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(54) **A WASHABLE MAKE-UP REMOVER PAD**

(57) A washable make-up remover pad (10) comprising a washable pad body (12) containing at least one functionalizing material (16) selected from a group con-

sisting of: graphene, graphene oxide, reduced graphene oxide, and combinations thereof.

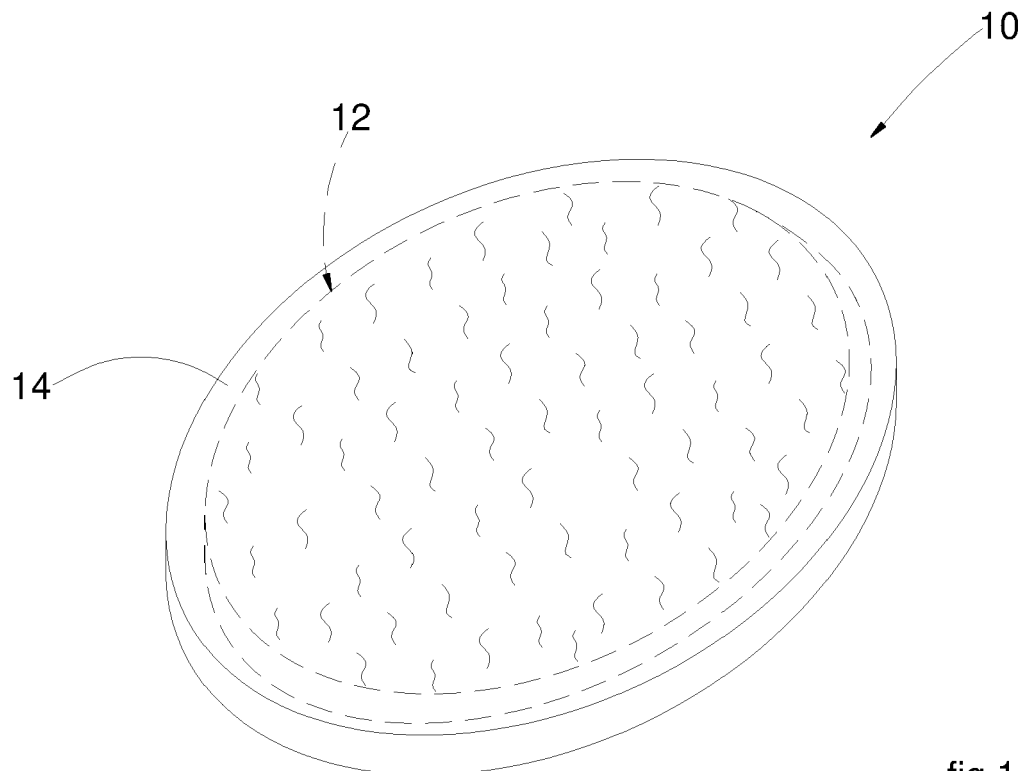


fig.1

Description

Field of the invention

[0001] The present invention relates to washable make-up remover pads.

Prior art

[0002] Makeup remover pads, whether they are disposable or washable, are typically made of cotton, bamboo, hemp, flax, microfiber, vegetable fibers, synthetic fibers, or combinations thereof. The most common make-up remover pads are made of hydrophilic cotton, so that they can be suitably moistened with make-up remover solutions. Makeup remover pads are usually disk-shaped but they may also have other shapes, for example square.

[0003] Makeup remover pads may have double make-up remover surfaces, or a single make-up remover surface and a support body opposite the single make-up remover surface, for example with a honeycomb texture, that allows to keep shape and integrity when the pad is moistened.

[0004] There are make-up remover pads in which solutions or components are added for performing cosmetic skin treatments while removing make-up, for example there are moistening or refreshing pads, antioxidants pads, etc.

[0005] Washable make-up remover pads reduce the environmental impact generated by disposing as waste make-up remover pads after each use and are therefore a sustainable and cost-effective alternative to disposable make-up remover pads.

[0006] In order to provide benefits from the point of view of sustainability and cost reduction, washable make-up remover pads should be reusable after washing for a relatively high number of times.

[0007] One of the problems that limits the diffusion of washable make-up remover pads as compared to disposable make-up remover pads is the limited reusability. As a matter of fact, limited reusability may nullify the sustainability benefits and may lead to an increase of costs as compared to the use of disposable make-up remover pads.

[0008] One of the factors limiting reusability of washable absorbent garments is the presence of bacteria and unpleasant odors that remain after washing.

Object and summary of the invention

[0009] The object of the present invention is to provide a make-up remover pad which overcomes the problems of the prior art.

