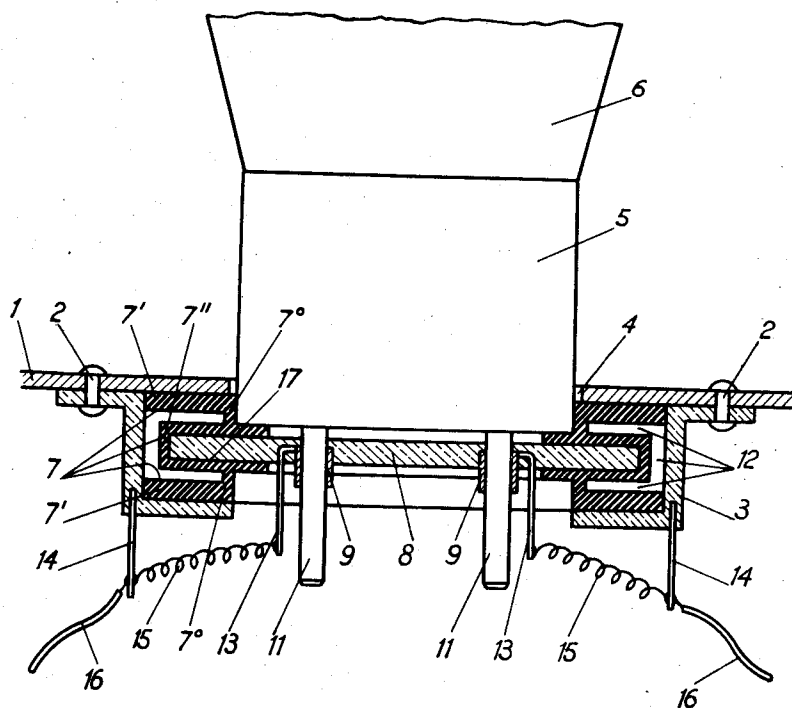
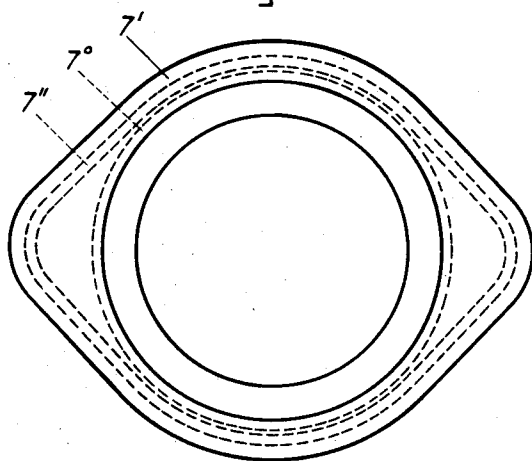


Fig. 2



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TUBE HOLDER

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3 Claims. (Cl. 248—358)

This invention relates to holders for electron discharge tubes to be mounted on supports or chassis of electric apparatus as radioreceiver sets; and comprises a resilient holder by means of which the jolts and vibrations which may act on the said support or chassis are prevented from reaching the tubes mounted thereon, the so-called microphonic effect being thus avoided in the tube operation.

The holder according to this invention for mounting tubes on chassis or supports of radioreceivers and equivalent apparatus comprises a rubber pad which is conveniently shaped to provide regions having a restricted transverse section in order to minimize the transmission of vibrations through the pad body said pad further acting to confine within defined ranges the permissible respective movements of the tube and chassis with respect to each other; further means are provided for connecting the holder sockets and the tube base pins with cooperating outer circuits in conditions to prevent the vibrations which may operate on the wires leading to other parts of the apparatus from reaching the tube.

An embodiment of the present invention is illustrated by way of example on the annexed drawing and

Fig. 1 is an enlarged transverse section of the tube holder of this invention with portions of the support or chassis on which it is mounted and of the tube engaged in said holder; Fig. 2 is a top plan view of the resilient pad embodied in the holder of this invention.

