

# United States Patent

Isen et al.

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## [54] CONTACT LENS CASE

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[58] Field of Search .....206/5 A; 220/31 S; 134/147, 134/137

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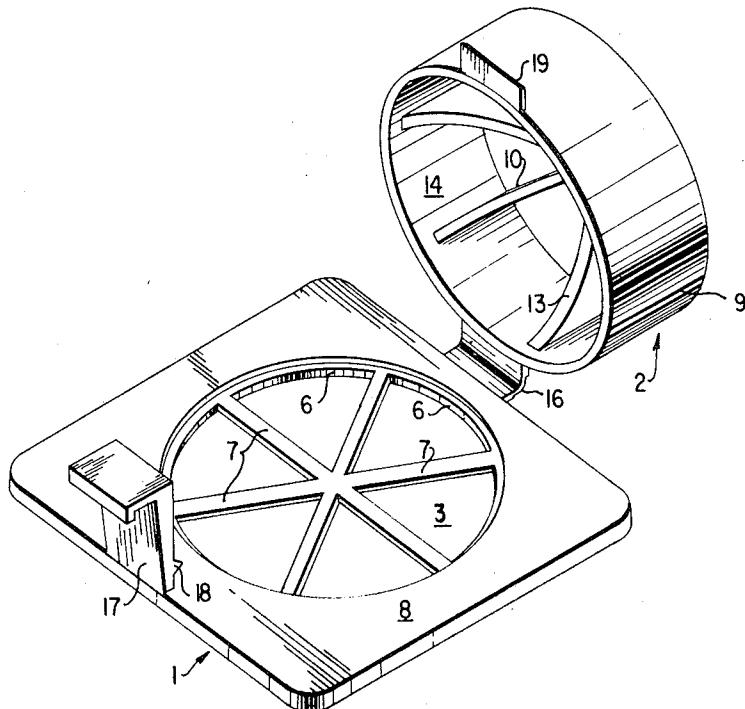
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[57]

## ABSTRACT

A case for storing a contact lens, particularly a semi-scleral type lens, comprises a bottom and a cover hinged thereto. The bottom has a recess or depression formed therein to receive the base of the contact lens. The cover is provided with a domed recess to generally conform to the conical top surface of the lens. Thus, the lens is positioned in the closed case, with its base in the recess and its upper conical surface in contact with the complementary inner domed surface of the cover, whereby the danger of catching the base of the lens between the bottom and cover and causing damage thereto is eliminated.