[0010] More specifically, the object of the present invention is to provide washable make-up remover pad having an improved reusability as compared to the prior art.

[0011] According to the present invention, this object is achieved by a washable make-up remover pad having the features of claims 1.

[0012] Preferred embodiments of the invention form the subject of the dependent claims.

[0013] The claims form an integral part of the disclosure provided here in relation to the invention.

Brief description of the drawings

[0014] The present invention will now be described in detail with reference to the attached drawings, given purely by way of non-limiting example, wherein:

- Figure 1 is a schematic perspective view of a washable make-up remover pad according to an embodiment of the present invention, and
- Figures 2, 3 and 4 are schematic cross-sections showing washable make-up remover pads according to different embodiments of the present invention.

[0015] It will be appreciated that the figures are not to scale to real products and that various figures may not be represented on the same scale. It will also be appreciated that in some figures certain elements or components may not be shown for a better understanding.

Detailed description

[0016] In the drawings the numeral reference 10 denotes a washable make-up remover pad according to the present invention. The make-up remover pad 10 may be disk-shaped, as shown in figure 1. In possible embodiments the make-up remover pad 10 may also have other shapes, for example square or polygonal.

[0017] The washable make-up remover pad 10 comprises a washable pad body 12 made of a washable material consisting of: cotton, bamboo, hemp, flax, microfiber, cellulose, cellulose acetate, vegetable fibers, synthetic fibers, their derivatives, and combinations thereof. The washable pad body 12 may have a thickness (not compressed) comprised between 0.1 and 8 mm and a weight comprised between 20 and 400 g/m².

[0018] The washable pad body 12 may be enclosed between two washable outer layers 14. The two washable outer layers 14 may be joined to each other along the perimeter of the washable pad body 12, e.g. by glue, welding, sewing. The two washable outer layers 14 may be made of fabric formed by any natural or synthetic material used for producing textile articles, e.g. cotton, Lycra®, nylon, polyester, polypropylene, polyamide, elastane, Econyl® etc. and any mixture thereof.

[0019] The washable pad body 12 contains at least one functionalizing material 16 consisting of: graphene, graphene oxide, reduced graphene oxide, and combinations thereof.

[0020] In a possible embodiment the functionalizing

material 16 may be embedded in polymers.

[0021] With reference to figure 2, in a possible embodiment the functionalizing material 16 may be uniformly distributed through the thickness of the washable pad body 12. The weight of the functionalizing material 16 distributed through the thickness of the washable pad body 12 may be comprised in the range 10-250 g/m².

[0022] With reference to figure 3, in a possible embodiment the functionalizing material 16 may be localized on at least one surface of the washable pad body 12. In this case the functionalizing material 16 is enclosed between at least one washable outer layer 14 and a surface of the washable pad body 12.

[0023] In the example shown in figure 3 the functionalizing material 16 is applied on both surfaces of the washable pad body 12. The weight of the functionalizing material 16 localized on at least one surface of the washable pad body 12 may be comprised in the range 2-100 g/m².

[0024] In a possible embodiment, the washable pad body 12 may have at least one embossed surface.

[0025] In a possible embodiment, the washable pad body 12 may be perforated.

[0026] With reference to figure 4, in a possible embodiment the washable make-up remover pad 10 may comprise a washable support body 18 attached to a surface of the washable pad body 12 and configured to maintain the shape of the latter during use and during washing.

[0027] Graphene is a material consisting of a mono-atomic layer of carbon atoms, which can be produced by mechanical exfoliation of graphite, liquid phase exfoliation, graphene oxide reduction or by chemical treatment of graphite. Graphene and its derivatives are used in various due to their characteristics of mechanical strength, electrical conductivity, and ability to capture particles, bacteria, etc.

[0028] Graphene provides antibacterial, antimicrobial, fungicidal and antiviral characteristics to the materials on which it is applied. The washable make-up remover pad 10 containing graphene, graphene oxide, reduced graphene oxide, and combinations thereof has therefore better antibacterial, antimicrobial, fungicidal and antiviral characteristics than prior art washable absorbent garments.

[0029] The presence of graphene in the make-up remover pad 10 prevents odors, bacteria, and other biological materials from remaining after washing, which significantly increases the reusability of the make-up remover pad 10 as compared to prior art washable make-up remover pad.

[0030] Particularly effective in increasing the reusability of the washable make-up remover pad 10 is the bacteriostatic effect of graphene, that prevents proliferation of bacteria.

