Aug. 5, 1952 C. J. STEINKE 2,606,241

CATHODE-RAY TUBE SUPPORTING STRUCTURE

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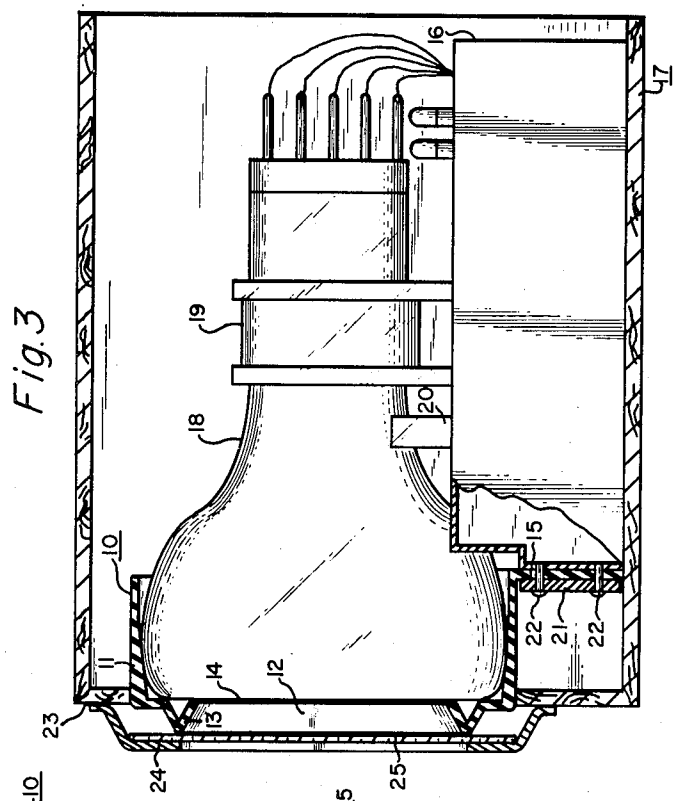


Fig. 3

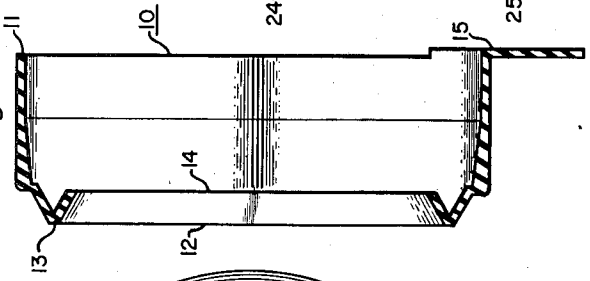


Fig. 2

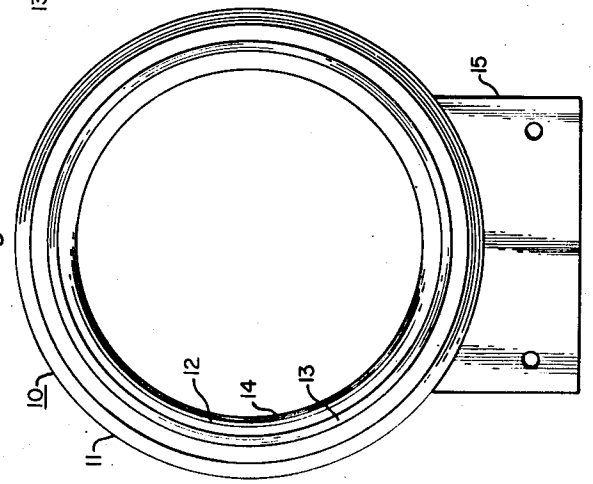


Fig. 1

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CATHODE-RAY TUBE SUPPORTING STRUCTURE

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4 Claims. (Cl. 177—316)

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This invention relates to an improved supporting structure for cathode-ray tubes such as are commonly used as image-reproducing devices in television receivers or the like.

It has long been a problem in the television receiver art to provide a satisfactory support for the image-reproducing tube of a television receiver, which will answer all the requirements of adequate support for the tube and at the same time allow for easy removability thereof for replacement purposes. To solve this problem many complicated and expensive supporting structures have been devised which usually comprise a plurality of snap fasteners, belts, straps and other complicated linkage arrangements.

It is an object of the present invention to provide a supporting structure for the image-reproducing tube of a television receiver, or the like, that is exceedingly simple and economical in construction, and which not only provides an adequate yet removable support for the reproducing tube, but also acts as a frame for the image screen of the tube, a cushion between the tube and the receiver panel, a dust shield; and as an insulator when used to support metal-cone type reproducing tubes.

The features of this invention which are believed to be new are set forth with particularity in the appended claims. The invention itself, however, together with further objects and advantages thereof may best be understood by reference to the following description when taken in conjunction with the accompanying drawing, in which:

Figure 1 shows a front view of the supporting structure of the invention,

Figure 2 shows a sectional view thereof, and,

Figure 3 shows the supporting structure mounted on the chassis of a television receiver to support the image-reproducing tube of the receiver.

