



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 596 128 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

16.11.2005 Bulletin 2005/46

(51) Int Cl.7: **F21V 17/06, F21V 1/16**

(21) Application number: **05425296.0**

(22) Date of filing: **04.05.2005**

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR**

Designated Extension States:

AL BA HR LV MK YU

• **Capuzzo, Nicola**

30122 Venezia (IT)

(72) Inventors:

• **Capuzzo, Enrico**

30122 Venezia (IT)

• **Capuzzo, Nicola**

30122 Venezia (IT)

(30) Priority: **11.05.2004 IT VE20040018**

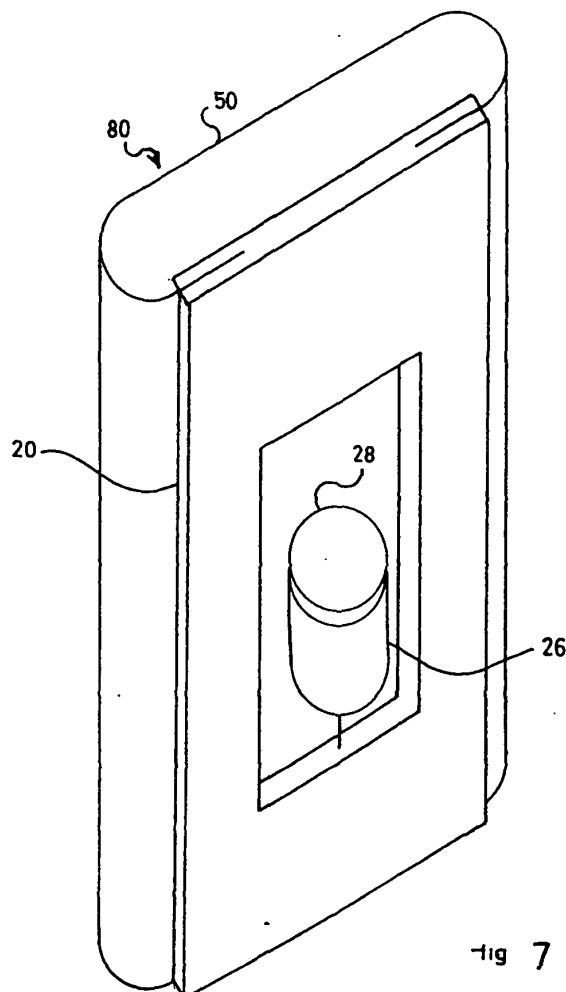
(71) Applicants:

• **Capuzzo, Enrico**

30122 Venezia (IT)

(54) **Lighting device with self-shaping lampshades**

(57) In a lighting device (10) comprising (10) a support element (20), at least one seat (26) for a light (28) and at least one lampshade (40), the support element (20) is radially arranged with respect to said light seat (26). Moreover, the device (10) comprises coupling means (30c,30d) for the lampshade (40) to the support element (20), so as to cover and hide the seat (26), the light (28) and the support element (20).



EP 1 596 128 A2

Description

[0001] The present invention relates to a lighting device such as a lamp, a chandelier, an applique, a table lamp or a bedside lamp.

[0002] Such devices comprise a supporting structure onto which lamp sockets are mounted together with elements which allow for the diffusion of the lamplight and for hiding the supporting structure. These elements for the light diffusion consist of goblets or diffusers if they concern only a lamp bulb, or lampshades if they cover and hide not only the lamp bulbs but also the supporting structure, as in the present invention.

[0003] The supporting structure may have different shapes, according to the kind of the device. For example, the supporting structure may consist in one or more stands, each of them provided with a lighting diffuser, or a lampshade which covers and hides all the lighting device.

[0004] In case of a lampshade, which covers both the supporting structure and the lights, the lamplight which strikes the supporting structure generates shadows onto the lampshade which is lit and, then, negatively affects the lighting device. If we consider that such devices have usually an aesthetical ornamentation, undoubtedly the shadows of the supporting structure projected onto the lampshade reduce the value of the device and its quality.

[0005] Similarly, also in case the ends of the lampshade are joined between them, a visual disturbance is generated.

[0006] The aim of the present invention is to make a lighting device wherein the disadvantages of devices of the prior art are overcome by means of new and particular solutions.

[0007] Another aim of the invention is to construct a simple device with elements which are easily and quickly assembled, so as to reduce the cost for the construction, assembling, packaging and shipping.

[0008] Moreover, the device must have a pleasant external aspect in order to be noted and appreciated by the market.

[0009] These and other aims are reached by a device of the initially described type, namely a lighting device comprising a supporting structure, at least one seat for a light and at least one lampshade, characterized in that said supporting structure includes at least one support element for said at least one light seat and for said at least one lampshade, coupling means between said at least one lampshade and said at least one support element, so as to cover and hide, at least from one side, said at least one light seat, said light and said support element, and in that said at least one support element is radially arranged with respect to said light seat so as not to project shadows onto said lampshade.

[0010] In this new solution, the light skims the support element and, therefore, does not produce any shadow onto the lampshade.

[0011] The simplicity of such a device allows for a quick assembly and construction and, when necessary, it is easily dismounted and remounted.