3 Claims, 4 Drawing Figures



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FIG. 1

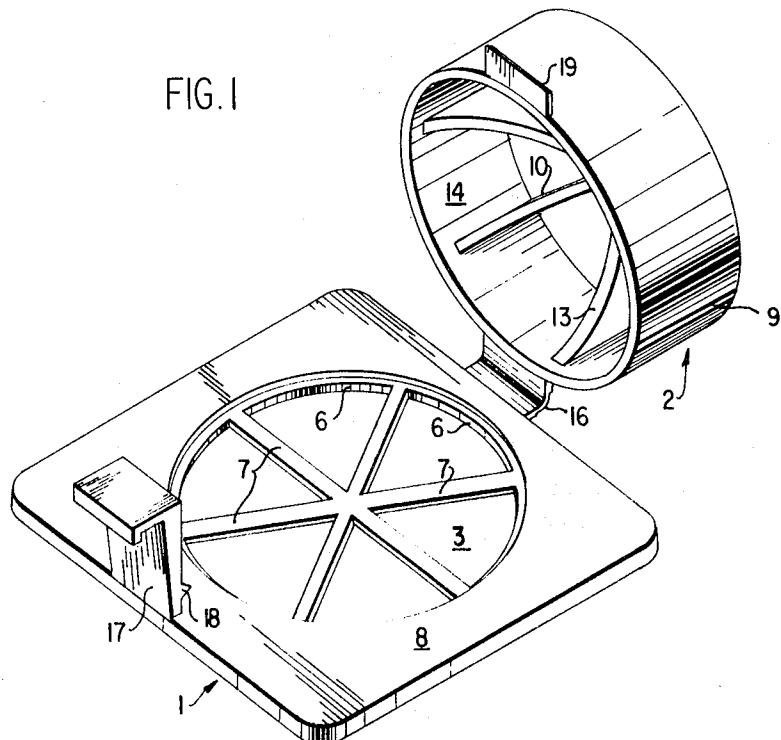


FIG. 2

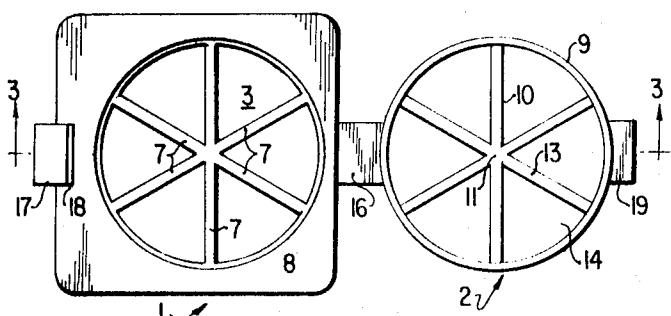


FIG. 4

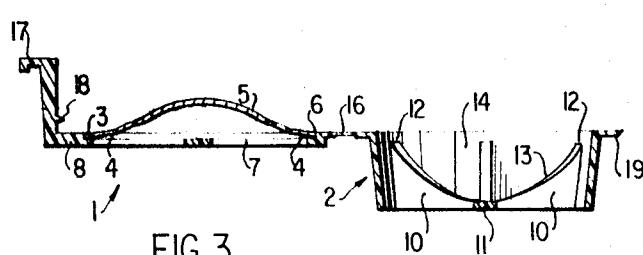
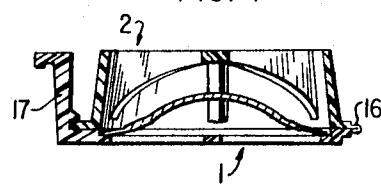


FIG. 3

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## CONTACT LENS CASE

This invention relates to a case construction particularly suitable to store contact lenses of the scleral type.

Contact lenses of the scleral type are somewhat larger than conventional type contact lenses because they are designed to overlay or cover the sclera or portions thereof. The semi-scleral lens covers a portion of the sclera and comprises a base, which is in the form of a tapered rim or flange, positioned on the sclera, and a conical corneal portion which covers the cornea.

In storing the lens in a conventional lens case, great care must be taken to avoid pinching the base or rim portion of the lens between the bottom and cover of the case as the cover is closed. Such pinching may damage and break the base portion.

An object of this invention is to provide a contact lens case wherein the lens may easily and properly be positioned in the case without any danger of its base being pinched between the cover and bottom when the case is closed.

Another object is to provide a contact lens case having a recess in its bottom to receive the base portion of the lens, whereby parts of the cover cannot pinch or forcibly contact the base portion of the lens when the cover is closed thereon.

A further object is to provide a contact lens case, particularly for storing a semi-scleral contact lens, wherein a cylindrical recess is formed in the bottom of the case and a domed recess is formed within the cover. The base portion of the lens is positioned in the cylindrical recess and the domed corneal portion of the lens is received in the domed recess within the cover. Thus, there is not possibility for a portion of the lens being pinched between the bottom and top as the cover is closed on the bottom.

Other objects and advantages of the invention will become apparent from the following specification, the accompanying drawing, and the appended claims.

In the drawing:

FIG. 1 is a perspective view of the contact lens case with the cover in open position;

FIG. 2 is a top view of a fully opened case;

FIG. 3 is a sectional view of the fully opened case of FIG. 2, taken along line 2-2 thereon; and

FIG. 4 is a sectional view through the closed case with the contact lens stored therein.

The case of this invention may be made from a variety of metal or plastic materials. The material should be shock and abrasion resistant and inert with respect to the conventional contact lens cleaning and storing solutions. Preferably, the case is made from suitable plastic material having the above properties and also being somewhat softer than the material of the contact lenses to avoid abrasion of the lenses. Such material may be polypropylene, polyethylene and similar synthetic plastic which can be easily molded.

