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W. F. KAYNOR

RADIO TUBE SOCKET

Filed Oct. 18, 1924

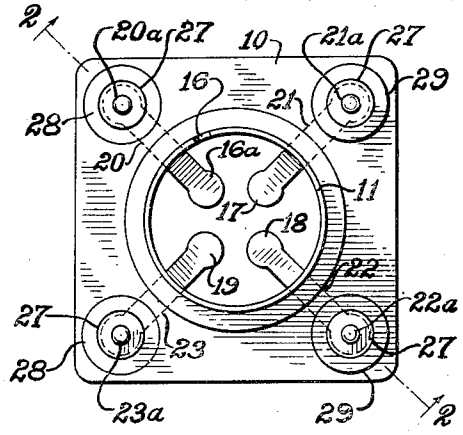


Fig. 1

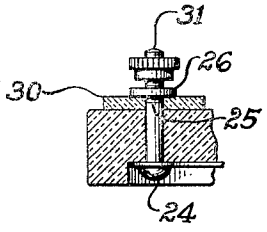


Fig. 3

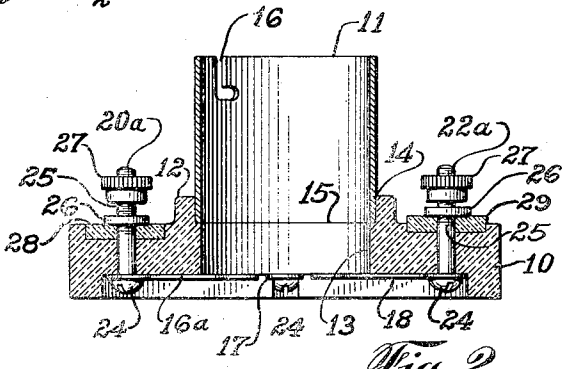


Fig. 2

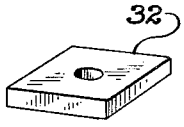


Fig. 4

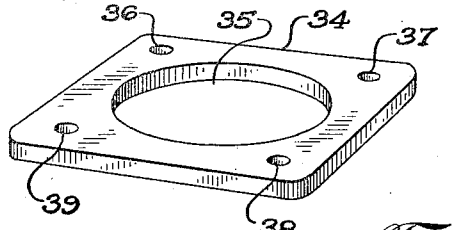


Fig. 6

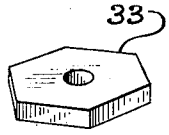


Fig. 5

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UNITED STATES PATENT OFFICE.

WARREN F. KAYNOR, OF WATERBURY, CONNECTICUT, ASSIGNOR TO WATERBURY BUTTON COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

RADIO TUBE SOCKET.

Application filed October 18, 1924. Serial No. 744,356.

This invention relates to sockets for radio tubes, and more particularly to means for shielding the base of a radio tube-socket from the injurious effects of the heat of a so'dering iron.

One object of the invention is to provide heat-shielding means for a radio tube-socket having a base of thermoplastic material, in order to permit an unskilled operator to make soldered connections near the socket without softening the thermoplastic material thereof or in any way injuring the socket.

A further object of this invention is to provide a shielded radio tube-socket of the above nature which will be simple in construction, inexpensive to manufacture, easy to insta'l, attractive in appearance, and very efficient and durable in use.

With these and other objects in view, there have been illustrated on the accompanying drawings, several forms in which the invention may be conveniently embodied in practice.

Fig. 1 represents a top plan view of a radio tube-socket having four heat-shielding washers installed therein.

Fig. 2 is a side sectional view of the same, taken along the line 2—2 of Fig. 1, looking in the direction of the arrows.

Fig. 3 is a fragmentary sectional view of one side of a tube-socket member having a heat-shielding washer loosely applied to the outer surface thereof.

Fig. 4 is a perspective view of a modified form of heat-shielding washer, square in shape.

Fig. 5 is a perspective view of another modified form of heat-shielding washer, hexagonal in shape.

Fig. 6 is a still further modified form of heat-shielding washer, square in shape and adapted to cover the entire thermoplastic base of the tube-socket.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates the base of the radio tube-socket, said base preferably being rectangular in shape. The base 10 may be constructed from any suitable thermoplastic material such as shellac composition, and the like, which can be molded into the desired shape while hot.

In order to receive a shell 11 for holding a radio tube not shown, the base 10 is provided with an upstanding annular flange 12 at its center, surrounding an aperture 13 extending down through said base 10. An annular groove 14 is provided on the interior of said flange, said groove 14 terminating at its lower end in a shoulder 15 which forms a seat for the bottom of said shell 11, the interior surfaces of said shell 11 and aperture 13 preferab'y being flush with each other.

