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(54) **Filter-holding connection for lighting devices**

(57) A filter-holding connection designed to be applied to a lighting device making use of a lamp (1) provided with a substantially hemispherical anti-glare capsule (5) mounted over the related lighting source (4),

comprising a plate (8), to be applied on a flat face of the filter (11), and a plurality of tongues (9) projecting from the edge of said plate (8), for elastically gripping said capsule 5).

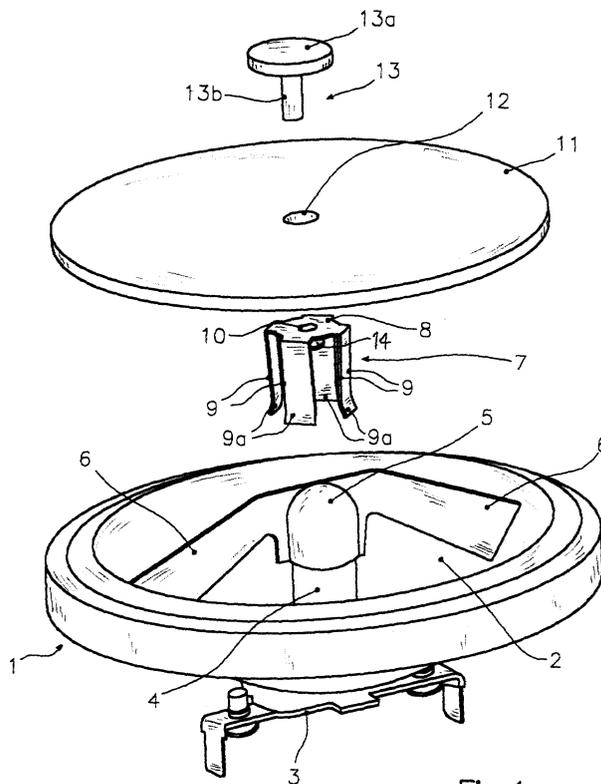


Fig.1

Description

[0001] The present invention refers to the field of lighting devices and, in particular, to a filter-holding connection for a device which makes use of a lamp of the HMG type in accordance with ILCOS classification.

[0002] Lighting devices are known that make use of lamps in which a substantially hemispherical anti-glare capsule is mounted over a light source, placed in the middle of a reflector. Two radial support lugs, ends of which are connected to the reflector, extend from two respective opposite generatrices of the capsule. Namely, the above-mentioned HMG lamps correspond to such configuration.

[0003] In the devices provided with such lamps, the problem frequently occurs of applying an optical filter, consisting of a disk, made of glass with filtering properties which can be chosen according to the specific requirements. In this regard, a first requirement is that the connection system between the filter and the lamp should be universal, i.e. not depending on the characteristics of the device on which the lamp itself is mounted. Another requirement is that said system must not cause shadows or photometric disturbances.

[0004] The object of the present invention is to meet these requirements by providing a filter-holding connection for lighting devices making use of lamps of the above-mentioned type, which is absolutely universal and does not generate any kind of significant disturbances to the lighting functionality of the device.

[0005] According to the present invention, this object is achieved with a filter-holding connection for a lighting device making use of a lamp in which a substantially hemispherical anti-glare capsule is mounted over the relevant lighting source. The connection comprises a plate, to be applied on a flat face of the filter, and a plurality of tongues projecting from the edge of the plate, for elastically gripping the hemispherical capsule of the lamp.

[0006] The characteristics and advantages of the filter-holding connection for lighting devices according to the present invention will be made clearer hereinafter with the following description of an embodiment thereof, made as an example but not limitative, referring to the attached drawing in which:

- figure 1 is a perspective exploded view of a lamp provided with the filter-holding connection according to the invention.