[0012] The lampshade is made with a flexible material so as to be, once it is bent and/or folded, joined to said at least one support element by means of said coupling means.

[0013] Thus, the lampshade is self-shaping, namely it is sufficient to have a sheet, for example vellum-like, and simply to fold or bend it and fix it to the support element.

[0014] The coupling means consist in grooves made in the perimetral edges of said at least one support element and the perimetral edges of said lampshade are inserted in said grooves of said at least one support element.

[0015] The mounting operation occurs in a quick way, thus reducing to a minimum the time for production and the cost involved.

[0016] These and others advantages of the present invention will be more evident from the following detailed description given for an exemplificative and not limitative purpose, with reference to the following drawings wherein:

- figure 1 is a perspective view of a lighting device according to the present invention;
- figure 2 is a perspective view of a support element of the device of figure 1;
- figure 3 is a cross-section of the device of figure 1;
- figures 4, 5 and 6 are cross-sections of some variants of the present invention;
- figures 7 and 8 are perspective views of other variants of the invention;
- figures 9 and 10 are cross-sections of other variants of the invention.

[0017] In figure 1 a lighting device is represented with reference 10. The device 10 comprises a support element, in particular a support plate 20, and two lampshades 40 and 50 fixed to the support plate 20 in the following described manner.

[0018] Figure 2 shows the support element 20 which has a rectangular shape with a bottom edge 20a, an upper edge 20b and two perimetral edges 20c, 20d opposite to each other. Near the bottom edge 20a and the upper edge 20b, there are respectively holes 22a, 22b used to fix the support plate 20, and then the device 10, for example to a suspending support.

[0019] An opening 24 is made in the support element 20 wherein it is arranged a seat 26 for a light 28, such as a lamp bulb. The light seat 26 is arranged so as to be coplanar with respect to the support plate 20 in order to avoid the projections of shadows onto the lampshades 40 and 50. In fact, in order to avoid the problem of the shadows projected onto the lampshades 40 and 50, it is sufficient that the support element 20 is radially arranged with respect to the seat 26 of the light 28.

[0020] From figure 1 and 3, it emerges that longitudinal grooves 30c,30d are made in the perimetral edges 20c,20d, respectively.

[0021] Each lampshade 40,50 has two perimetral edges 40c,40d respectively, and it is made of flexible and/or folding material in order to be easily mounted onto the support plate 20. In particular, the perimetral edges 40c and 50c of the lampshades 40 and 50 respectively, are inserted inside the groove 30c, whereas the perimetral edges 40d and 50d of the lampshades 40 and 50 respectively are inserted inside the groove 30d.

[0022] The lampshades are self-forming, that is the final shape results after the forming operation which is particularly suited for its aesthetical aspect. Moreover, the lampshades 40,50 cover and hide the support plate 20 and the light seat 26 from both two opposite sides with a bend shape which may be more or less straight and/or convex.

[0023] Since the light seat 26 is coplanar with respect to the support plate 20, the light does not generate shadows onto the lampshades 40 and 50, whereby the aspect of the device 10 is free of visual defects which in the known devices consist in the shadows projected from the supporting structure onto the lampshade and by the junctions of the lampshade and their coverings.

[0024] The final shape of the lampshades 40 and 50 results by simply inserting their perimetral edges inside the respective grooves.

[0025] The lampshades are made in a flexible material, for example vellum-like, so as to be self-forming after the perimetral edges have been inserted inside the grooves.

[0026] Figure 4 shows a lighting device 60 according to a variant of the invention wherein the lampshades 40 and 50 have a different configuration, since the lampshades 40 and 50 have flat portions 40c,50c and 40d, 50d, respectively inserted into the grooves 30c and 30d, and jointed together by an arc portion.

[0027] Figure 5 shows a device 70 according to another variant. The device 70 has a configuration similar to the device 10 of figure 3 wherein, at the perimetral edge 20c of the plate 20, there are two grooves 30c,32c whereas, at the perimetral edge 20d of the support plate 20, there are other two grooves 30d,32d.

[0028] The perimetral edges 40c and 40d of the lampshade 40 are respectively inserted inside the grooves 30c,30d, whereas the perimetral edges 50c,50d of the lampshade 50 are respectively inserted into the grooves 32c,32d.

[0029] Figure 6 depicts a device 80 according to a third variant of the invention which is similar to the device 70, namely it has two grooves 30c,32c and 30d,32d respectively for each perimetral edges 20c,20d of the support plate 20 and the lampshades have a shape similar to that described with reference to figure 4.

[0030] Figure 7 depicts a device 80 according to a fourth variant wherein only one lampshade 50 is used in order to cover and hide the support plate 20, the light

seat 26 and the lamp bulb 28 from only one side, thus making the device 80 suitable to be used as an applique.

[0031] Figure 8 shows a device 80 according to a fifth variant where there are two plates 20 and 220 crossing each other and, in the intersection area, there is an opening 24 wherein a light seat 28 is positioned in a way already indicated, namely it is exactly arranged in the intersection of the two plates 20,220. In such a case four lampshades (for the sake of clarity only three lampshades have been depicted) are used which are coupled to the perimetral edges of the two support plates, thus generating a four-leaf clover shape.