[0031] The presence of graphene, graphene oxide, and/or reduced graphene oxide, makes the make-up remover pad 10 antistatic, which prevents accumulation of electric charges which can lead to small electric shocks,

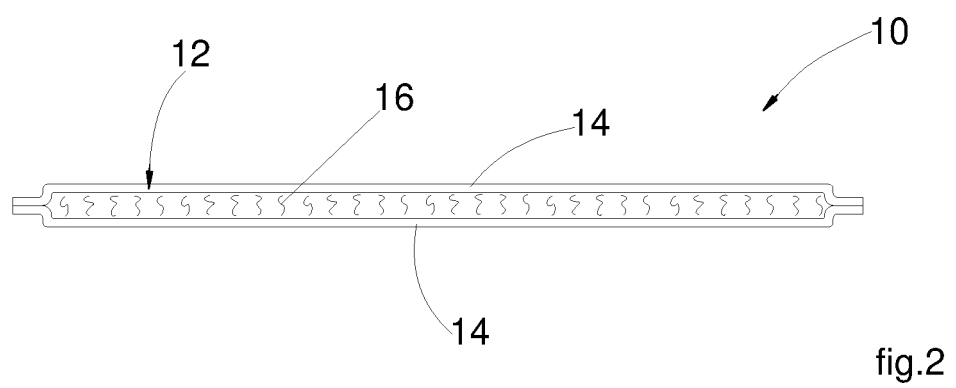
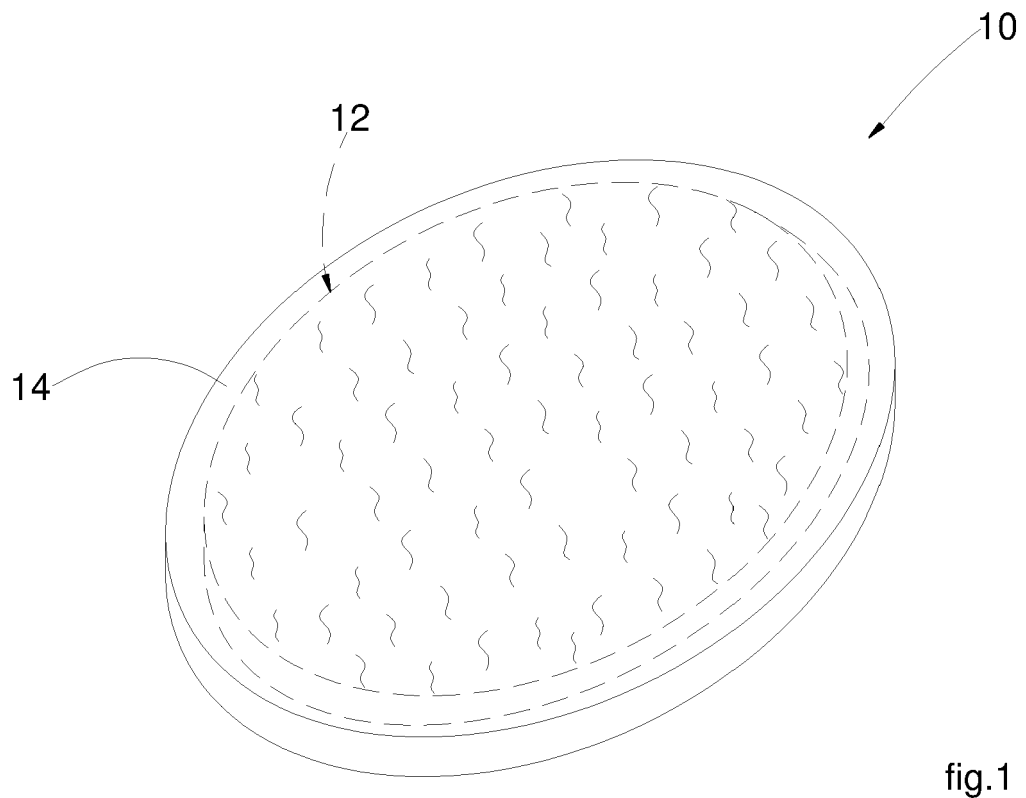
especially when the outer layers 14 include synthetic fibers.

[0032] Of course, without prejudice to the principle of the invention, the details of construction and the embodiments can be widely varied with respect to those described and illustrated, without thereby departing from the scope of the invention as defined by the claims that follow.

