(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 734 958 B1

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
19.12.2001 Bulletin 2001/51

(51) Int Cl.[7]: **B65D 5/48**, B65D 5/50, B65D 75/34, B65D 77/04, A45C 11/00, A61F 2/16

(21) Application number: **96302232.2**

(22) Date of filing: **29.03.1996**

(54) **Packaging arrangement for contact lenses**

Verpackung für Kontaktlinsen

Dispositif d'emballage pour lentilles de contact

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE

(30) Priority: **31.03.1995 US 414513**

(43) Date of publication of application:
02.10.1996 Bulletin 1996/40

(73) Proprietor: **JOHNSON & JOHNSON VISION PRODUCTS, INC.**
Jacksonville, Florida 32216-0995 (US)

(72) Inventors:
- **Abrams, Richard Wayne**
  Jacksonville, Florida 32223 (US)
- **Lust, Victor**
  Jacksonville, Florida 32257 (US)

(74) Representative: **Mercer, Christopher Paul**
Carpmaels & Ransford 43, Bloomsbury Square
London WC1A 2RA (GB)

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a packaging arrangement for the containment of at least one hydrophilic contact lens in a sterile aqueous solution. More specifically, the invention pertains to a so-called trial-sized packaging arrangement wherein a plurality of disposable hydrophilic contact lenses are contained in a specific limited number of individual packaging arrangements collectively housed in a box-like container or carton so as to provide a specified or essentially measured sample or trial supply of contact lenses for use by a consumer over a predetermined relatively short period of time enabling the sampling and evaluation of the product packaged therein.

[0002] In particular, pursuant to the inventive concept, the box-like container or carton is designed to accommodate a smaller quantity of contact lenses while being designed and dimensioned for the receipt and storage of normally considerably larger quantities of contact lenses without the need for having to modify the external size and dimensions of the container, carton or packaging equipment. In essence, this will enable the thusly designed carton to be employed for the containment and packaging of such smaller quantities of contact lenses as to be adapted for the dispensing or distribution of so-called sample or "trial" sizes; in effect, the dispensing of free packages containing limited numbers of contact lenses to potential or prospective consumers.

[0003] The packaging of hydrophilic contact lenses in a sterile aqueous solution is well known in the contact lens manufacturing technology. In particular, such packaging arrangements generally consist of so-called blister packages which are employed for the storage and dispensing of the hydrophilic contact lenses by a medical practitioner or to consumer who intends to wear the contact lenses. Generally, such hydrophilic contact lenses, which may be disposable after a single wear or short-term use, are manufactured from suitable hydrophilic polymeric materials. These materials may be, amongst others, copolymers of hydroxyethyl methacrylate containing from about 20% to 90% or more of water, depending upon the polymer composition. Generally, such contact lenses must be stored in a sterile aqueous solution, usually in an isotonic saline solution in order to prevent dehydration and to maintain the lenses in a ready-to-wear condition.

2. Discussion of the Prior Art

[0004] Heretofore, contact lens manufacturers ordinarily utilized stoppered glass bottles containing sterile saline solutions in which the hydrophilic contact lenses were immersed as storage and shipping containers for individual contact lenses. Each bottle was sealed with a suitable silicone stopper and provided with a metal closure as a safety seal in the configuration of an overcap. When the contact lens was intended to be removed from the bottle for use by a patient, the metal closure safety seal was required to be initially torn off the bottle, thereafter the stopper withdrawn and the contact lens lifted out from the bottle through the intermediary of a suitable plastic tweezer or by pouring the contents out. This entailed the implementation of an extremely complicated procedure, since the contact lens was difficult to grasp and remove from the saline solution contained in the bottle due to the transparent nature of the contact lens which rendered it practically invisible to the human eye.

[0005] More recently, containments in the form of blister packages have been developed for hydrophilic contact lenses, and which enable the storage and shipping of the hydrophilic contact lenses in a simple and inexpensive expedient manner, such as by being arranged within a secondary packing preferably constituted from a paperboard carton or the like, while concurrently facilitating the conveniently easy removal of the contact lens by a practitioner or a patient.

[0006] For instance, a blister package which is adapted to provide a sterile sealed storage environment for a disposable or single-use hydrophilic contact lens, wherein the lens is immersed in a sterile aqueous solution; for example, such as in an isotonic saline solution, is described in U.S. Patent No. 4,691,820 to Martinez; which is assigned to the common assignee for the present invention.

[0007] Thus, in the above-mentioned U.S. patent, the blister package for storing and dispensing a hydrophilic contact lens includes an injection-molded or thermoformed plastic base portion incorporating a molded cavity which is surrounded by an outstanding planar flange about the rim of the cavity. A flexible cover sheet is adhered to the surface of the flange so as to sealingly enclose the cavity in a generally liquid-tight mode. Within the cavity of the base portion, a hydrophilic contact lens is immersed in a sterile aqueous solution, such as an isotonic saline solution. A portion of the side wall of the cavity is inclined to form a ramp extending upwardly towards the flange from the bottom of the cavity, and the cover sheet is adapted to be stripped from the flange in order to expose the cavity and inclined side wall whereupon the lens may be readily manually removed by being slid upwardly and out of the cavity along-the inclined ramp surface of the cavity.