[0032] In other embodiments, the support element or plate may be bended in the area where there is the seat 26 for the light 28, but resulting always radially arranged with respect to the light seat 26.

[0033] For example, figure 9 shows a device 300 according to a sixth variant of the invention comprising three support sheets 302,304,306 bended so as to form a structure with three radial arms wherein in the centre a light 28 is positioned. Obviously there is an opening in the sheets 302,304,306 where the light 28 is housed. Three lampshades 310,312,314 are coupled to the end edges of the three radial arms in the previously described manner.

[0034] Figure 10 illustrates a device 400 according to a seventh variant of the invention, similar to that of figure 9, wherein the support sheets are four indicated with reference 402,404,406,408 so as to form a structure with 4 radial arms at the end of which four lampshades 410,412,414,416 are mounted.

[0035] It is evident that any change or modification which is functionally or conceptually equivalent falls inside the scope of the present invention.

[0036] It is possible to have other seats for other lights in corresponding openings suitably made in the support plate 20.

[0037] Other coupling or fixing means may be used in order to couple the lampshades with the support element. Instead of grooves, the perimetral edges of the lampshades may be fixed to the support plates by means of studs, screws, rivets, self-sticking means, snap fasteners or other suitable and functional means.

[0038] The support plate may also consist by a simple frame of minimum thickness, and instead of light bulbs any other light source may be used.

[0039] Finally, by means of the holes 22a,22b such a device may be fixed to a suitable supporting structure so as to form standard lamps, chandeliers, hanging lamps or others.

Claims

1. Lighting device (10) comprising a supporting structure (20), at least one seat (26) for a light (28) and at least one lampshade (40), **characterized in that** said supporting structure includes at least one sup-

port element (20) for said at least one light seat (26) and for said at least one lampshade (40), coupling means (30c,30d) between said at least one lampshade (40) and said at least one support element (20), so as to cover and hide, at least from one side, said at least one light seat (26), said light (28) and said support element (20), and **in that** said at least one support element (20) is radially arranged with respect to said light seat (26) so as not to project shadows onto said lampshade (40).

2. Lighting device according to claim 1, **characterized in that** said at least one support element (20) comprises a first and a second perimetral edge (20c, 20d) opposite to each other, and **in that** said at least one lampshade (40) is only one having at least two perimetral sides (40c,40d) opposite to each other, a first perimetral edge (40c) to be coupled with said first perimetral edge (20c) of said at least one support element (20) by means of said coupling means (30c,30d), and a second perimetral edge (40d) to be coupled with said second perimetral edge (20d) of said at least one support element (20) by means of said coupling means (30c,30d), so as to hide said seat (26) for said light (28) and said at least one support element (20) form only one side.
3. Lighting device according to claim 2, **characterized in that** it comprises a second lampshade (50) having at least two perimetral opposite edges (50c, 50d), a first perimetral edge (50c) to be coupled with said first perimetral edge (20c) of said at least one support element (20) by means of said coupling means (30c,30d), and a second perimetral edge (50d) to be coupled with said second perimetral edge (20d) of said at least one support element (20) by means of said coupling means (30c,30d), said second lampshade (50) being positioned oppositely to said first lampshade (40) with reference to said at least one support element (20), so as to cover and hide said seat (26) for light (28) and said at least one support element (20) from both sides.
4. Lighting device according to claim 1, **characterized in that** said at least one support element (20) is coplanar with respect to said seat (26) for said light (28).
5. Lighting device (90) according to claim 1, **characterized in that** it comprises a first and a second support element (20,220) intersecting each other, in the intersection area said at least one seat (26) for light (28) is made, said two support elements (20,220) being coplanar with respect to said seat (26) for said light (28).
6. Lighting device according to claim 5, **characterized in that** it comprises four lampshades each of them

having two opposite perimetral edges, each perimetral edge of each lampshade being coupled to a perimetral edge of said support elements (20,220), each lampshade being coupled with two adjacent perimetral edges of said support elements (20,220) and said lampshades engaging two by two adjacent edges of different support elements so as to form a four-leaf clover.

7. Lighting device (300) according to claim 1, **characterized in that** it comprises three support elements (302,304,306) shaped and coupled to each other so as to form a structure with three radial arms where in the centre of which said at least one light seat (26) is housed.
8. Lighting device (400) according to claim 1, **characterized in that** it comprises four support elements (402,404,406,408) shaped and coupled to each other so as to form a structure with four radial arms where in the centre of which said at least one light seat (26) is housed.
9. Lighting device according to any of the previous claims, **characterized in that** said coupling means consist of grooves (30c,30d) made in said perimetral edges (20c,20d) of said at least one support element (20) and **in that** said perimetral edges (40c, 40d, 50c,50d) of said lampshades (40,50) are inserted in said grooves (30c,30d) of said at least one support element (20).
10. Lighting device according to claim 1, **characterized in that** said coupling means consist of studs, screws, rivets, self-sticking means or snap fasteners.
11. Lighting device according to any of the previous claims, **characterized in that** said lampshade (40) is made of flexible material so as, once it has been folded and/or bent, to be coupled with said at least one support element (20) by means of said coupling means (30c,30d).
12. Lighting device according to any of the previous claims, **characterized in that** said at least one support element has more seats for said light.
13. Lighting device according to any of the previous claims, **characterized in that** it comprises a support fixed to said at least one support element.