[0007] Referring to said figure, a lamp 1, of the known type described in the introductory part, comprises a lighting source 4 mounted in the middle of the concave side of a paraboloid-shaped reflector 2, on the opposite side of which means 3 are provided for fixing the lamp to the related lighting device, not shown. A substantially hemispherical anti-glare capsule 5 is mounted over a lighting source 4, supported by two lugs 6 radially ex-

tending between reflector 2 and respective opposite generatrices of capsule 5 itself.

[0008] An optical filter to be connected to lamp 1 simply consists of a disk 11, made of glass having suitable properties, which, according to the present invention, is applied by means of a reversible connection 7. Connection 7 comprises a plate 8, in the example substantially round, and with a diameter which corresponds to the width of capsule 5.

[0009] Plate 8 is centrally connected to a face of disk 11. To this purpose, a hole 10 is formed in the middle of plate 8. Hole 10 has a small peripheral rim, not visible, which extends axially and is inserted in a central hole 12 formed in disk 11. Hole 10 is screwed for coupling with a pin 13b of a mushroom-shaped locking member 13 comprising also a disk-shaped head 13a. Thus, locking member 13 is fitted by inserting pin 13b within hole 12 from the side opposite to that of plate 8, and then screwing the pin itself within hole 10 until head 13a abuts against disk 11. Thus, plate 8 is fixed on the opposite side of disk 11 itself.

[0010] A plurality of tongues 9 extends axially from the edge of plate 8 (taking the central axis both of lamp 1 and of disk 11 as a reference). Preferably four tongues 9 are provided, as shown in the example, equally spaced along the periphery of plate 8. Tongues 9 are slightly converging towards the inner part of plate 8, but the respective ends 9b thereof are bent outwards.

[0011] In use, disk 11 with connection 7 mounted as in the above description, is moved towards lamp 1, in order to make inwards faces of ends 9b of tongues 9 contact with capsule 5. Upon exertion of a relatively small axial pressure on disk 11, tongues 9 slide on the outer part of capsule 5 and, at the same time, bend elastically outwards.

[0012] This step ends as plate 8 abuts against the top part of capsule 5. In this condition, ends 9a of tongues 9 elastically urge upon the outside of capsule 5, thus assuring a steady engagement between connection 7 and capsule 5 itself and, therefore, between filtering disk 11 and lamp 1. In order to make the abutment position more steady and precise, a tubular socket 14 can be used, as shown in the example, axially extending from plate 8 in the same direction of tongues 9.

[0013] Therefore, bent ends 9a of tongues 9 assist the insertion of connection 7. Preferably, tongues 9 extend integrally from plate 8, thereby the connection is obtained simply by buckling a single flat element, properly shaped, made of sheet metal or other material having suitable characteristics.

[0014] From what described above, it will be apparent that the connection according to the present invention is an actually universal one, as it co-operates only with capsule 5 and, on the other hand, it is not bound in any way by the characteristics of the device on which the lamp is mounted. Furthermore, the connection cannot cause any shadow or photometric disturbance, as it is placed in the shielded zone (that is, not involved by the

light radiation) of capsule 5.

[0015] Variations and/or modifications can be brought to the filter-holding connection for lighting devices according to the present invention, without departing from the scope of the invention itself.

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Claims

1. A filter-holding connection for a lighting device making use of a lamp (1) provided with a substantially hemispherical anti-glare capsule (5) which is mounted over the relative light source (4), **characterized in that** it comprises a plate (8), to be applied on a flat face of the filter (11), and a plurality of tongues (9) projecting from the edge of said plate (8), for elastically gripping said capsule (5). 10 15
2. The connection according to claim 1, in which said tongues (9) extend integrally from said plate (8). 20
3. The connection according to any of the previous claims, in which said tongues are slightly converging towards the central part of said plate (8) and comprise respective ends (9a) for gripping said capsule (5), bent outwards in order to assist the insertion on said capsule (5). 25
4. The connection according to any of the previous claims, in which said plate (8) is round, four tongues (9) being provided, equally spaced along the periphery of said plate (8). 30