[0008] Other configurations of blister packages are obtained by modifying the shape of the base member or base portion whereby rather than having a rectangular cavity which has an inclined bottom ramp portion, there is provided a semi-circular cavity which more closely conforms to the contact lens arranged therein immersed in an aqueous sterile solution. For example, blister **packages of that type are disclosed in** EP-A-0 650 676

wherein the base portions are interconnected in an array and covered by a single flexible cover sheet having lines of weakening provided therebetween to enable selective separation and removal of individual blister packages, each respectively containing one contact lens.

[0009] Such an improved and more recent blister package construction resides in that the cavity for the containment of the contact lens is essentially of a semispherical configuration dimensioned so as to be adapted to closely support the contact lens therein immersed in an aqueous solution for ease of removal and also to facilitate an inspection process. Moreover, the foregoing construction primarily considers the utilization of such blister packages for the dispensing of individual contact lenses, with such blister packages being ordinarily separate or single packagings, which may then be housed in larger quantities in a further container, such as a rigid cardboard or paperboard carton or other suitable rigidly constructed container employed for the retail sales of the lenses.

[0010] Various other configurations and structures for blister packages, both in individual or loose and also in interconnected arrayed relationships, can be readily ascertained from European patent applications Nos. 96302231-4 and 96302226-4 claiming priority from USSN 08/414 515 (VTN-170) and claiming priority from USSN 08/414 514 (VTN 171).

[0011] Generally, arrays of the blister packages are stored and packaged in secondary packagings normally consisting of rectangular carton structures, which may also be encompassed by a plastic shrinking film, so as to be sold in predetermined large quantities suitable for various types of retail operations and/or dispensing in conformance with specific user requirements.

[0012] An important aspect is to be able to furnish a user of such disposable hydrophilic contact lenses with a specific supply of contact lenses, the latter of which are each normally worn for only a single day; in essence, for ordinarily 8 to 18 hours within a 24-hour period and thereafter discarded. Hereby, the packaging of a supply of contact lenses should enable the user to store and provide indication for replenishing the supply of contact lenses at regular intervals; for example, at periods of 30 days, or possible shorter and preferably lengthier periods of time, such as weeks and even over periods of months; for instance, 60 or 90 days (3-month supply).

[0013] The present invention contemplates the provision of packaging arrangements for specified limited quantities of such hydrophilic contact lenses, wherein these packaging arrangements are boxed in a carton enabling a rapid and precise determination as to the quantity of hydrophilic contact lenses contained therein, and with such packaging arrangements being of a compact nature which is completely protective of the hydrophilic lenses.

[0014] In particular, at times it may be commercially expedient, such as for purposes of advertisement or introducing a particular product to a specific potential market, that sample or introductory trial sizes of such products be dispensed at either reduced prices or even given away as free samples to prospective consumers or users.

[0015] In connection with the foregoing, it is expedient that the product be packaged in a secondary containment, such as a carton or rigid container in which the latter contains limited numbers and quantities of blister packages or arrays of blister packages containing contact lenses so as to enable a potential consumer to utilize these for a limited or introductory trial period to ascertain whether the contact lenses are really comfortable and satisfactory and meet the consumer's expectations, thereby forming an inducement for the purchase of larger quantities for lengthier periods of time.

[0016] However, for example, the currently utilized secondary packages or cartons each may contain 30 blister packages, or essentially a month's supply for one eye, each containing a contact lens and with arrays of each five blister packages being superimposed and interleaved with each other to form a plurality of layers within the carton in a substantially protected state, as disclosed in EP-A-0 650 676.

[0017] In order to maintain mass-production packaging costs for the contact lenses at a minimum level, rather than developing a smaller introductory or trial-sized carton containing, for example, ten contact lenses in two arrays of five contact lens packages each, or in only a single array of five packages, which would necessitate the provision of a new packaging production line or modified cartoner machines for such smaller sample or trial-sized carton packages, it is economically more expedient to maintain the external dimensions of the secondary packaging, such as the carton, at the same size as is employed for the packaging of; for example, 30 or a month's supply of contact lenses, but to modify the internal structure of the carton to be able to protectively store ten contact lenses rather than normally 30 lenses, and to thereby avoid having to significantly modify the packaging line of the facilities employed for the secondary packaging of the introductory arrays of contact lenses. This will considerably reduce secondary packaging costs and thereby render the entire packaging expenditures economically viable and expedient to implement.

