

Patent in suit

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(73) Proprietor: Norma Corp.
Rue de Bellini
54321 Scala
(72) Inventor: Don Izetti
(74) Representative: Clod de Bussy

1 (54) **Beauty and Medication Patch**

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3 **[0001]** The invention relates to the field of skin patches for delivery of a skin care
4 composition or agent. Skin care compositions include in general cosmetic or pharmaceutical
5 compositions.

6 **[0002]** Adhesive patches are commonly used to deliver pharmaceutical agents and/or
7 cosmetic agents to human skin. However, several drawbacks exist for conventional skin
8 patches when they are applied to skin as a substrate.

9 **[0003]** High adhesiveness in general leads to painful removal of the patches from skin.
10 Further, conventional patches have either high flexibility or high mechanical stability, but not
11 both. Both properties are required for the user to easily apply and, in particular, to remove
12 patches from body parts such as the armpits, fingers or the area around the eyes. A further
13 problem associated with conventional patches lies in the fact that the patches do not allow air
14 circulation on the skin.

15 **[0004]** In order to address said problems, the present invention proposes a multi-layered
16 patch comprising a storage-layer comprising an active ingredient, at least one adhesive layer
17 and a fabric layer. Depending on the active ingredient, the multi-layered patch of the present
18 invention can be used for various cosmetic (in general non-therapeutic) and medical
19 (therapeutic) applications. In preferred embodiments of the present invention, the multi-
20 layered patch can be used for therapy such as wound healing and pain alleviation or for
21 cosmetic treatments such as anti-ageing (treating wrinkled skin) or deodorisation.

22 **[0005]** A flexible but mechanically stable patch can be achieved by combining the storage
23 layer with a fabric layer, acting as a support. Any layer which can be loaded or soaked with a
24 cosmetic or pharmaceutical active ingredient can be used as the storage layer. A classical
25 example for a storage layer would be a layer of a polymeric matrix into which the active

1 ingredient is absorbed or with which it is mixed. The fabric layer can be formed from any
2 natural fibres (e.g. cotton fibres). As the active ingredient, any compound can be used which
3 can be released from the storage layer and which has a cosmetic or therapeutic effect on the
4 skin of the user.

5 **[0006]** The multi-layered patch of the present invention releases a sufficient amount of the
6 active ingredient within the intended time of application. For example, in wound healing
7 applications a release rate of from 5 to 10 mg of active ingredient per cm² per hour has been
8 found advantageous for achieving fast wound healing and low scar formation.

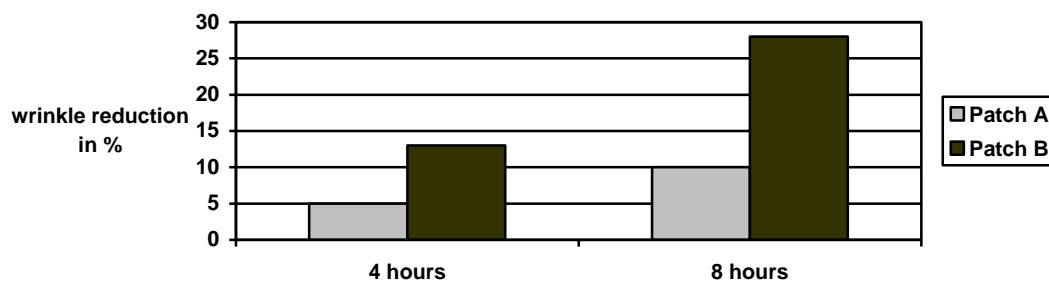
9 **[0007]** In a preferred embodiment, the multi-layered patch contains a hydrogel layer. The
10 preferred hydrogel comprises water, gelatine, alcohol and silver particles, wherein the
11 content of the silver particles is 10-30 % by weight of the hydrogel.

12 **[0008]** Example

13 **[0009]** Patch A according to the invention is prepared by curing an arrangement of a release
14 layer, an adhesive layer and a fabric layer. After removal of the release layer, which protects
15 the adhesive layer during production, a polymeric storage-layer comprising an anti-wrinkle
16 compound is applied on top of the adhesive layer. The patch shows good flexibility and high
17 mechanical stability.

18 **[0010]** Patch B, further comprising a hydrogel layer, is a preferred embodiment of the
19 present invention. The following graph shows the percentage of wrinkle reduction when
20 applying both patches on the skin of a panel of test users after 4 and 8 hours. The graph
21 demonstrates enhanced wrinkle reduction by using patch B. This is believed to be achieved
22 due to the formation of a hydrophilic bridge which enhances the transport of the active
23 ingredient to the skin.

24 **[0011]**



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1 **Claims:**

- 2 1. A multi-layered patch comprising
3 - a storage-layer comprising an active ingredient to be delivered to skin,
4 - an adhesive layer, and
5 - a fabric layer.
- 6 2. A multi-layered patch according to claim 1, which further comprises a hydrogel layer.

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