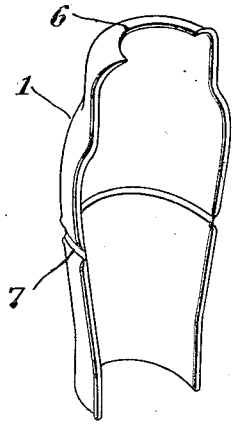
Aug. 11, 1936. F. HAFECOST ET AL 2,050,838

RADIO TUBE SHIELD

Filed April 14, 1933

Fig. 1.



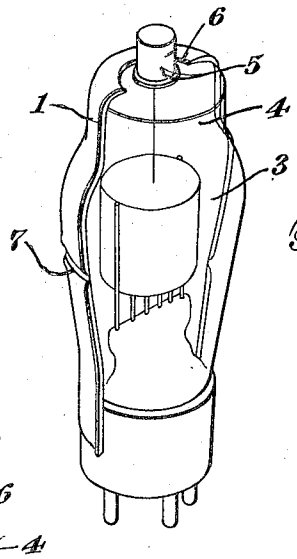


Fig. 2.

Fig. 3.

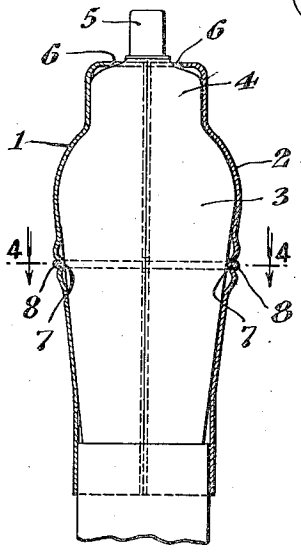


Fig. 4.

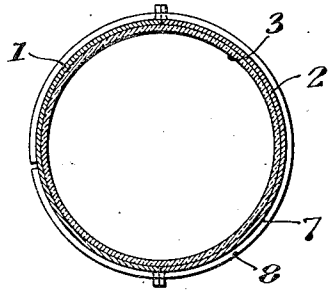


Fig. 5.

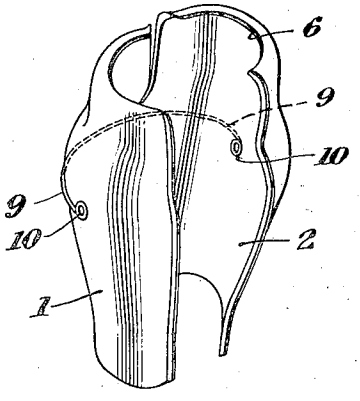
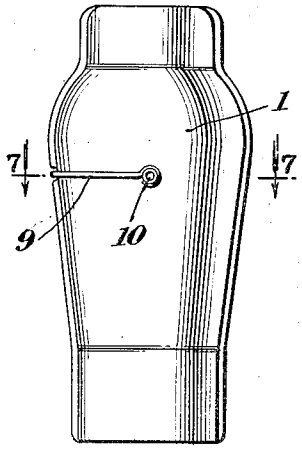


Fig. 6.



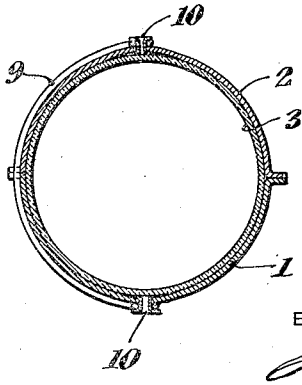


Fig. 7.

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RADIO TUBE SHIELD

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Application April 14, 1933, Serial No. 666,100

1 Claim. (Cl. 250—27.5)

This invention relates to a radio tube shield, and more particularly to a form of removable shield adapted to fit the tube snugly.

The practice of shielding tubes in the more modern radio sets is well understood in the art. The grounding of the shield on a metal chassis is sometimes effected by a spring clip or an annular collar or receptacle.

In the present invention a method of grounding is to run a wire or thin metal strip from beneath the shield to the cathode pin of the base or to a special pin in the base, which is grounded through a socket connection.

According to the present invention it is proposed to use a metallic shield, comprising two symmetrically paired parts, said shield being shaped so as to fit closely to the bulb of the tube. By making the shield in two parts it may be quickly attached to the tube and readily removed therefrom; it may also be easily conformed to the shape or contour of the bulb of the tube, so as to afford an intimate fit therewith.

It is, therefore, an object of the present invention to provide a form of tube shield which may be easily attached to the tube, have intimate contact therewith, and be readily removed therefrom when desired. The removable feature of the shield makes it adaptable for use on successive tubes upon failure of the same in operation.

A special object of the invention is to form the shield of thin sheet metal, having such a configuration or design that the separate or individual parts thereof may be nested for economy in packing and shipping the same.

Other objects of the invention will manifest themselves upon a reading of the following specification.