SUMMARY OF THE INVENTION

[0018] In this connection, pursuant to the invention, as defined in claim 1, in order to meet the foregoing requirements, there is utilized the basic carton structure or secondary packaging as disclosed in EP-A-0 650 676. The present invention, in essence, permits the external dimensions thereof to remain unchanged, but incorporates partition or spacer structure within the confines of the carton to form a so-called "false bottom" which supports a single array or superimposed arrays of, for example, five blister packages, each in the nar-

rower or more confined space above the carton partition supported on the "false bottom" structure formed thereby. This spacer or partition structure will provide for a suitable contact lens array supporting feature internally in the upper region of the carton, while concurrently enabling maintaining the exterior dimensions of the carton as would be normally employed for the larger quantity of contact lenses without having to modify the external carton configurations to any extent, and thus facilitating utilizing the same and essentially unaltered basic packaging or secondary packaging equipment or machinery for identical or similarly dimensioned cartons containing larger quantities or arrays of blister packages.

[0019] Accordingly, it is an object of the present invention to provide a novel carton or secondary packaging arrangement for the packaging of sample or introductory trial quantities of contact lenses.

[0020] It is a more specific object of the present invention to provide a carton or secondary packaging arrangement of the type described whereby the interior of a carton may be partitioned to form a "false bottom" in order to protectively accommodate reduced quantities of contact lenses within a confined area without the need for modifying the exterior size and configurations of the carton.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] Reference may now be had to the following detailed description of an exemplary embodiment of the invention, taken in conjunction with the accompanying drawings; in which:

Fig. 1 is a perspective view of a rectangular carton for the containment of a limited or sample quantity of blister packages containing contact lenses;

Fig. 2 illustrates a sectional view taken along line 2-2 in Fig. 1;

Fig. 3 illustrates an exemplary array of detachably interconnected blister packages adapted to be contained in the carton of Fig. 1; and

Fig. 4 illustrates another embodiment of a blister package structure adapted to be contained in the carton of Fig. 1.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

[0022] Referring now in more specific detail to the drawings, and in particular to Figs. 1 and 2, there is illustrated a generally rectangular carton 10 which is adapted to receive a plurality of planar arrays of packaging arrangements for the sealed containment of contact lenses, especially disposable hydrophilic contact lenses, as elucidated in more specific detail hereinbelow; and as is also described in EP-A-0 650 676.

[0023] The rectangular carton 10, which is preferably formed from a blank constituted of paperboard, although numerous other materials may be employed such as pressed cardboard, plastic and the like, includes flat top and bottom wall panels 12 and 14, and front and rear walls or panels 16 and, respectively, 18 which are adapted to be closed by being folded from a carton blank along suitable fold lines, and opposite ends 20; (only one shown) through an adhesive or glued construction as is known in the carton forming technology. The top wall panel 12 is adapted to be swung upwardly about a rear hinge line, as shown by the phantom illustration, to open the carton 10, and includes side flaps 12a, 12b which may be tucked within the confines of the carton beneath the end walls 20. The front wall panel 16 includes a lower portion 16a which is adapted to be glued to the end walls 20 by means of end flaps (not shown). The upper wall panel 12 includes a downwardly depending front flap 22 having a centrally located latching tab 24 at a lower edge thereof which is adapted to be tucked into a cooperating latching slit centrally formed in the lower front wall panel 16 to facilitate reclosing of the carton, as shown in Fig. 2. The back hinge of the top wall-panel 12 is adapted to be attached to the carton by means of perforations. This provides a practitioner with the option of easily removing the top wall panel of the carton by tearing along the rear hinge line, and thereafter using the carton as a dispensing tray.

[0024] The carton 10, as is known in the art, may be equipped with a decorative glossy or semi-glossy exterior surface, which may be imparted with suitable single or multi-colored imprinting and/or embossing representative of the product contained therein, identifying legends and logos pertaining to the company manufacturing and/or marketing the product, instructions pertaining to the use of the product packaged in the carton, and other suitable legends, decorative indicia and the like.

[0025] The blister packages may also be stored in a plastic container of more durable construction, having a lid or cover which is openable or closeable by means of a so-called living hinge structure.

[0026] Within the carton 10 there is adapted to be housed a pair of interleaved and inverted arrays of packaging arrangements, of which one is more specifically illustrated in Fig. 3 of the drawings, and wherein each array essentially consists of five blister packages, each respectively containing one hydrophilic contact lens immersed in aqueous sterile solution.

[0027] As illustrated in Fig. 3 of the drawings, each array of blister packages comprises five such packages interconnected by a single flexible cover sheet, as is described in detail in EP-A-0 650 676.

[0028] In essence, Fig. 3 illustrates the array of packaging arrangements 30 as consisting of a plurality of interconnected blister packages 32, wherein each blister package 32 includes a base member 34 consisting of a planar essentially rectangularly-shaped flange 36 having an integral depending wall portion 38 at one edge thereof. Offset towards an edge of the flange 36 a cavity 40 is formed therein which is of an essentially semi-

spherical configuration, generally in conformance with the curvilinear shape of a contact lens (not shown), adapted to be stored therein in a sealed condition while immersed in a suitable sterile aqueous solution. However, other cavity configurations also readily lend themselves to the invention, such as semi-spherical, oval, or the like. The height of the wall portion 38 depending from the planar flange 36 is somewhat analogous to the height or depth of the cavity 40 containing the contact lens. Similarly, the edge of the flange 36 opposite that possessing the depending wall portion is also provided with depending protuberances 43 which will also aid in positioning the blister packages in the carton, as described in detail hereinbelow.