The case comprises a platform 1, which may serve as the bottom of the case, and a cover structure 2. Bottom 1 may be solid but preferably it is perforated to permit cleansing and storage fluid to contact the lens stored therein. A recess or depression 3 is formed in the bottom, the depth of the recess being about a third to a half of the thickness of the bottom. While the cross section of the recess may be of any shape, such as square, elliptical or circular, it is preferably of circular cross section dimensioned to receive the base section of the contact lens. The semi-scleral contact lens is usually of conical shape having a general circular tapered base section in the form of a rim or flange 4, and a domed corneal section 5 rising therefrom. The base 4 is positioned over the sclera so that the dome 5 is located over the cornea. The cross section of recess 3 is such that it is somewhat larger than base 4 of the lens which is to be stored therein, whereby the base of the lens can be easily placed into recess 3. Wall 6 of recess 3 is of sufficient depth to house base 4, or at least to house the peripheral portion of the base, so that it is not pinched by the cover when the case is closed.

The floor portion of recess 3 is formed by a hub and radiating spokes structure 7, which is cast integrally with body 8 of

the bottom. Thus, the open spaces between the spokes permit flow of cleaning or storage fluid to contact the lens stored in the case. It is conventional to store the case in a container filled with the proper storage solution.

5 Cover 2 comprises an open ended cylinder 9 in which spokes 10 radiating from hub 11 are located at one end thereof, the cylinder, spokes and hub forming an integral molded structure. The spokes merge with the inner wall of cylinder 9 at a point spaced from the end whereby a clear 10 cylindrical surface 12 is formed. The inner surface 13 of each spoke 10 is arcuate whereby the spokes form a domed space or recess 14 within the cover. This recess generally conforms to the outer conical surface 5 of the corneal portion of the scleral lens. When the case is closed, surfaces 13 either contact or nearly contact the domed outer surface of the lens whereby the lens is centered with respect to the bottom and the cover of case 1. Thus, any undesirable pinching of portions of the edges of base 4, or of other portions of the lens, between the contacting surfaces of the bottom and top is eliminated 15 and the lens is securely held within recesses 3 and 14, as illustrated in FIGS. 3 and 4.

The hub and spokes in cover 2 provide spaces in the cover to permit the cleaning and storage fluid to contact the lens.

25 Cover 2 is hinged to bottom 1 by utilizing a conventional hinge structure 16 molded integrally with the bottom and cover. A latch means 17 is provided on bottom 1 having a catch 18 which cooperates with a tongue 19 on the cover to maintain the cover closed, as illustrated in FIG. 4. Preferably, the latch and tongue means 17, 18 and 19 are molded integrally with the bottom and cover. The front face of the latch means may carry a letter or word to indicate whether the lens 30 in the case is for the left or for the right eye.

In use, when it is desired to store the lens in the case, the case is opened and base 4 of the lens is inserted in recess 3. Recess 3 is so dimensioned that it is easy to slide or place the base of the lens therein. The recess wall 6 is of sufficient depth to securely hold the base of the lens therein while the cover is closed. After the lens is placed in recess 3, the cover may be 35 closed without fear that the lens would shift in relation to the domed recess 14 in the cover and thereby cause pinching of the lens. With the base of the lens positioned and retained in recesses 3, the recess 14 will properly encompass the outer conical surface of the lens and thereby hold the lens securely 40 but not forcibly in the case. Wall surface 12 of cover 15 is generally coextensive with the inner wall 6 of recess 3 and aids in positioning and holding the lens as the cover is closed.

45 While a specific, preferred embodiment of the invention has been disclosed, it is evident that various structural changes 50 may be made without departing from the scope and spirit of the invention.

What is claimed is:

1. A contact lens case for a semi-scleral type lens having a base section and a domed section, comprising a bottom, a 55 recess formed in the bottom, said recess being dimensioned to receive the base section of the lens, a cover for said case to cooperate with said bottom for enclosing the lens, said cover having a domed recess therein of a size to encompass the outer surface of the domed section of the lens, the cover when 60 closed aligning the domed recess with the recess in the bottom the peripheral portion of the base of the lens positioned in the recess to prevent damage to the base of the lens when the cover is closed.

2. The contact lens case set forth in claim 1, wherein said 65 cover is hinged to said bottom and perforations are formed in the bottom and in the cover.

3. The contact lens case set forth in claim 2, wherein said bottom comprises a flat body and said cover comprises a hollow cylinder and wherein said perforations in the bottom are 70 formed by a hub and radiating spokes construction which serves as the floor of the recess, and said perforations in the cover are formed by a hub and radiating spokes formation serving as the top of the cylindrical cover, the spokes in the cover having arcuate inner surfaces which form said domed recess within the cover.

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