Nov. 25, 1930. R. RAMSDELL 1,782,443

TUBE SHIELD

Filed Dec. 24, 1928

Fig. 1.

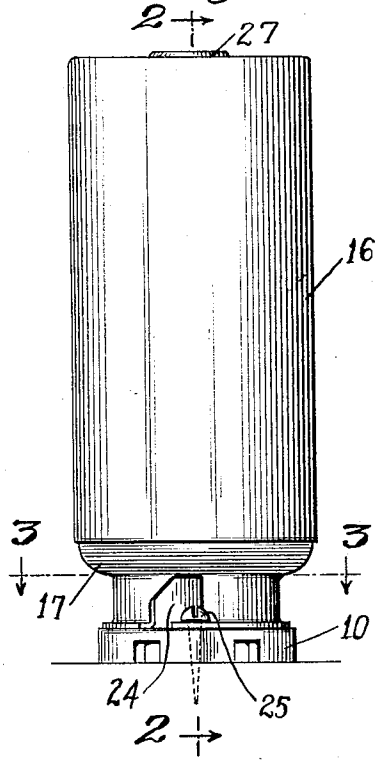


Fig. 2.

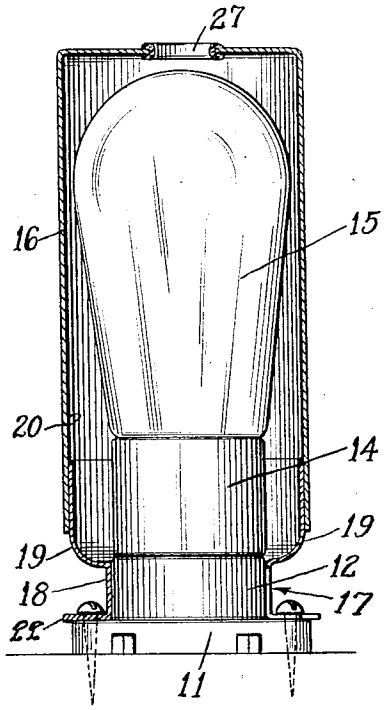


Fig. 3.

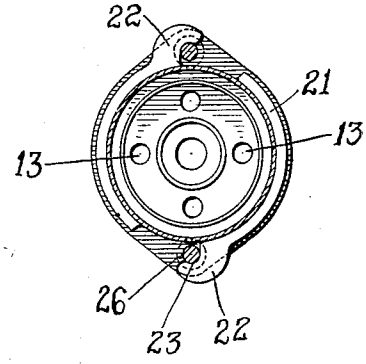
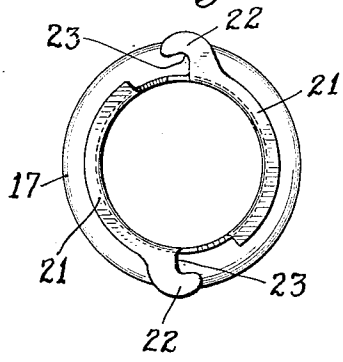


Fig. 4.



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1,782,443

UNITED STATES PATENT OFFICE

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TUBE SHIELD

Application filed December 24, 1928. Serial No. 328,213.

This invention relates to improvements in shielding units, being particularly directed to tube shields for use in radio receiving apparatus, particularly in the so called circuits, involving shield grid tubes.

Among the objects of this invention, it is aimed to provide a tube shield, which will suppress the tendency of the tube to hum, and protect the tube against shocks which often result in the filament contacting with the inner grid and burning out.

Broadly, it is an object of this invention. to provide for a shielding device for tubes, which shielding device is supported on the socket, carrying the tube, and which shielding device comprises a plurality of separable elements, readily and independently assembled, in the radio receiver; the head portion of such shielding device, having formed therein, a medium for providing for the insertion therethrough and the contact of the inductance lead with the grid connection.

In the accompanying drawings which illustrate the embodiments of my invention without defining its limits,

Figure 1, is a front elevation of the device forming the subject matter of the invention.

Figure 2, is a side elevation in section, taken along lines 2—2 of Figure 1.

Figure 3, is a plan view in section, taken along lines 3—3 of Figure 1, and

Figure 4, is an inverted plan view of the socket fitting portion of the device.

Referring to the reference characters in the drawing, numeral 10, represents a socket of the well known type used to carry vacuum tubes, which socket is formed of a phenolic condensation product, and comprises a base 11, and head portion 12, in which head portion there is formed apertures 13, into which fit the prongs projecting from the base 14, of the vacuum tube 15, which in this instance is of the shielded grid type for both A. C. and D. C. use.

A tube shield forming the subject matter of this invention, comprises two interfitting and collapsing sections 16 and 17, of which 17, is in the form of a metallic stamping, having a circular collar 18, to fit tightly about the outer periphery of the head 12, of the socket 10, and having an upwardly projecting and outwardly extending hollow cylindrical head portion 19, the outer surface of which is adapted to contact with the inner wall 20, of the removable shield section 16, as shown in Figure 2.

The base member 17, has integral therewith and depending therefrom, a circular projection 18, which is bent outwardly to form a flange 21, at the opposite sides of which flange, there are formed projections 22, with cut out portions 23, forming hooks, adjacent a cut out portion 24, on diametrically opposite sides of the collar 18, the base member 17, being fastened to the socket member 10, through the medium of a bolt or screw member 25, passing through the aperture 26, in the base of the socket 11, the upper surface of the bolt or screw member being adapted to press against and contact with the hook portions of the projections 23 adjacent the apertures, as shown in Figures 1 and 2.

Referring to Figures 1 and 2, the telescoping section 16, of the tube shield comprises a cylinder open at one end, whose inner surface is of such diameter as to inclose but not contact with a vacuum tube as shown in Figure 2, the inner surface 20 of such telescoping section being in direct frictional and interfitting contact with the upper surface 19, of the base, so that the removable shield may be provided as shown in Figure 2.

In the top of the telescoping upper section 16, there is formed an aperture, in which there is firmly positioned an insulating ring 27, through which ring there is adapted to be passed a cap not shown, for forming the contact with the control grid projecting from the screen grid tube, and which cap is of course adapted to be interconnected in the circuit through the medium of an insulated conductor leading therefrom, thereby to form direct connections of the control grid with the inductance or winding coils, forming part of the various coupling units in the stages in which the screen grid tube is used as for instance, the antenna coupling unit, or the radio frequency unit.

It is obvious that this type of tube shield

although primarily designed to serve for the shield or screen grid tubes, may readily serve as a shield for the ordinary type of vacuum tube now used in a radio receiver, particularly, in the audio and radio frequency stages, where the shield or screen grid tube is not applied, this invention being obviously directed to the novel form of protective shield as applied for use with and on all kinds of vacuum tubes.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claim.

I claim:

A vacuum tube shielding unit, comprising a plurality of telescoping sections, one of which has a body portion for surrounding the body portion of a tube socket, and a base portion having projections for gripping the fastening means for said tube socket, whereby such section may be carried by said tube socket, and the other of which sections may surround the bulb portion of the vacuum tube, such other named section being slidable over the first-named section, to form a closure for the vacuum tube, and an aperture in said second-named section, having an insulating ring fixed to and surrounding the edges of said aperture, whereby to allow the introduction of and support a contact cap within the ring unit.

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