Referring to the accompanying drawing:

Fig. 1 is a perspective view of a part which when paired with a similar part forms a shield embodying the invention;

Fig. 2 is a similar view showing one of the parts of the shield placed around the bulb of a radio tube;

Fig. 3 is a vertical longitudinal section of a tube and the two component parts comprising the shield applied to the bulb thereof;

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 3;

Fig. 5 is a perspective view of a modification of the shield showing the two halves or sections spread apart;

Fig. 6 is a side view of the form shown in Fig. 5; and

Fig. 7 is a horizontal sectional view taken on the line 7—7 of Fig. 6.

Broadly the shield contemplated by the invention comprises a removable metallic casing formed of sections or parts which when assembled have an inner contour substantially conforming to the outer contour of a radio tube. The form of shield illustrated in the drawing is composed of two symmetrical paired parts, for the sake of convenience designated by the reference characters 1 and 2 when shown in an assembled position, although it should be appreciated that these parts are duplicates of each other in every respect. These parts or sections are formed from sheet metal such as iron, aluminum, nickel or the like.

As will be noted from the drawing, the parts 1 and 2 are of the same general contour as the bulb 3 of present standard radio tubes designated in the trade as type 58 and 78. Bulbs of that type are generally pear shaped, having a straight side portion which tapers outwardly to a maximum diameter slightly above the middle. The bulb then assumes the shape of a dome 4, into which is sealed a contact or terminal member 5, said member being commonly referred to as a top cap. The lower ends of the sections 1 and 2 are semi-cylindrical in shape and together form a cylindrical extension which partly covers the base of the tube. Immediately adjacent this extension the parts 1 and 2 taper outwardly. This taper, following the general contour of the bulb, increases upwardly until the parts 1 and 2 reach their largest radius at a point slightly above the middle of the bulb. The parts 1 and 2 then taper or curve inwardly so as to fit around the dome 4. In order to accommodate the top cap or terminal member 5 the upper end of the sections 1 and 2 have a circular cut away portion 6 which is of sufficient diameter to permit the protrusion of the terminal member 5 without danger of electrical contact. By this construction the shield has an inner contour which substantially coincides or conforms to the outer contour of the radio tube and fits snugly thereagainst.

The longitudinal edges of each of the sections 1 and 2 are flanged outwardly and are of sufficient area as to form an abutting surface when the two halves or sections comprising a complete shield are positioned so as to oppose each other. Located intermediate the ends of each of the parts 1 and 2 is a circumferentially formed groove 7 adapted to receive a resilient spring member 8. This spring member may comprise an annulus or ring made of suitable spring wire and having

a diameter slightly less than the outside diameter of the shield at the point of engagement therewith, so that when the member 8 is snapped into the groove 7 the ends of the spring wire are slightly separated, thus insuring the tension of the member 8 being exerted to hold the two halves or sections of the shield firmly together when assembled. It is apparent from this construction that the shield may be easily attached to a radio tube and removed therefrom at will.

In the modification shown in Figs. 5 to 7 the method of securing the two sections comprising the shield to the bulb is somewhat different. In this modification the groove 7 is eliminated and the two halves are held permanently together by a resilient member or spring 9, the ends of which are secured to lugs 10 that may be attached to or formed integrally with each section. In this construction the shield is in the nature of a bi-valve in that the two halves are loosely hinged upon one of their adjacent flanged surfaces and may be sprung open sufficiently wide to permit the insertion of a radio tube within the shield.

The invention thus far has been described in connection with a radio tube having the so-called S. T. bulb, provided with the usual dome 4 and top cap 5. There are however various types of radio tubes which have no top cap, as well as have different shaped bulbs. For example the type 27 tube has no top cap and no dome, the bulb being known as an S. bulb. On the other hand certain tubes, as for example on the 37 type tube, have a dome but no top cap. In the event the shield is intended for use on a tube having a bulb without a top cap, irrespective as to the type of bulb, the metal at the top of the sections comprising the shield may be continued across the top of the bulb so as to completely enclose the tube. In every instance however the contour of the parts comprising the shield conform to the shape of the bulb whether or not it is provided with a top cap. Certain of the modifications just described are not shown in the drawing but the construction is obvious to those skilled in the art in view of the foregoing description.

The method of connecting the shield to a ground source may take any suitable form such as suggested above. For example such a connection may be made by means of a spring, wire or the like having one end thereof electrically connected to the shield and the other end to a grounded connection. As the manner or method for making this connection is a matter of convenience it has not been illustrated.

Modifications of the invention will suggest themselves to those skilled in the art, but it is intended to cover all such modifications as come within the scope of the appended claim.

What is claimed is:

A conductive shield for a radio tube of the type having a base sealed to one end of the glass bulb which is provided with a dome-portion at the other end, opposite to the base, and adapted to electrostatically screen the electrode system of said radio tube from external electrical disturbances, comprising a pair of non-deformable substantially similar, thin sheet metal members, each having a length substantially equal to that of the tube and having an inner contour conforming substantially to the outer contour of one-half of the tube, said members forming, when assembled with their longitudinal edges opposing each other, a casing having substantially the configuration of the tube, a projecting member formed on the outer surface of each shield member approximately midway between its ends, said projecting members being disposed substantially diametrically opposite, and resilient means extending between and having its ends joined to said projecting members, said resilient means being shaped to conform to and abutting the surface of the shield members.

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