March 31, 1959 G. F. KLEPP 2,880,350

ELECTRIC DISCHARGE DEVICES

Filed April 29, 1953

FIG. 1.

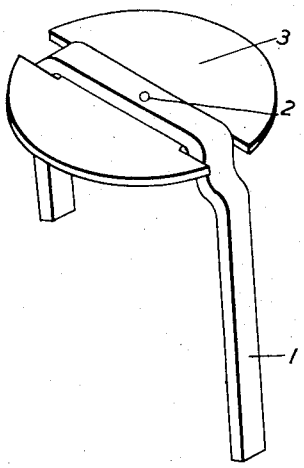


FIG. 2.

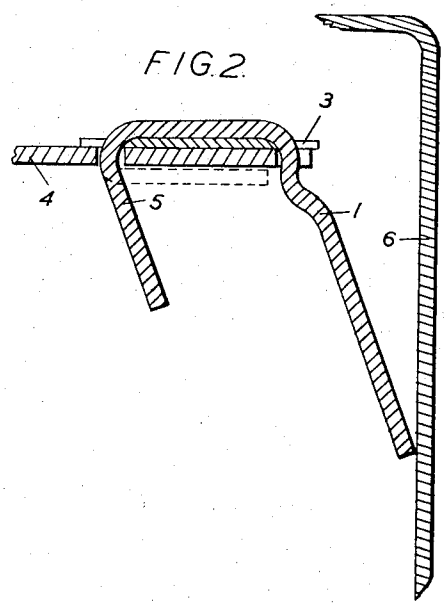
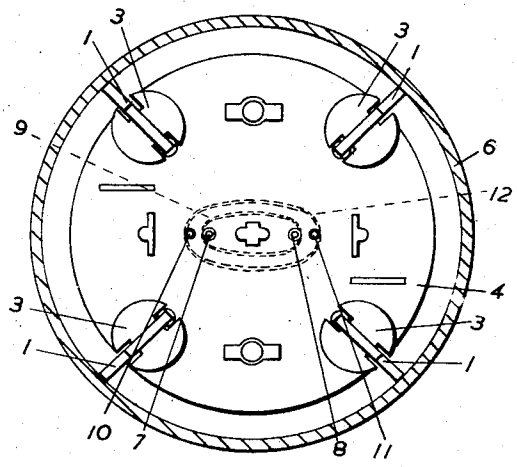


FIG. 3.



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ELECTRIC DISCHARGE DEVICES

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3 Claims. (Cl. 313—258)

This invention relates to a construction of electric discharge devices in which a mica disc locating the electrodes is held out of contact and suitably positioned with respect to the envelope of the device. This has been achieved previously by placing a number of metal strips or wires attached to the mica disc and held in tension against the envelope of the device.

The disadvantage of this construction is that the pressure exerted on a small area of the disc by the wires is such that under conditions of vibration the mica disc is caused to chip and crack and so allow the wires or strips, which are known as snubbers, to become loose. As a result of this, the mica disc is able, under conditions of vibration, to pound against the envelope and produce a dust which is detrimental to the cathode emission.

According to the present invention an electric discharge device comprises an envelope, electrodes located with respect to one another by means of an insulating disc, a plurality of wire snubbers secured to the insulating disc and pressing against the envelope to space the said disc therefrom, and means to increase the surface area of that portion of the insulating disc upon which the pressure of the snubber acts, to prevent the snubber from causing damage to the insulating disc, said means comprising a tough rigid washer placed between each snubber and a surface of the insulating disc.

The washers need not be provided for each snubber, one washer may be common to several snubbers, or a washer may be part of a valve component serving some other purpose such as a capacitance end-shield. Washers may be placed on either or both sides of the insulating disc as required.

An embodiment of the invention will now be described in conjunction with the accompanying drawings in which:

Fig. 1 shows a metal snubber spot welded to a metal washer.

Fig. 2 shows in longitudinal section a method of attaching the assembly of Fig. 1 to an insulating disc.

Fig. 3 is a plan view of an insulating disc with metal snubbers and washers attached.

In Fig. 1 a metal snubber 1 is shown spotwelded at 2 to a metal disc 3. In Fig. 2 the snubber 1 and disc 3 are shown in section located on an insulating disc 4. The portion 5 of the snubber 1 is later bent up into the position shown by the dotted lines in order to fix the snubber firmly to the insulating disc 4, and the other end of the snubber is shown pressing against an envelope 6.

In Fig. 3 the insulating disc 4 is shown in plan with four snubbers 1 and discs 3 attached.

The snubbers 1 are shown pressing against envelope 6 shown in section, and electrode support rods 7 and 8 which support grid 9 and electrode support rods 10 and 11 which support grid 12 are shown projecting through the disc 4.

While the principles of the invention have been described above in connection with specific embodiments, and particular modifications thereof, it is to be clearly understood that this description is made only by of example and not as a limitation on the scope of the invention.

What I claim is:

1. An electric discharge device comprising an envelope, electrodes located with respect to one another by means of an insulating disc, a plurality of wire snubbers secured to the insulating disc and pressing against the envelope to space the said disc therefrom, and means to increase the surface area of that portion of the insulating disc upon which the pressure of the snubber acts, to prevent the snubber from causing damage to the insulating disc, said means comprising a metal washer placed between each snubber and a surface of the insulating disc.

2. An electric discharge device as claimed in claim 1 in which the said metal washer is spot welded to the snubber.

3. An electric discharge device as claimed in claim 2 in which the said metal washer serves also as a capacitance end-shield.

References Cited in the file of this patent

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