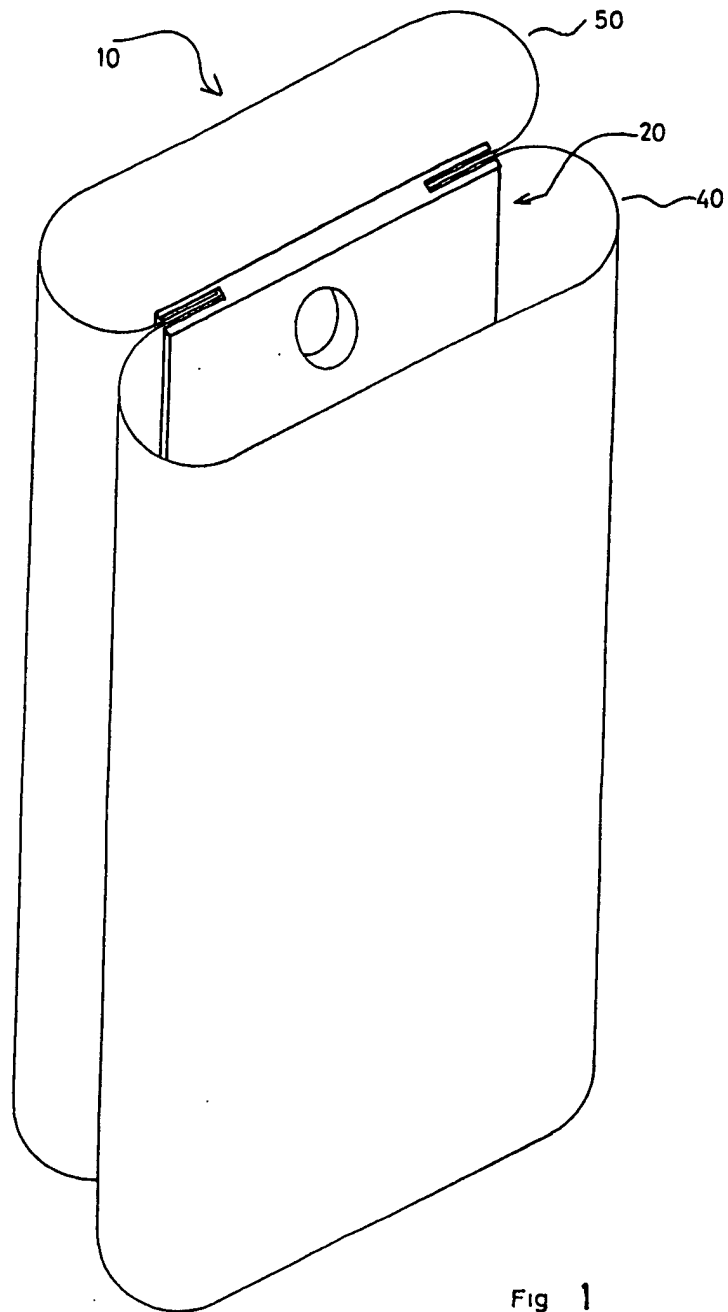
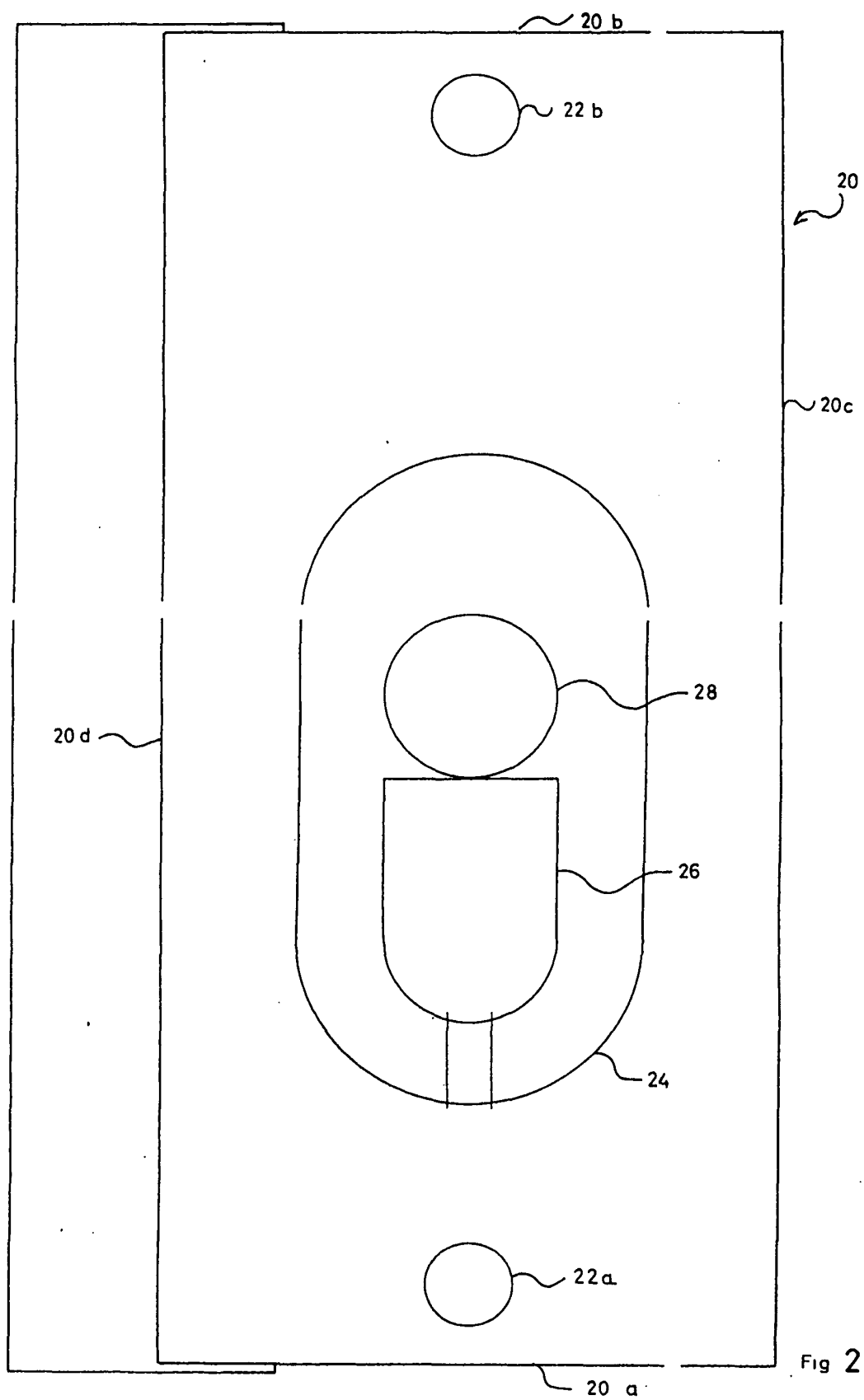