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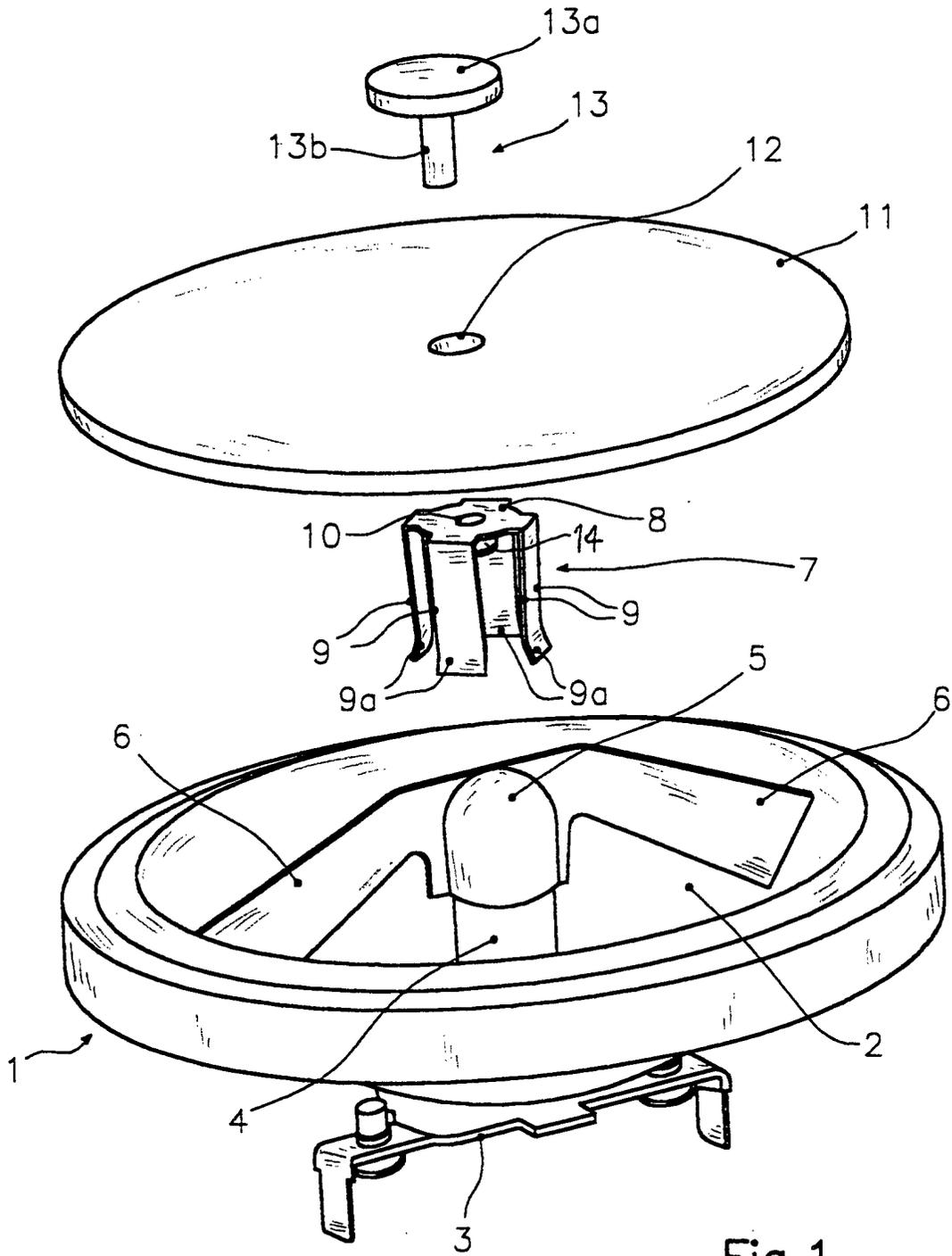


Fig.1