Claims

1. A washable make-up remover pad (10) comprising a washable pad body (12) containing at least one functionalizing material (16) selected from a group consisting of: graphene, graphene oxide, reduced graphene oxide, and combinations thereof.
2. The washable make-up remover pad of claim 1, wherein said washable pad body (12) comprises a washable material selected from a group consisting of: cotton, bamboo, hemp, flax, microfiber, vegetable fibers, synthetic fibers, their derivatives, and combinations thereof.
3. The washable make-up remover pad of claim 1 or claim 2, wherein said functionalizing material (16) is uniformly distributed through the thickness of said washable pad body (12).
4. The washable make-up remover pad of claim 3, wherein the weight of said functionalizing material (16) distributed through the thickness of said washable pad body (12) is comprised in the range 10-250 g/m².
5. The washable make-up remover pad of any of claims 1 - 3, wherein said functionalizing material (16) is localized on at least one surface of said washable pad body (12).
6. The washable make-up remover pad of claim 5, wherein the weight of said functionalizing material (31) localized on at least one surface of said washable pad body is comprised in the range 2-100 g/m².
7. The washable make-up remover pad of any one of the preceding claims, wherein said washable pad body (12) is disc shaped.
8. The washable make-up remover pad of any one of the preceding claims, wherein said washable pad body (12) has at least one embossed surface.
9. The washable make-up remover pad of any one of the preceding claims, wherein said washable pad body (12) is perforated.

10. The washable make-up remover pad of any one of the preceding claims, comprising a washable support body (18) coupled to said washable pad body (12) and configured to maintain the shape of the latter during use and during washing. 5
11. The washable make-up remover pad of any one of the preceding claims, wherein said functionalizing material (16) is reduced graphene oxide. 10
12. The washable make-up remover pad of any one of the preceding claims, wherein the washable pad body (12) has a thickness comprised between 0.1 and 8 mm. 15
13. The washable make-up remover pad of any one of the preceding claims, wherein said functionalizing material (16) is enclosed between at least one washable outer layer (14) and a surface of said washable pad body (12) . 20
14. The washable make-up remover pad of any of the preceding claims, wherein the washable pad body (12) has weight comprised between 20 and 400 g/m². 25
15. The washable make-up remover pad of any of the preceding claims, wherein said functionalizing material (16) is embedded in polymers. 30
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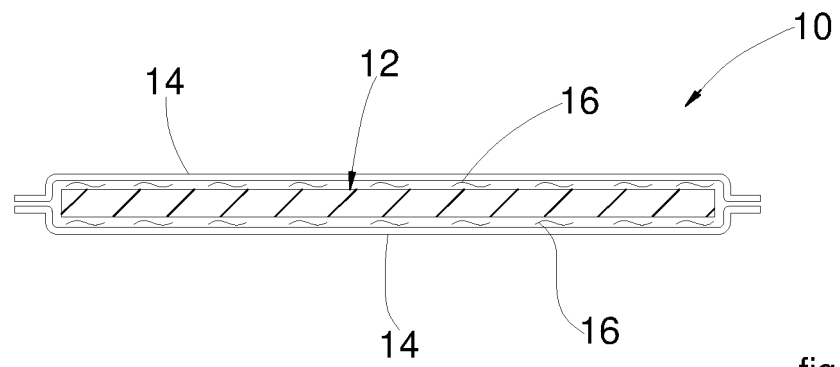


fig.3

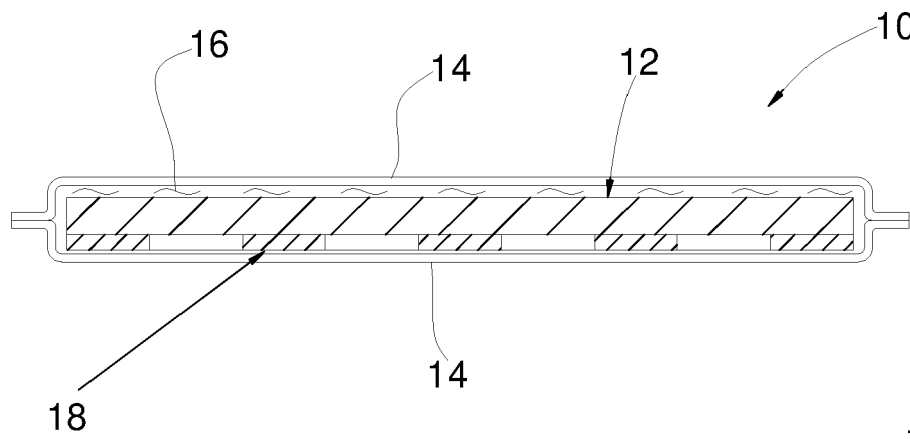


fig.4



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Application Number

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Place of search The Hague		Date of completion of the search 4 May 2022	Examiner Nicolás, Carlos
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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