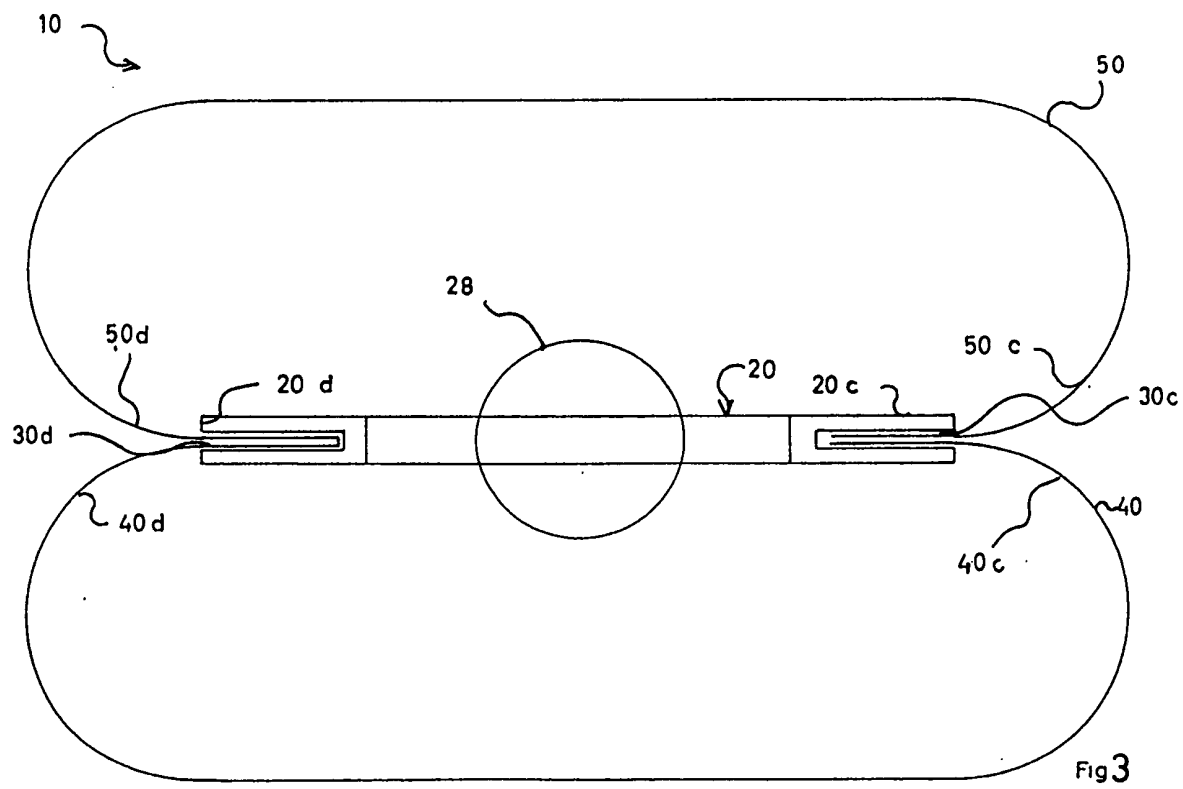
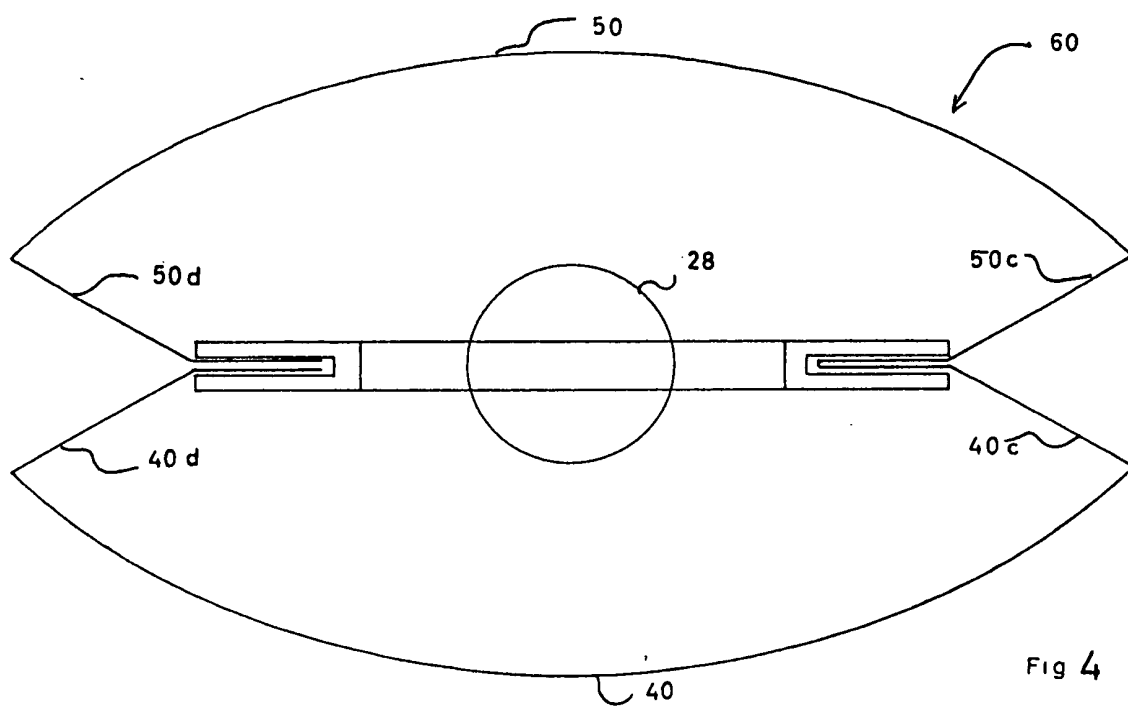