The shell 11 has a bayonet slot 16 extending downwardly and laterally into its upper edge, said slot being adapted to receive the usual locating pin of a radio tube for accurately alining the four pin contacts of the tube with four corresponding flat socket contacts 16^a, 17, 18, and 19 respectively of said socket.

The four socket contacts 16^a, 17, 18, and 19 are located in four diagonally arranged radial slots 20, 21, 22, and 23.

In order to form binding posts for electrical conducting wires leading to the other elements of a radio receiving or transmitting set and also to hold the contacts 16^a, 17, 18, and 19 firmly in their s'ots, four bolts 20^a, 21^a, 22^a, and 23^a are provided, each of said bolts having a slotted head 24 at its lower end and being threaded at its upper end 25 above the base 10 of said socket. Surrounding the upper threaded end 25 of each of the bolts are a metal washer 26 and a knurled nut 27, between which a conducting wire, not shown, may be clamped by manually screwing said nut 27 downwardly.

In order to shield the base of the tube-socket 10 immediately surrounding the binding posts from the softening effect of a soldering iron or other source of heat, several forms of washers may be employed. The first and preferred form of washer is shown at the left in Figs. 1 and 2, and consists of a circular apertured disc 28 embedded in the thermoplastic material of the base 10 during the process of molding and lying flush with the top of said base. The second form of heat-shielding washer is shown at the right of Figs. 1 and 2, and also consists of a circular apertured disc 29, but in this instance the washer has only its lower half embedded in the material of the socket base 10.

A third form of washer is illustrated in Fig. 3 and consists of an apertured disc 30 which is formed entirely separate from the

base 10, and fits loosely around the binding post bolt 31 below the metal washer 26. The advantage of this last type of heat-shielding washer is that it may be installed upon any existing radio socket.

In Figs. 4 and 5, two additional shapes of shielding washers are disclosed; a square washer 32 is shown in Fig. 4 and a hexagonal washer 33 is shown in Fig. 5.

In some cases, it may be desired to shield the entire top surface of the socket base, and for this purpose the special form of washer 34 shown in Fig. 6 may be employed. The washer 34 comprises a thin plate of the same shape as that of the base 10 and has a central aperture 35 adapted to fit around the flange 12 of said socket. The corners of the washer 34 have apertures 36, 37, 38, and 39, said apertures being adapted to aline with the bolts 20ª, 21, 22, and 23 respectively.

Each of the above-described forms of washer may be constructed from any suitable heat-insulating and refractory material, such as asbestos, bakelite, mica, or the like.

One advantage of this construction is that the insulating disc forms a stable support at the top of the composition base, thus preventing the possibility of the binding post being bent over out of vertical position, which might otherwise occur due to the softening of the thermoplastic material.

While there have been disclosed in this specification several forms in which the invention may be embodied, it is to be understood that these forms are shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosures but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a socket for radio tubes, a base of thermoplastic material, a binding post passing through said base and embedded in said material, and means for shielding said material from the softening effect of a source of heat, whereby said binding post will be prevented from loosening in said socket.

2. In a socket for radio tubes, a base of material adapted to be softened when heated, a binding post embedded in said base and a shield on said base to prevent softening thereof by a source of heat, said shield being made of a material having a relatively low heat-conductivity.

3. In a socket for radio tubes, a base of material adapted to be softened when heated, a binding post embedded in said base and a shield on said base to prevent softening thereof by a source of heat, said shield being made of a refractory material having a relatively low heat-conductivity.

4. In a socket for radio tubes, a base formed of a material which is adapted to be softened when heated, and a shield on said base to prevent softening thereof by a source of heat, said shield being made of material of relatively low heat-conductivity, said shield having the shape of a circular disc and being embedded in the material of said base.

5. In a radio tube-socket, a base member adapted to be softened by heat of thermoplastic material, a binding post in said base and a heat shield embedded in said member for restricting the flow of heat thereto from a soldering iron or any source of heat brought into proximity therewith.

6. In a radio tube-socket, a base of material adapted to soften when heated, an electrical binding post passing through said base, and means for shielding said base from the rays of heat of a soldering iron located in proximity thereto.

7. In a radio tube-socket, a base of material adapted to soften when heated, an electrical binding post passing through said base, and means for shielding said base from heat rays emanating from a hot object above said binding post, said shielding means comprising a flat washer surrounding said binding post and embedded in the top of said base.

In testimony whereof, I have affixed my signature to this specification.

WARREN F. KAYNOR.