In the illustrated embodiment, 1 denotes a portion of a plate pertaining to the chassis of a radioreceiver, in which an aperture 4 is provided for reception of the base 5 of the tube 6; a collar 3 of rigid insulating material is fast on the bottom of the plate 1 in register with said aperture 4 to enclose and engage the tube holder and its resilient pad as hereinafter described.

A resilient pad 7 made of rubber is located within the collar 3; as hereinafter described in detail, said pad 7 provides bottom and top abutting faces which engage the top face of the collar 3 and the bottom face of the plate 1 opposite to each other, and also a groove in which the edge of a rigid tube holding disk 8 made of insulating material is engaged, this disk carrying in holes therein the conducting sockets 9 in which the pins 11 extending from the tube base 5 engage.

Conveniently the portions of the pad which engage the plate 1 and the collar 3 and the portion thereof in which the groove entered by the

edge of the tube holding disk 8 is provided, are interconnected by regions having a transverse sectional area as far as possible reduced in order to restrict to a maximum possible extent the conveyance of vibrations from the supporting parts 1, 3 to the disk 8 and tube 5, 6; further shallow interstices are left intermediate said support-engaging portions and tube carrying portion to allow for small-range deflections of the disk 8 with respect to supporting parts 1, 3 while restricting such exceedingly large respective movements of said disk and parts as could affect the safety of the mounting of the tube on the chassis intended to carry it.

More particularly the pad 7 provides two opposite peripheral flanges 7' which abut on the chassis plate 1 and on the collar 3, and an intermediate C-shaped body which provides an internal groove 17 in which the edge of the disk 8 engages; said flanges 7' are connected with the body 7'' by means of annular webs 7⁰ and said body 7'' has an outer diameter smaller than the outer size of the flanges 7' and consequently than the internal diameter of the collar 3 where the pad 7 is located.

Due to the described arrangement, gaps 12 are provided intermediate the flanges 7' and the body 7'' and intermediate the body 7'' and the collar 3, said gaps permitting for minor respective displacements of the body 7'' and chassis parts 1, 3 while movements beyond a certain amplitude cause the body 7'' to engage directly the flanges 7' the respective movements of the tube and chassis being thus damped and confined within narrow ranges.

To provide for the connection of the tube base pins 11 with the cooperating circuits outside of said tube the sockets 9 are provided with fingers 13 located in register with fingers 14 fast on and extending from the insulating collar 3; the registering fingers 13 and 14 are connected by means of very light wire spirals 15 affixed to said fingers and further wires 16 leading to other parts of the set are affixed on the stationary fingers 14. The stresses the wires 16 may impart to the fingers 14 are taken up by said fingers and possibly by the deformations of the spirals 15 and cannot be imparted to sockets 9 and consequently to the tube mounted in the holder.

What I claim as my invention and desire to secure by United States Letters Patent is:

1. A holder for mounting an electron discharge tube on a chassis comprising a resilient ring-shaped pad including spaced coextensive flanges adapted for engagement with said chassis

and an annular body located intermediate said flanges and webs connecting said body and flanges, gaps being provided intermediate said body and each of said flanges in register with
5 said respective interconnecting webs, a tube support engaged with said annular body and means on said tube support for engaging said tube thereon.

2. A holder for mounting an electron discharge
10 tube on a chassis comprising a resilient ring-shaped pad including spaced coextensive flanges adapted for engagement with said chassis and an annular internally grooved body located intermediate said flanges and webs connecting said
15 body and flanges, gaps being provided intermediate said body and each of said flanges in register with said respective interconnecting webs, a tube support engaged in said annular

body groove and means on said tube support for engaging said tube thereon.

3. A holder for mounting an electron discharge tube on a chassis comprising a resilient integral ring-shaped pad including spaced coextensive
5 flanges and an annular internally grooved body located intermediate said flanges and thin cross-section webs connecting said body and flanges, a collar fast on said chassis to provide an annular space where said pad is enclosed with said flanges
10 abutting on said chassis and collar gaps being provided intermediate said flanges and body in register with said webs and intermediate said body and collar, a tube support engaged in said
15 annular body groove and means on said tube support for engaging said tube thereon.

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