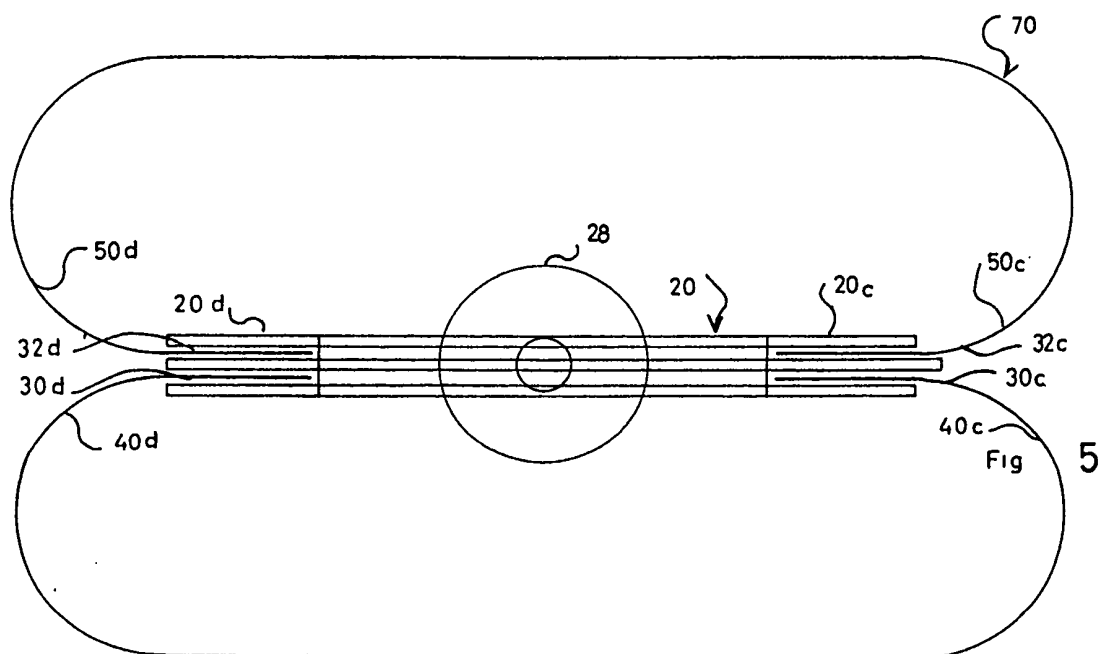
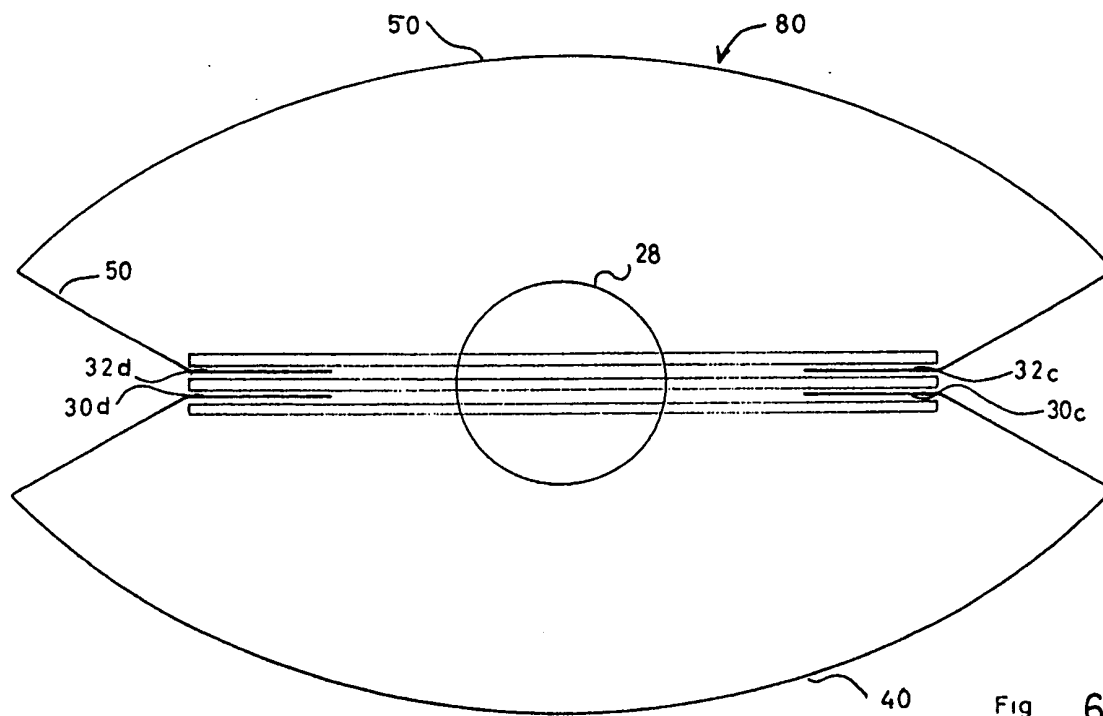
