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ELECTRIC DISCHARGE TUBE BASE

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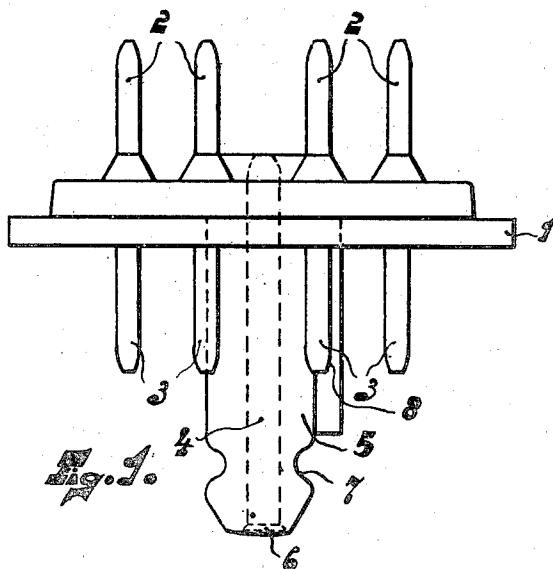


Fig. 1.

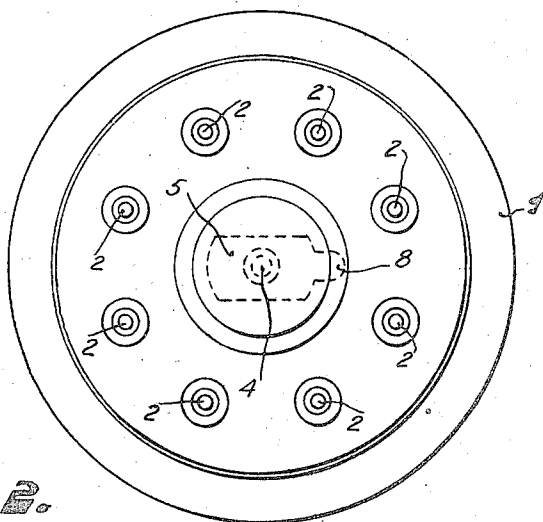


Fig. 2.

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## ELECTRIC DISCHARGE TUBE BASE

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4 Claims. (Cl. 250—27.5)

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This invention relates to an electric discharge tube and more particularly to a member which serves to fix the tube in a holder.

In electric discharge tubes the supply of current to the different electrodes within the tube takes place with the aid of conductors which are mounted in some way or other in the wall of the tube and which are connected on the outside to contacts in the tube holder at the places where they are inserted in the holder; these contact members frequently have the shape of pins which make contact in the holder with springs present in the latter.

The connection between these pins and the electrodes within the tube may be brought about in highly different ways dependently on the construction of the tube; if the tube is provided with a cap, these pins are inserted in the bottom of the cap and within the latter they are secured to conductors which are sealed into the wall of the tube and which, in the interior of the tube, are connected to the electrodes. Use may be made of tubes without caps, for example of tube constructions wherein the tube is closed by a flat base consisting of glass or metal, and wherein the pins may be pressed or sealed as such into the base but may also be connected in some way or other to conductors of smaller diameter; this connection may be established in this case in the base of the tube.

There also exist, however, other possibilities of forming the contacts which come into contact with the springs in the holder; they may have, for example, the shape of small lugs which project from the side of the cap or of the base of the tube.

Upon inserting the tube in the holder, the contact members of the tube must be introduced into holes provided in the holder and care must be taken to ensure that each contact member comes into contact with the corresponding spring in the holder, or in other words false insertion of the tube in the holder must be impossible. Moreover, it must be impossible for the tube, after being inserted in the holder, to fall out of the latter when tube and holder are being handled.

Several constructions permitting to achieve this have been described. Thus, for example, it has been proposed to distribute the contact members asymmetrically over the base or the cap of the tube or to give one contact member a length and/or a diameter which differ from those of the others. These constructions have the drawback that there is no uniformity in the contact members and their arrangement whilst, moreover,

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though the tube acquires the correct position in the holder, a fixation of the tube which prevents the latter from falling out is not obtained in this case.

5 Another method of placing the tube in the right position in the holder and, moreover, of fixing it in the latter consists in the use of lugs. In this case a lug may be provided on the tube or on the cap; when inserting the tube in the holder, 10 this lug snaps into a hole of the holder, all this in such manner that both correct insertion and fixation of the tube in the holder are ensured.