[0029] The base member 34 of each so-called blister package is preferably constituted from an injection-molded or thermoformed plastic sheet material; for instance, such as polypropylene.

[0030] Positioned to extend over the base members 34 of the plurality of blister packages, in this case forming an array of five, is a continuous flexible cover sheet 44, having a series of parallel spaced weakening lines 46, such as perforations, discontinuous slits or the like, provided between each of the adjacently located base members 34, to enable suitable detachment from the array of individual or single blister packages each containing a single contact lens in accordance with the need of a user. The flexible cover sheet 44 is adhesively fastened to suitable regions of the surface of the flanges 36 facing the cover sheet, such as by heat sealing, ultrasonic sealing, adhesives or other acceptable methods, so as to at least encompass each cavity 40 containing a contact lens immersed in the sterile aqueous solution, and to provide a sealing containment for each contact lens in its respective cavity. Other sealing locations may also be provided at locations as desired between the surface of the flexible cover sheet 44 facing the surface of the flange 36 so as to provide adequate regions of adherence therewith, while permitting various edge portions between these components 36, 44 to remain unattached to facilitate a finger-gripping engagement for separating the severed cover sheet portion from the detached base member 34 in order to gain access to the contact lens which is contained in the applicable cavity 40 thereof.

[0031] The flexible cover sheet 44 is preferably constituted of a laminated foil, or other suitable material structure possessing a plastic film, such as for instance a polypropylene film, or possibly a PET film, on at least one external surface thereof adapted to contact the facing surface of the flange 36 so as to enable adhesive or heat-sealing therewith, as mentioned hereinabove; and which may incorporate a silicon dioxide layer as a barrier material. The laminated foil constituting the flexible cover sheet 32 may be of a multi-layered construction having suitable double-sided imprinting provided thereon, for example, as disclosed in EP-0 646 471.

[0032] In essence, the flexible cover sheet acts as a barrier, and the laminate structure thereof could incorporate foil material (Al), SiO_2 or other barrier material. The carton may also be encompassed by a plastic shrinkwrap film material.

[0033] Inasmuch as the carton 10, as described above, was initially designed to contain six arrays of blister packages 30 superimposed and interleavingly inverted within the carton interior to form a nested structure of blister packages filling the carton interior, the containment of a lesser number of blister package arrays within a similarly or identically sized carton, necessitates the provision of interior carton partitioning structure forming blister package array supporting means.

[0034] In order to form an introductory trial or sample size internal carton structure housing, for example, either five (5) or ten (10) contact lenses in either one or two blister package arrays of five (5) blister packages each, as shown in Fig. 2 of the drawings, an interior partition and spacer member 50 oriented coplanarly with and intermediate the carton top and bottom walls extends centrally across the carton confines. The partition 50, which may be a flat paperboard or other rigid element, has a depending flange 52 at one edge proximate the inside of the carton wall 22, and another depending flange 54 at the other edge extending within the carton wall, thereby separating the interior of the carton 10 into an upper compartment 60 and a lower compartment 62, and in effect forming a bottom for the upper compartment 60 or a so-called "false bottom" for the carton 10. The upper compartment 60 of the carton is adapted to respectively receive two arrays 30 of contact lens blister packages, each such array comprising five (5) packages, as shown in detail in Fig. 3, and wherein the partition member 50 provides a bottom support surface for the arrays protectively housed within the carton structure, whereas the lower compartment 62 remains empty.

[0035] This structure; in effect, the partition member 50, and the supportive action of the depending flanges 52 and 54 on the lower carton surface with the therewith associated arrays 30 will position and protectively support the latter within the upper compartment 60 of the carton confines.

[0036] Upon opening of the carton by lifting up top wall 12 upon detaching the separating the flap 22 from the front wall panel 16, the upper array 30 of contact lenses is exposed, enabling a consumer or user to separate an individual contact lens for use thereof by separating along the weakening lines or perforations formed in the cover sheet of the array. Alternatively, when the blister packages are unconnected or loosely arranged on the partition member 50 in upper compartment 60, and may be readily lifted out individually from the opened carton 10, as required.

[0037] As illustrated in Fig. 4, there is shown an alternate type of blister package 70 having a planar flange 72 of narrowing dimensions, whereby a lens-receiving cavity 74 is formed in the flange proximate a wider end 76 thereof. The contact lens (not shown) housed in the

cavity may be sealed therein through the superposition of a flexible sealing cover element, as described hereinbefore. As mentioned, numerous types and shapes of blister packages may be housed in the upper compartment in either separably interconnected or loosely arranged arrays, as described in the previously referenced copending applications.

