

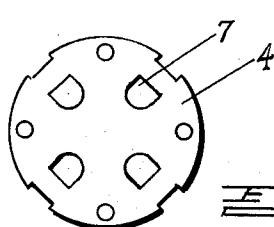
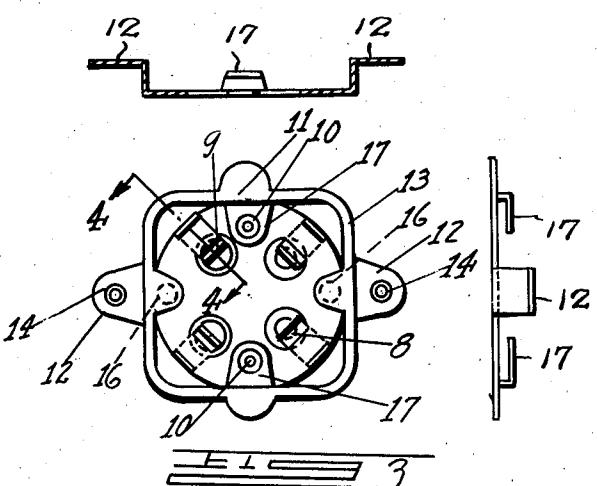
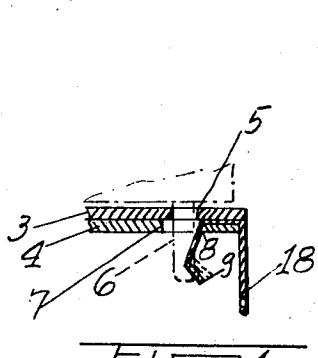
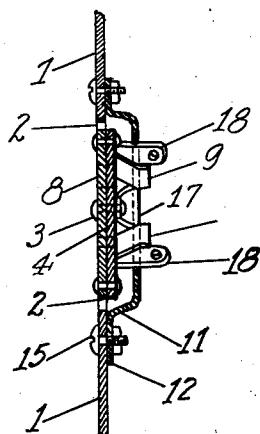
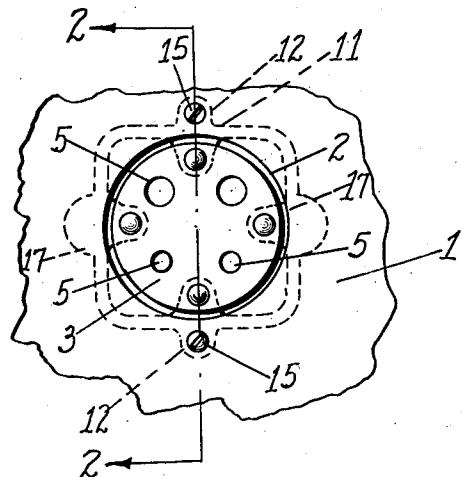
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C. E. KILGOUR

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RESILIENT SUPPORT FOR RADIO TUBES

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# UNITED STATES PATENT OFFICE

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## RESILIENT SUPPORT FOR RADIO TUBES

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My invention relates to mounting supports or clamps with which radio tubes may be supported in a radio set.

It is the object of my invention to provide 5 a resilient support for radio tubes or a radio tube which will tend to prevent shocks to the tubes or tube and to prevent vibrations set up by sound waves from being transferred to the radio tubes or tube.

10 A further object of my invention is the provision of a mounting support which will be so shaped as to yield a limited distance with the insertion therein of a radio tube and which will then rebound to a resiliently 15 supported position. By means of the resilient support, the inertia of the tube will tend to make it remain in a fixed position regardless of slight vibrations which will be taken up in the resilient mounting.

20 Referring to the drawings which I have disclosed a preferred embodiment of my invention:—

Figure 1 is a front elevation of a portion of a radio cabinet or casing wall showing my 25 novel tube mounting plate in position.

Figure 2 is a section of the parts shown in Figure 1 taken along the line 2—2.

Figure 3 is a rear elevation showing the 30 mounting support detached from the wall, with projections in two directions therefrom.

Figure 4 is a section taken along the lines 4—4 in Figure 3.

Figure 5 is a plan of one of the mounting plates.