Such a lug may have different shapes; it may, for example, be formed by a small projection on 15 the side of the cap of the tube; it may, however, also be formed by a small tube or rod and be fixed, parallel to the pins, in the cap or in the base of the tube. In a well-known form of construction of such a finding lug, the latter exhibits at its 20 lower end a groove which comes into contact with a spring in the tube holder, whilst, moreover, there may be provided a particular projecting member which ensures that only one position of the tube with respect to the holder is possible.

25 A finding lug as described may be fixed in different ways. If the tube is provided with a cap of insulating moulded material, the finding lug may be made of the same material and may be pressed simultaneously with the cap; this may 30 also be done if the finding lug consists of metal.

Another form of construction is found in tubes having a flat base of glass. In one known form of construction thereof the finding lug forms part 35 of a screening member provided on the outside of the wall of the tube. This construction cannot always be used and particularly not with tubes having very small dimensions since in this case the screening member can no longer be provided without the leakage paths between this member 40 and the supply conductors becoming too short. Moreover, the use of this well-known form of construction in tubes for short and ultra short waves entails grave difficulties.

The invention concerns a simple construction 45 for the correct insertion and fixation of an electric discharge tube in a tube holder, with which the above-mentioned drawbacks may be avoided. A discharge tube according to the invention, wherein the contact members serving for the 50 supply of current to the electrodes have, outside the tube, the shape of pins, comprises a tube-shaped member which acts as a finding lug and whose end remote from the tube is secured to one of the pins.

55 This construction offers several advantages; for

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example, there exists uniformity in the pins and, besides, they may be arranged symmetrically. The pins may be arranged, for example, in a circle around a central pin to which the finding lug may be secured, for example, by welding. In addition, the fixation is very solid, so that there is no risk of the finding lug breaking off when the tube is being inserted in the holder, whilst, moreover, this fixation is very simple. Though not absolutely necessary for the fixation, the finding lug is preferably held fast at its end near the tube by an additional support. This support depends on the construction of the tube to which the invention is applied. If, for example, the tube is closed by a flat base of glass, the finding lug is supported at this end near the tube by a projection of this base.

As has previously been mentioned the invention may be advantageously applied to those tubes wherein the contact members are arranged in a circle around a central pin and the finding lug is welded to this pin. The connection between this pin and the finding lug may also be established in any other member, for example, by soldering.

In order that the invention may be clearly understood and readily carried into effect, it will now be explained more fully with reference to the accompanying drawing, in which

Fig. 1 is a section of part of a discharge tube according to the invention, whilst

Fig. 2 is a bottom-view thereof.

In the drawing 1 denotes the flat glass base of a discharge tube according to the invention; into this base are sealed a plurality of contact members 2 which, outside the tube, have the shape of pins 3. These pins are arranged in a circle around a central pin 4 which also acts as a contact member. This central pin is surrounded by a finding lug 5 which, at the top, is supported by the base and, at the lower end, is welded to the central pin at 6. Moreover, the finding lug exhibits a groove 7, into which snaps a spring when the tube is being inserted in the holder, and a projection 8 which ensures the correct insertion of the tube in the holder.

What we claim is:

1. An electric discharge tube base comprising a wall portion of insulating material, a plurality of electrical contact members secured to and extending through said wall portion, a pin member having a portion thereof secured within and extending from said wall portion, and a tubular

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contact locating member having one end portion abutting said wall portion and surrounding said pin member, said pin member being secured to said tubular member at the portion thereof remote from said wall portion.

2. An electric discharge tube base, comprising a wall portion of insulating material, a plurality of electrical contact members secured to and extending through said wall portion and mounted about a central portion thereof, a pin member having a portion thereof secured within and extending from said wall portion at said central portion, and a tubular contact locating member surrounding said pin member and having one end thereof abutting said wall portion and the other end thereof secured to said pin member.

3. An electric discharge tube base, comprising a glass disc-shaped wall portion, a plurality of electrical contact members secured to and extending through said wall portion and circularly mounted about a central portion thereof, a pin member having a portion thereof secured within and extending from said wall portion centrally with respect to said contact members, and a tubular contact locating member surrounding said pin member and having one end thereof abutting said wall portion and having the other end thereof secured to said pin member.

4. An electric discharge tube base, comprising a glass disc-shaped wall portion centrally provided with a recess, a plurality of electrical contact members secured to and extending through said wall portion and circularly mounted about said central recess, a pin member having a portion thereof secured within and extending from said wall portion centrally with respect to said contact members, and a tubular contact locating member surrounding said pin member and having one end thereof abutting said wall portion within said central recess and having the other end thereof secured to said pin member.

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