[0038] The foregoing thus provides a simple carton modification without having to change or reduce the exterior dimensions of the carton to accommodate a lesser quantity of arrays, by simply introducing the interior partition 50 dividing the carton into two separate compartments 60, 62, with the upper compartment 60 containing respectively one or two arrays of blister packages, and thus eliminates the necessity of having to provide new secondary or carton packaging equipment while only requiring a minor procedure for the insertion of the central partition member or so-called "false bottom" 50.

[0039] From the foregoing, it becomes readily apparent to one of skill in the art that the present invention provides for a simple packaging of predetermined lesser or sample quantities of blister packages provided in packaging arrangements and units adapted to be compactly stored within a carton which not only provides for a novel packaging but for added support and protection for each of the blister packages and the contact lenses contained in the cavities thereof, while eliminating the need for changing the basic dimensions of the carton, or having to modify the packaging machines.

[0040] While there has been shown and described what is considered to be a preferred embodiment of the invention, it will, of course, be understood that various modifications and changes in form or detail could readily be made without departing from the scope defined in the appended claims.

Claims

1. A composite packaging including a generally rigid container (10), containing at least one array of packaging arrangements (30) housing hydrophilic contact lenses in a sterile aqueous solution; said at least one array of packaging arrangements comprising a plurality of injection molded or thermoformed plastic base members (34) each having a cavity (40) for containing a contact lens immersed in said solution, each said base member (34) including a flange (36) extending outwardly about the periphery of said cavity (40), said cavity (40) consisting of a concave indentation in said base member (34) and having a shape to facilitate positioning therein of the contact lens intended to be contained therein; a flexible cover sheet means (44) superimposed on each of said plurality of base members (34) and dimensioned to be detachably sealed to the surface of each said flange (36), said cover sheet (44) sealingly extending about each said cavity (40) and having unsealed edge portions providing gripping means for enabling separating said cover sheet (44) from said flange (36) so as to expose said cavity (40) and facilitating external access to the contact lens; **characterised by** partition means (50) in said container forming first and second compartments (60,62), said at least one array being confined in and supported within one said compartment, said partition means (50) comprising a flat separator member extending across the confines of said carton (10) so as to define an upper compartment (60) and a lower compartment (62), said at least one array of packaging arrangements (30) being located in said upper compartment (60) and said separator member (50) forms a bottom supporting surface for said at least one array.

2. A composite packaging as claimed in Claim 1, wherein said separator member (50) includes a depending wall portion (52) extending along one edge thereof, and a further depending wall portion (54) extending along an opposite edge thereof, said depending wall portions (52,54) contacting a bottom surface (14) of said container and being of a height to closely confine said array within said upper compartment (60).

3. A composite packaging as claimed in Claim 2, wherein said depending wall portions (52,54) of said separator member (50) extend in close contact with inner surfaces of opposite sidewalls of said container.

4. A composite packaging as claimed in any one of the preceding claims, wherein said separator member (50) is constituted of a generally rigid material.

5. A composite packaging as claimed in any one of the preceding claims, wherein said separator member (50) has peripheral dimensions substantially commensurate with the internal horizontal expanse of said container.

6. A composite packaging as claimed in any one of claims 1 to 5, wherein said container comprises front and back wall panels (16,18), top and bottom wall panels (12,14) connected to said front and back wall panels (16,18), and end wall panels (20) and flap structure being fastened to respectively each other and to said front, back, top and bottom wall panels (16,18,12,14) to form a closed carton structure, said front wall panel (16) and top wall panel (12) including openable upper and lower flap portions (22,24) to enable opening said carton (10) and mutually cooperable latching structure for relatching said carton in a closed position.

7. A composite packaging as claimed in claim 6,

wherein said top wall panel (12) is detachably connected to said back wall panel (18) along a perforated hinge line to enable said top wall panel (12) to be detached and said carton (10) to be employed as an open tray for dispensing packaging arrangements therefrom.

8. A composite packaging as claimed in any one of claims 1 to 7, wherein said container has a generally rectangular configuration.

9. A composite packaging as claimed in any one of the preceding claims, wherein the vertical spacing between the upper surface of said separator member (50) and an inner surface of said upper compartment's top wall panel (12) is generally in conformance with the overall height of said at least one array.

10. A composite packaging as claimed in any one of claims 1 to 9, wherein said container is constituted of a rigid material.

11. A composite packaging as claimed in any one of claims 1 to 10, wherein said container is encompassed by a plastic shrinkwrap film material.

12. A composite packaging as claimed in any one of claims 1 to 11, wherein indicia and content-identifying legends are imprinted on at least one of the exterior surfaces of said container.

13. A composite packaging as claimed in any one of claims 1 to 12, wherein a pair of said arrays of packaging arrangements are located in said compartment (60) in superimposed relationship.

14. A composite packaging as claimed in claim 13, wherein said arrays are inverted and interleaved relative to each other.