35 I have shown a portion of the casing or cabinet wall supporting the set at 1. The wall 1 may be of metal as my mounting device does not require mounting on a dielectric panel. It has a circular orifice 2 extending through it within which the radio tube support is mounted. The support or mounting means for the tube comprises in the preferred form illustrated, two or more insulating discs, 3 and 4, secured together as 40 will be hereinafter described. The outer disc 3 has round holes 5, preferably in interspaced position as shown to allow for the insertion of the contact pins extending from the radio tube as indicated in dotted lines at 6 in Figure 4. In aligned position with the holes 5

on the inner disc 4, there are a series of apertures 7 having rounded inner ends and squared outer portions. The resilient clips 8 against which the contact pins bear are formed by inserting the bent ends 9 of the 55 clips through the holes 7 and then securing the two or more discs together with rivets 10 which hold the disc together and also provide means for securing the discs on the resilient bracket 11 which secures the disc with 60 in the hole 2 in the wall 1. The apertures 7 are squared where the tongues 9 pass down through them, thus holding the clips in place.

The resilient bracket 11 for supporting the discs is preferably made from a unitary 65 stamping shaped as shown in Figure 3. Ears 12 are extended from the outer periphery of a skeleton frame formed by the sides 13. The ears 12 have holes 14 with which the bracket may be secured to the wall 1 as by means of 70 screws 15. The ears lie in the same plane as the disc 5 which supports the discs 4 and 5 in approximately the same plane as the wall 1 in which the tube mounting device is secured. Another set of ears 16 extend inwardly from the side walls 13 of the skeleton 75 bracket which ears serve to limit the inward movement of the plates during the interval when a tube is being inserted. The ears 16 are in a different plane than the ears 12 so 80 that although the ears 16 serve as stops they do not provide a means of transmitting vibrations from the wall 1 to the bracket.

For securing the discs to the skeleton bracket on the sides of the bracket opposite those occupied by the ears 12 and 16, a third set of ears 17 are extended inwardly from the sides upon a different plane than the ears 12 so as to allow for the thickness of the piece 4. The ears 17 have holes in them through which 85 rivets may be secured as indicated at 10. The rivets 10 also serve to secure the two or more plates 4 and 5 together. For connecting wires to the tube contact clips, the outer ends 18 of the clips 8 may be perforated or notched 90 so as to make good seats for the soldered joints.

From the above description, it will be obvious that I have provided mounting means for supporting a tube which will be simple to 100

manufacture and which will very effectively take up vibrations which might otherwise occur between the wall 1 and the mounting support. Modifications in the size and shape 5 of the flexible bracket will readily occur to those skilled in the art without departing from the principle involved therein. It will further be obvious that a plurality of tubes may be mounted in a single resilient skeleton 10 frame made in accordance with my invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A resilient support for a radio tube 15 comprising a plurality of discs of non-conductive material having aligned apertures for the insertion of tube terminal posts and resilient conductive clips supported by frictional contact between said discs adapted to 20 be engaged by said terminal posts with means of securing said discs to a member forming part of the casing for a radio set, said means comprising a resilient skeleton frame having ears serving as mounting means for said 25 frame on said aforementioned member of said set and said skeleton frame being further provided with abutments against which said discs will abut during the insertion of tube 30 terminal posts within said clips.

2. A support for a radio tube consisting 35 of a non-conductive disc having apertures therein for the insertion of tube terminals, said disc having resilient clips extending therefrom adapted to engage said terminals with the insertion thereof into the apertures 40 in said disc, and a resilient skeleton bracket provided with mounting elements extending from said bracket, and means also extended from said bracket lying in the path of movement of said disc during the insertion 45 of a radio tube.

3. A support for a radio tube consisting 50 of a non-conductive disc having apertures therein for the insertion of tube terminals, said disc having resilient clips extending therefrom adapted to engage said terminals with the insertion thereof into the apertures 55 in said disc, and a resilient skeleton bracket provided with mounting elements extending from said bracket, and means also extended from said bracket lying in the path of movement of said disc during the insertion of a radio tube, said means normally lying in a 60 different plane than said mounting elements whereby a limited movement of said disc is 65 permitted.

4. Resilient supporting means for a radio tube mounting device, said supporting means comprising a skeleton frame member and diametrically opposed pairs of lugs, one pair of 70 said lugs pointing inwardly and the other pair pointing outwardly, said lugs offset from said skeleton frame, inwardly projecting ears opposite the outwardly projecting pair of lugs, said ears serving to limit the motion in one direction of a mounting device 75 attached to said inwardly projecting lugs.

5. Resilient supporting means for a radio tube mounting device, said supporting means comprising a skeleton frame member and diametrically opposed pairs of lugs, one pair of 80 said lugs pointing inwardly and the other pair pointing outwardly, said lugs offset from said skeleton frame, each pair of lugs lying in a separate plane therefrom, and ears inwardly extending from said skeleton frame 85 opposite said outwardly extending lugs, and in the same plane as said frame.

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5. Resilient supporting means for a radio