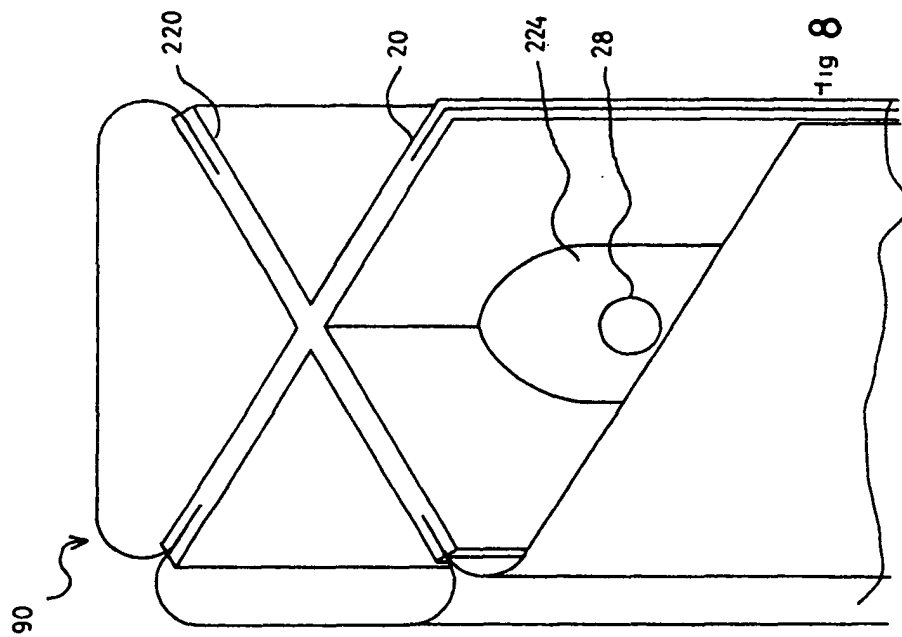
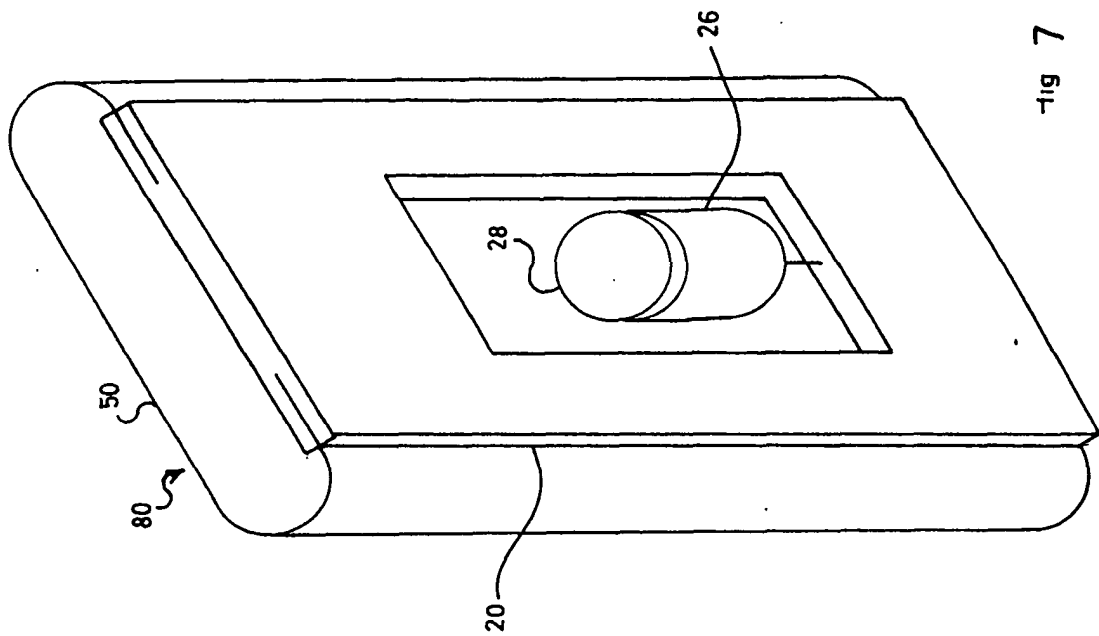