Patentansprüche

1. Verbund-Verpackung, welche aus einem allgemein starren Behälter (10) besteht, der eine Anordnung von Verpackungseinrichtungen (30) enthält, welche hydrophile Kontaktlinsen in einer sterilen wäßrigen Lösung umschließen, wobei die mindestens eine Anordnung von Verpackungseinrichtungen eine Vielzahl spritzgepreßter oder thermisch geformter Kunststoff-Grundkörper (34) umfaßt, deren jeder eine Vertiefung (40) zur Aufnahme einer Kontaktlinse, eingetaucht in der Lösung, aufweist, jeder Grundkörper (34) einen Flansch (36) aufweist, der sich über den Außenumfang der Vertiefung (40) nach außen erstreckt, jede Vertiefung (40) aus einer konkaven Einprägung im Grundkörper (34) besteht und eine Form hat, welche die Positionierung der darin aufzunehmenden Kontaktlinse erleichtert; eine flexible Deckelfolie (44) auf jeden aus der Vielzahl der Grundkörper (34) aufgebracht und derart bemessen ist, daß sie mit der Oberfläche eines jeden der Flansche (36) dicht verbunden, jedoch abnehmbar ist, wobei sie sich auch abdichtend über jede Vertiefung (40) erstreckt und Randbereiche nicht dicht verbunden sind, um eine Griffeinrichtung zum Trennen der Deckelfolie (44) vom Flansch (36) zu schaffen, um auf diese Weise die Vertiefung (40) freizulegen und einen Zugang von außen zur Kontaktlinse zu ermöglichen, **gekennzeichnet durch** eine Trennwand (50) in dem Behälter zur Bildunge erster und zweiter Fächer (60, 62), wobei mindestens eine Anordnung von einem solchen Fach umschlossen und gehalten wird, die Trennwände (50) aus einem ebenen Trennelement bestehen, das sich quer **durch** den Innenraum des Kartons (10) erstreckt, um auf diese Weise ein oberes Fach (60) und ein unteres Fach (62) zu schaffen, wobei mindestens eine Anordnung von Verpackungseinrichtungen (36) im oberen Fach (60) untergebracht ist und das Trennelement (50) die Boden-Auflagefläche für die mindestens eine Anordnung bildet.

2. Verbund-Verpackung nach Anspruch 1, bei welcher das Trennelement (50) einen herabreichenden Wandbereich (52), der sich an einer Kante desselben erstreckt aufweist, sowie einen weiteren Wandbereich (54), der sich entlang der gegenüberliegenden Kante desselben erstreckt, wobei die herabreichenden Wandbereiche (52, 54) eine Bodenfläche (14) des Behälters berühren und eine solche Höhe haben, daß die Anordnung im oberen Fach (60) eng umschlossen ist.

3. Verbund-Verpackung nach Anspruch 2, bei welcher die herabreichenden Wandbereiche (52, 54) des Trennelementes (50) engen Kontakt mit den Innenflächen der einander gegenüber liegenden Seitenwänden des Behälters haben.

4. Verbund-Verpackung nach einem der bisherigen Ansprüche, bei welcher das Trennelement (50) aus einem allgemein starren Material besteht.

5. Verbund-Verpackung nach einem der bisherigen Ansprüche, bei welcher das Trennelement (50) Umfangs-Abmessungen hat, welche mit den horizontalen Innenabmessungen des Behälters zusammenpassen.

6. Verbund-Verpackung nach einem der Ansprüche 1 bis 5, bei welcher der Behälter eine vordere und eine hintere Wandplatte (16, 18), eine obere und eine untere Wandplatte (12, 14), die mit der vorderen und hinteren Wandplatte (16, 18) verbunden sind

sowie End-Wandplatten (20) und eine Klappenanordnung aufweist, die untereinander bzw. mit der vorderen, hinteren, oberen und unteren Wandplatte (16, 18, 12, 14) verbunden sind, um einen geschlossenen Karton zu bilden, wobei die vordere Wandplatte (16) und die obere Wandplatte (12) öffenbare Klappenbereiche (22, 24) aufweisen, um das Öffnen des Kartons (10) zu ermöglichen und jene gegenseitig steckbar sind, um den Karton durch Stekken wieder zu verschließen.

7. Verbund-Verpackung nach Anspruch 6, bei welcher die obere Wandplatte (12) entlang einer perforierten Scharnierlinie abnehmbar an der hinteren Wandplatte (18) angebracht ist, um sie abzunehmen und den Karton (10) als offenes Tablett zur Abgabe von Verpakkungseinrichtungen daraus zu verwenden.

8. Verbund-Verpackung nach einem der Ansprüche 1 bis 7, bei welcher der Behälter allgemein eine rechteckige Form hat.

9. Verbund-Verpackung nach einem der bisherigen Ansprüche, bei welcher der vertikale Abstand zwischen der Oberseite des Trennelementes (50) und der Innenfläche der oberen Wandplatte (12) des Faches allgemein der Gesamthöhe der mindestens einen Anordnung entspricht.

