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S. J. KOCH ET AL

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CENTERING DEVICE FOR ELECTRON GUNS

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Fig. 1

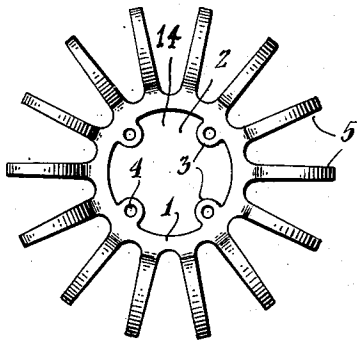
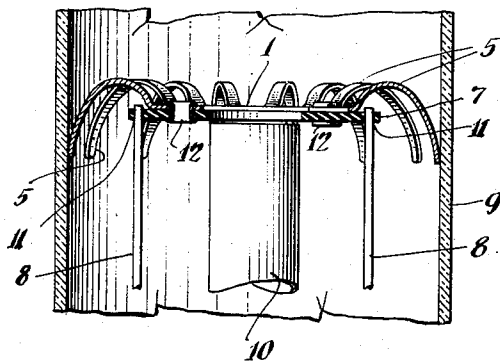


Fig. 2



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CENTERING DEVICE FOR ELECTRON GUNS

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Application October 8, 1943, Serial No. 505,495

1 Claim. (Cl. 250—27.5)

This invention relates to a device for maintaining the electron gun parts of a cathode-ray tube in position so that they will be securely maintained in place around the center line of the tube even when subjected to severe vibrations or jolts during shipment and use.

Heretofore two parallel thin spring steel strips have been mounted on opposite edges of a mica disc in the neck of a cathode-ray tube for the purpose of keeping the gun structure centered in the neck of the tube and also to make electrical contact to an electrode. The mica disc was held in place by supports for the gun structure, and mica strips the size of the steel strips were located next to the steel strips. This provided only four places of support to prevent the gun structure from getting out of center.

By the present invention a steel disc that has numerous resilient fingers along the outer edge thereof is provided for keeping the gun structure centered in the tube.

The invention may be understood from the description in connection with the accompanying drawing, in which:

Fig. 1 is a plan view of the device; and

Fig. 2 is a sectional side view thereof on a somewhat larger scale.

In the drawing, reference character 1 indicates a spider made of thin resilient material having a central open portion 2 thus forming a ring. Integral rounded lugs 3 extend inwardly in a radial direction. These lugs are provided with holes 4 therethrough for convenience in securing the spider 1 in place. The outer edge or rim of the ring 1 is provided with a plurality of long integral fingers 5 that are bent upwardly near their inner ends and thence are curved downwardly in long arcs.

As indicated in Fig. 2 a disc 7 of insulating

material such as mica, glass, ceramic material, etc., is mounted on supports 8 in the neck 9 of a cathode-ray tube in the usual way near the upper end of the second anode 10. The anode 10 and other elements of the gun structure (not shown) are supported on the supports by straps or the like in the usual way so that when the supports 8 are maintained in position the gun structure is maintained properly aligned with respect to the center line of the neck 9.

The lower ends of the supports 8 do not become displaced because they are securely anchored in the usual way to the glass base end of the tube (not shown) in the lower end of the neck which is integral with the glass neck 9.

With the present invention, the upper ends of the supports 8 are prevented from becoming displaced because they are securely anchored in holes 11 in a mica disc 7 which is riveted by rivets 12 to the spider 1, which is in turn securely held in the center of the tube neck 9 by means of the numerous spring fingers 5 which are pressed against the inside surface of the neck 9.

The ring 1 may be split in one or more places as indicated at 14 to avoid excessive heating when high frequency currents are set up therein during the processing of the tube.

What is claimed is:

A device of the character described, comprising a flat ring of resilient material provided with a plurality of integral radially extending fingers having their ends extending upwardly and then outwardly and downwardly beyond the edge of said ring and said ring having lugs extending inwardly in radial directions and having holes therethrough.

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