Fig 1









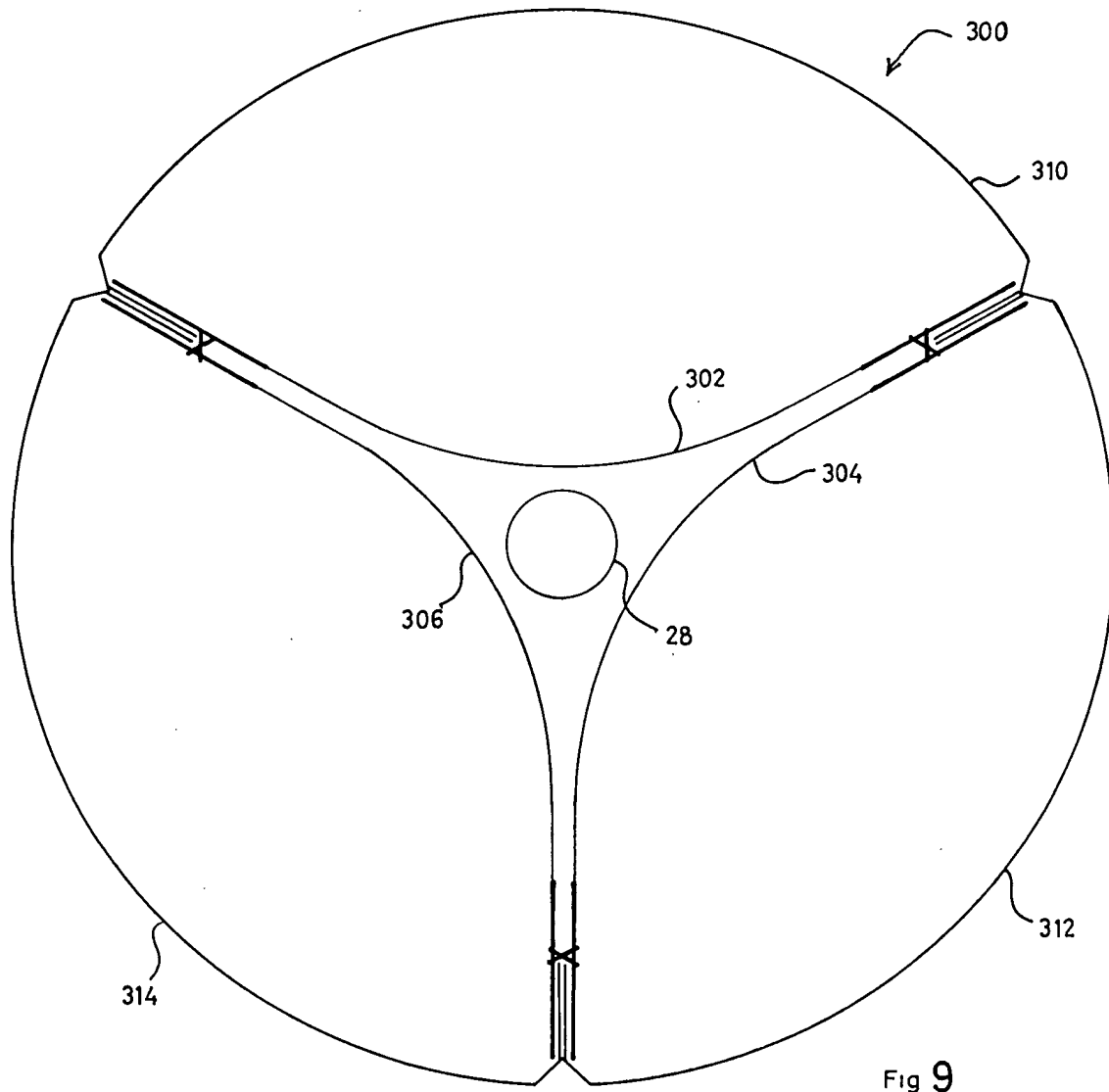


Fig 9