10. Verbund-Verpackung nach einem der Ansprüche 1 bis 9, bei welcher der Behälter aus einem starren Material besteht.

11. Verbund-Verpackung nach einem der Ansprüche 1 bis 10, bei welcher der Behälter von einer Kunststoff-Schrumpffolie umschlossen ist.

12. Verbund-Verpackung nach einem der Ansprüche 1 bis 11, bei welcher auf mindestens einer der Außenflächen des Behälters Angaben zur Zweckbestimmung sowie zum Inhalt aufgedruckt sind.

13. Verbund-Verpackung nach einem der Ansprüche 1 bis 13, bei welcher ein Paar der Anordnungen von Verpackungseinrichtungen im Fach (60) übereinander positioniert ist.

14. Verbund-Verpackung nach Anspruch 13, bei welcher die Anordnungen umgekehrt zueinander und ineinander verschachtelt angeordnet sind.

Revendications

1. Emballage composite comportant un conteneur généralement rigide (10), contenant au moins un premier groupe de conditionnements (30) recevant des lentilles de contact hydrophiles dans une solution aqueuse stérile, ledit au moins un groupe de conditionnements comportant une pluralité d'éléments de base en matière plastique moulés par injection ou thermoformés (34) ayant chacun une cavité (40) destinée à contenir une lentille de contact immergée dans ladite solution, chacun desdits éléments de base (34) comportant un rebord (36) s'étendant vers l'extérieur autour de la périphérie de ladite cavité (40), ladite cavité (40) étant constituée d'une empreinte concave située dans ledit élément de base (34) et ayant une forme destinée à faciliter le positionnement dans celle-ci de la lentille de contact prévue pour être contenue dans celle-ci, des moyens en feuille formant couvercle souple (44) étant superposés sur chacun de ladite pluralité d'éléments de base (34) et étant dimensionnés pour fermer de manière hermétique de manière séparable la surface de chacun desdits rebords (36), ladite feuille formant couvercle (44) s'étendant de manière hermétique autour de chacune desdites cavités (40), et ayant des parties de bord non-fermées de manière hermétique fournissant des moyens de saisie permettant de séparer ladite feuille formant couvercle (44) dudit rebord (36), de manière à exposer ladite cavité (40), et de faciliter un accès extérieur à la lentille de contact, **caractérisé par** des moyens de séparation (50) situés dans ledit conteneur, formant des premier et second compartiments (60, 62), ledit au moins un groupe étant confiné dans un premier dit compartiment et supporté dans celui-ci, lesdits moyens de séparation (50) comportant un élément séparateur plat s'étendant à travers les confins dudit carton (10) de manière à définir un compartiment supérieur (60) et un compartiment inférieur (62), ledit au moins un groupe de conditionnements (30) étant positionné dans ledit compartiment supérieur (60), et ledit élément séparateur (50) forme une surface de support inférieure destinée audit au moins un groupe.

2. Emballage composite selon la revendication 1, dans lequel ledit élément séparateur (50) comporte une partie de paroi suspendue (52) s'étendant le long d'un bord de celui-ci, et une partie de paroi suspendue supplémentaire (54) s'étendant le long d'un bord opposé de celui-ci, lesdites parties de paroi suspendues (52, 54) venant en contact avec une surface de fond (14) dudit conteneur, et étant suffisamment haute pour confiner de manière serrée ledit groupe dans ledit compartiment supérieur (60).

3. Emballage composite selon la revendication 2, dans lequel lesdites parties de paroi suspendues (52, 54) dudit élément séparateur (50) s'étendent en contact étroit avec des surfaces intérieures de parois latérales opposées dudit conteneur.

4. Emballage composite selon l'une quelconque des revendications précédentes, dans lequel ledit élément séparateur (50) est constitué d'un matériau généralement rigide.

5. Emballage composite selon l'une quelconque des revendications précédentes, dans lequel ledit élément séparateur (50) a des dimensions périphériques qui correspondent sensiblement à l'étendue horizontale intérieure dudit conteneur.

6. Emballage composite selon l'une quelconque des revendications 1 à 5, dans lequel ledit conteneur comporte des panneaux de paroi avant et arrière (16, 18), des panneaux de paroi supérieure et inférieure (12, 14) connectés auxdits panneaux de paroi avant et arrière (16, 18), et des panneaux de paroi d'extrémité (20) et une structure de volets qui sont fixés respectivement l'un sur l'autre et sur lesdits panneaux de paroi avant, arrière, supérieure et inférieure (16, 18, 12, 14) pour former une structure en carton fermée, ledit panneau de paroi avant (16) et ledit panneau de paroi supérieure (12) comportant des parties de volet supérieur et inférieur pouvant s'ouvrir (22, 24) pour permettre d'ouvrir ledit carton (10), et une structure de verrouillage à coopération mutuelle pour verrouiller ledit carton dans une position fermée.

