

A DISPOSABLE MULTIPLE-COMPARTMENT APPLICATOR

This single-use and disposable throw-away device contains care items of a medical nature and it guarantees total and long-lasting non-contamination and sterility of the various packaged and assembled elements. This example is not in any way limiting as to the substances, components, or materials employed and assembled together, or as to the dimensions and shapes shown.

Its use and application of novel character compared with prior assemblies forming kits that are peelable, cuttable, or extractable, are confirmed by its operating principles of squeezing, bursting, and uncovering. These three principles enable the device to be used and applied without ever separating the contained elements from the container element, thereby guaranteeing perfect sterility for the assembly and non-contamination of the elements for application both before and during use. Furthermore, given that none of the elements can be lost or separated from the assembly, this provides protection for the environment.

This invention is described in an application to care of a medical nature, but it can be applied in like manner in the fields of cosmetics, foodstuffs, cleaning, various kinds of maintenance, etc...

The elements making up the assembly of the device are suitable as a function of the intended field of its application.

DESCRIPTION

This invention provides a device combining a plurality of elements and substances that are packaged and assembled together in a manner that is completely hermetic and without risk for the user regardless of the field, conditions of application, age of user, and user knowledge in said field.

At no time at, before, or during application does the user come into contact with any of these substances (liquid, cream, paste, applicator pads, protective sticking-plasters, in this example applied to the field of body hygiene and care, but also in other fields of application).

Prior art exists concerning various packages combining elements for a variety of interventions:



- FR-A-1 292 852
- US-A-2 377 117
- FR-A-2 255 224
- DE-C-1 087 758
- 5 · FR-A-1 111 282
- EP-A-0 737 463

Various significant features and advantages distinguish this invention from previously known prior art:

10 Three elements are associated indissociably so as to constitute a single element for an application.

Completely hermetic, sterile, and non-contaminatable because the container is a single piece and it is not made up from separate pieces fitted together.

15 Liquid and solid elements are put into communication merely by squeezing, without using a distribution channel that might be prevented from operating by an obstruction.

20 All of the elements of the device are held together before, during, and after use because of the one-piece structure of the device having no elements that are extractable or peelable, thereby guaranteeing that the device is sterile before and during use and also protecting the environment by eliminating any risk of one of the elements of the device becoming lost.

25 Given the resulting simplified design, implementation on an industrial scale providing full guarantees of safety and sterility puts the device within financial reach of all users whatever their age or their degree of competence in the field of application.

30 A single-use and disposable first-aid device representing a one-piece assembly is characterized by its simplicity of use, the guarantee of non-contamination before and during use, and the lack of risk of contamination and soiling of the user or by the user, and it is made up of a thermoformed element having two blisters acting as receptacles, respectively for the fluid element and for the dry element, which elements are protected from any contamination by heat sealing using aluminum, plastic, or any other material used in industry to guarantee a
35 completely hermetic seal.

The liquid element is put into communication with the dry element merely by squeezing the liquid receptacle, thereby always breaking part



of the heat sealing and causing the dry element to be soaked while guaranteeing that the assembly is completely hermetic.

Another important element of invention, characterized by the disposition of a compartment in indissociable manner on the heat sealing causing the device as a whole to form an integral single piece, which compartment in the present example contains a protective sticking-plaster for covering a wound after it has been disinfected, the sticking-plaster being taken hold of not by peeling away the compartment but by tearing away the center of the compartment, thus providing the advantage of ensuring that no contact is made with the sticking-plaster when it is taken hold of and applied.

A diagrammatic embodiment of the device characterizing the invention is shown by way of example that is not limiting as to shapes and dimensions:

- Figure 1: face view in section;
- Figure 2: bottom view;
- Figure 3: top view;
- Figure 4: exploded view; and
- Figure 5: functional view.

Description of use and application, this information being given with respect to a device for body care, without being limiting to any other type of application.

Illustrated in the drawings which show a thermoformed plate A having two blisters A1 and A2 respectively provided for A1 to package the liquid, cream, or paste element A1', and for A2 to package the dry element A2', had compress or any other synthetic or natural fiber element having absorption and restitution power, the blister A2 being characterized by the fact that it includes a transverse line of weakness A3 enabling that the dry element to be uncovered after it has been soaked for application purposes.

The dry and liquid elements are retained in their respective blisters in a manner that is completely hermetic and sterile by a heatsealable film B covering in indissociable manner the opposite faces of the blisters receiving the liquid and dry elements.

The film B is itself provided with a pocket C that can be torn at its center C1 and that contains a sticking-plaster D for protecting the skin, in this example.

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Use of the device

5 Merely squeezing the blister A1 containing the fluid element A1' has the effect of separating the heatsealable film B from the plate A at the weakest point, thus allowing the fluid element A1' to communicate with the dry element, said weakest point E being situated between the blisters A1 and A2. Once the applicator A2' has been impregnated, it suffices to fold the blister A2 through 180°, with folding and uncovering of the impregnated applicator being facilitated by the transverse line of weakness A3.

10 This method has the clear advantages that the impregnated applicator A2' is never touched and of guaranteeing that it is held in the blister A2 during application, the assembly remaining integral and indissociable, thus guaranteeing non-contamination and preserving the environment.

15 After the fluid, cream, or paste element A1' for disinfecting, drying, or cleaning has been applied by means of the applicator A2' in the form of a compress, pad, or absorbing and restituing element of synthetic or natural fiber or material, the sticking-plaster D for protecting the skin is taken hold off by tearing the center C1 of the pocket C, which has the advantage of handling and applying the sticking-plaster D with the half-pocket C, thereby ensuring that the sticking-plaster for protecting the skin is not touched and contaminated at the
20 moment it is applied.

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CLAIMS

- 1/ A disposable single-use first-aid device guaranteeing long-lasting sterility and non-contamination of assembled-together elements and substances, the device being characterized in that it comprises a single one-piece container (A) having two blisters (A1, A2) hermetically closed by a film (B), one of the blisters (A1) being for packaging a liquid, cream, or paste element (A1'), and the other blister (A2) being for packaging the dry element, pad, compress or any other synthetic or natural fibber element having absorption and restitution power.
- The zone of weakness (E) is provided between the two elements so that mere squeezing on the blister containing the liquid element (A 1) causes said zone of weakness to break and puts the fluid element into communication with the dry element.
- The two blisters constitute a container and content that are integral and indissociable.
- 2/ A compact device according to claim 1, characterized by the film (B) being heat sealed on the container constituted by one of the two thermoformed plates (A), thereby causing the receptacles (A1, A2) to be integral and capable of communication merely by squeezing and breaking part of the sealing, while remaining totally hermetic.
- 3/ A compact device according to claims 1 and 2, characterized by the presence of a line of weakness (A3) situated transversely on the blister (A2) making it possible, after the absorbing and restituting element has been soaked under a sealed and sterile atmosphere, to uncover the element mealy by folding without any risk of contaminating or losing the applicator element since it remains integral with its container (A2) at the moment it is used.
- 4/ The folding angle is about 180°.
- 5/ A compact device according to claims 1 to 4, characterized by the fact that a pocket (C) is disposed in indissociable manner with the film over half its length and has a tear zone (C1) at its center, and a sticking-plaster





(D) for protecting the skin is enclosed therein so that it can be taken hold of in non-contaminating manner at the moment it is applied since it remains protected by the other half pocket (C) enabling it to be handled and protecting it.

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