The supporting structure 10 of the present invention, as shown in Figures 1 and 2, is a flexible molded unitary structure composed, preferably, of a plastic substance such as polyethylene. The structure 10 includes a cylindrical-shaped skirt section 11 which is formed to encompass the enlarged end of a cathode-ray reproducing tube and to extend into a circular aperture formed in the front panel of a television receiver. Formed integral with the cylindrical skirt 11 is a flange 12 which is shaped to have an annular ring portion 13 extending beyond the end of skirt 11, and which also is shaped to have an annular re-entrant lip 14. A transverse depending flange 15 is also formed integral with the cylindrical

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skirt for mounting the structure 10 to the chassis of the television receiver.

Figure 3 shows a chassis 16 of a television receiver mounted in a cabinet 17. The chassis 16 supports a cathode-ray image-reproducing tube 18 which extends through a yoke 19 and rests on a block 20. The supporting structure 10 is mounted to one end of chassis 16 by means of a plate 21 and screws 22 which act to hold the flange section 15 of the structure in firm engagement with the chassis 16. When the chassis is moved into place in the cabinet 17, a portion of the skirt 11 encompassing the large end of the tube extends into an aperture in the front panel 23 of cabinet 17. This aperture is surrounded by a bezel ring 24 and covered by a glass viewing plate 25 clamped to the bezel ring.

When the chassis is in place, the annular ring section 13 of flange 12 bears against the viewing plate 25, and the lip section 14 bears against the face plate of tube 18. Also, as previously pointed out, a portion of the skirt 11 extends into the aperture in the front panel of cabinet 17. In this manner, the structure 10 forms a secure mounting for the tube 18. In addition, the structure acts to cushion the tube from the panel 23, and to prevent dust from entering the cabinet from the aperture in this panel. Moreover, the lip section 14 of the structure also acts as a frame for the image screen of the tube 18. When the tube 18 is of the metal-cone type, this cone is usually maintained at an extremely high potential, and the structure 10 also acts as an insulator between the cone and the metal bezel ring 24 and other parts of the receiver. Due to the fact that it is flexible in nature, the structure 10 may easily be slipped off the enlarged end of tube 18 when the chassis 16 is removed from the cabinet 17, thus allowing the tube 18 to be easily removed from the receiver for replacement purposes.

While a particular embodiment of the invention has been shown and described modifications may be made and it is intended in the appended claims to cover all such modifications as fall within the true spirit and scope of the invention.

I claim:

1. A flexible unitary structure for supporting on the chassis of a television receiver a cathode-ray tube having an enlarged end portion projecting a given distance beyond said chassis and enclosed by a face plate serving as an image screen, said structure comprising: a skirt section having a configuration corresponding to the configura-

tion of said enlarged end portion of said tube for encompassing said end portion and having an axial length approximately equal to said distance; a flange section formed integral with one end of said skirt section including a shoulder portion and a re-entrant lip portion for bearing against said face plate and providing an image frame therefor; and a depending flange section formed integral with the opposite end of said skirt section for mounting said structure to said chassis.

2. A flexible unitary structure for supporting on the chassis of a television receiver a cathode-ray tube having an enlarged end portion projecting a given distance beyond said chassis and enclosed by a face plate serving as an image screen to be viewed through an aperture in a panel of said receiver, said structure comprising: a skirt section for extending into said aperture having transverse dimensions corresponding approximately to the dimensions of said aperture, having a configuration corresponding to the configuration of said enlarged end portion of said tube for encompassing said end portion and having an axial length approximately equal to said distance; a flange section formed integral with one end of said skirt section including a shoulder portion and a re-entrant lip portion for bearing against said face plate and providing an image frame therefor; and a depending flange section formed integral with the opposite end of said skirt section for mounting said structure to said chassis.

3. A flexible unitary structure for supporting on the chassis of a television receiver a cathode-ray tube having an enlarged end portion projecting a given distance beyond said chassis and enclosed by a face plate serving as an image screen to be viewed through an aperture in the panel of said receiver, said structure comprising: a skirt section for extending into said aperture having transverse dimensions corresponding approximately to the dimensions of said aperture, having a configuration corresponding to the configuration of said enlarged end portion of said tube for encompassing said end portion and having an axial length approximately equal to said distance; a shoulder section formed integral with one end of said skirt and extending inwardly from said skirt over said face plate; a re-entrant

lip section formed integral with the inner periphery of said shoulder for bearing against said face plate and providing an image frame therefor; and a depending flange section formed integral with the opposite end of said skirt for mounting said structure to said chassis.

4. A flexible unitary structure for supporting on the chassis of a television receiver a cathode-ray tube having an enlarged end portion projecting a given distance beyond said chassis and enclosed by a face plate serving as an image screen to be viewed through a transparent viewing plate covering a circular aperture in a panel of said receiver, said structure comprising: a cylindrical skirt section for extending into said aperture having a diameter corresponding approximately to the diameter of said aperture and for encompassing said enlarged end portion of said tube, and further having an axial length approximately equal to said distance; an annular shoulder section formed integral with one end of said skirt and extending inwardly from said skirt over said face plate; a re-entrant lip section formed integral with the inner periphery of said shoulder for bearing at opposite extremities against said viewing plate and said face plate and providing an image frame for said face plate; and a depending flange section formed integral with the opposite end of said skirt for mounting said structure to said chassis.

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