7. Emballage composite selon la revendication 6, dans lequel ledit panneau de paroi supérieure (12) est connecté de manière séparable audit panneau de paroi arrière (18) le long d'une ligne d'articulation perforée, pour permettre audit panneau de paroi supérieure (12) d'être enlevé, et audit carton (10) d'être utilisé comme un plateau ouvert pour la distribution de conditionnements à partir de celui-ci.

8. Emballage composite selon l'une quelconque des revendications 1 à 7, dans lequel ledit conteneur a une configuration généralement rectangulaire.

9. Emballage composite selon l'une quelconque des revendications précédentes, dans lequel l'espacement vertical entre la surface supérieure dudit élément séparateur (50) et une surface intérieure dudit panneau de paroi supérieur de compartiment supérieur (12) se conforme généralement à la hauteur totale dudit au moins un groupe.

10. Emballage composite selon l'une quelconque des revendications 1 à 9, dans lequel ledit conteneur est constitué d'un matériau rigide.

11. Emballage composite selon l'une quelconque des revendications 1 à 10, dans lequel ledit conteneur est enveloppé par un matériau de film thermorétractable en matière plastique.

12. Emballage composite selon l'une quelconque des revendications 1 à 11, dans lequel des indices et des inscriptions d'identification de contenu sont imprimés sur au moins une des surfaces extérieures dudit conteneur.

13. Emballage composite selon l'une quelconque des revendications 1 à 12, dans lequel une paire desdits groupes de conditionnements est positionnée dans ledit compartiment (60) dans une disposition superposée.

14. Emballage composite selon la revendication 13, dans lequel lesdits groupes sont inversés et intercalés les uns par rapport aux autres.

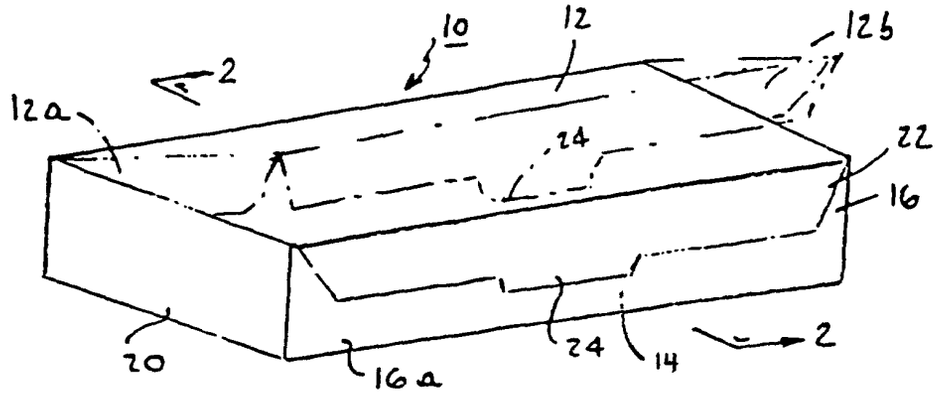


FIG. 1

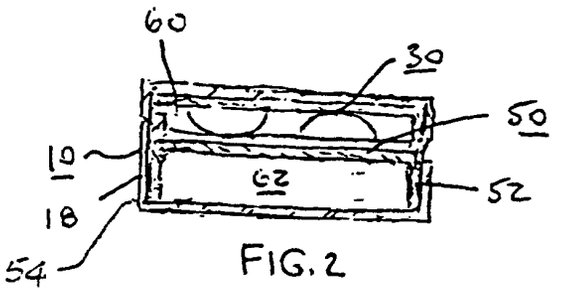


FIG. 2

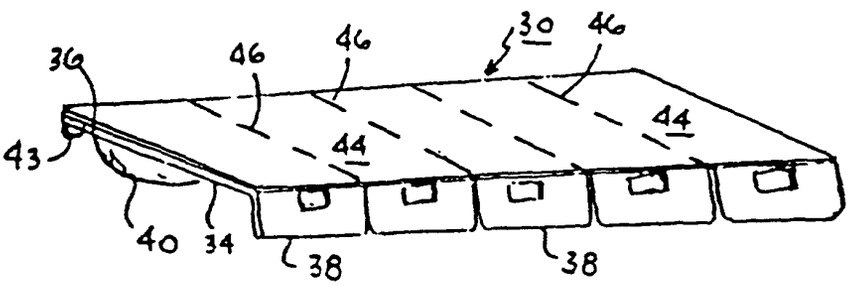


FIG. 3

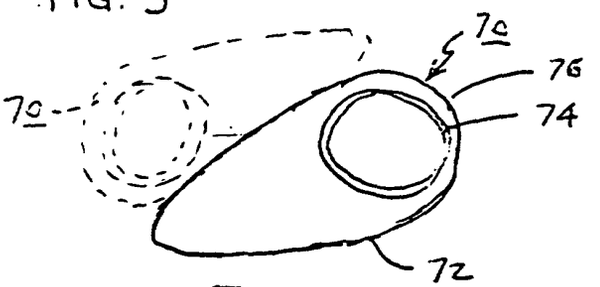


FIG. 4