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COLOMBIA

P-2781

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
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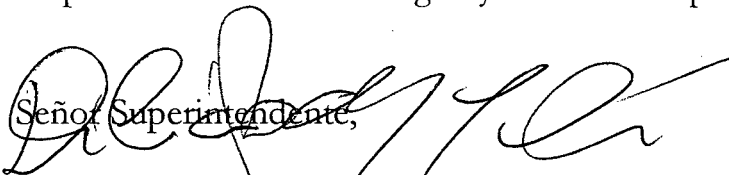
E. S. D.

Ref.: Expediente No. 10.158.959
Solicitud de Patente a nombre de
McNeil-PPC, Inc.

Yo, DILIA MARÍA RODRÍGUEZ D'ALEMAN, identificada como aparece al pie de mi firma, domiciliada en la Carrera 11 No. 86-53, piso 6, obrando como apoderada de la sociedad **McNeil-PPC, Inc.** domiciliada en New Jersey, Estados Unidos de América, solicitante de la patente de la referencia, atentamente me permito presentar:

1. Copia certificada de la solicitud de Patente número 61/287,815 de 18 de diciembre de 2009, con la debida traducción de lo pertinente.
2. Documento (1) en que consta la cesión del derecho a la patente otorgada por los inventores a favor de mi mandante.

Sobre el particular, es importante resaltar que de conformidad con las normas legales vigentes, artículo 1 de la Resolución 210 de 2001, expedida por el Superintendente de Industria y Comercio y artículo 2 de la Convención de la Haya, el documento en inglés que se pretenda aportar como parte de los trámites de propiedad industrial ante la Superintendencia de Industria y Comercio no requieren traducción. Por otro lado, la legalización consular y/o diplomática de los documentos expedidos en el extranjero no es necesaria. Por lo tanto, el documento de cesión anexo a este memorial es válidamente presentado en idioma inglés y con la correspondiente apostilla.


Señor Superintendente,
DILIA MARÍA RODRÍGUEZ D'ALEMAN
C.C. 41.654.882 de Bogotá
T.P. 20824 CSJ

77

ESTADOS UNIDOS DE AMERICA
A TODOS AQUELLOS A QUIENES EL PRESENTE LLEGUE:

DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS
Oficina de Patentes y Marcas de los Estados Unidos

Diciembre 09 de 2010

La presente es para certificar que el anexo es una copia fiel de los registros de la Oficina de Patentes y Marcas de los Estados Unidos, de los documentos de la solicitud de patente identificada más adelante, que cumplieron con los requerimientos para concederse una fecha de presentación de acuerdo con 35 USC 111.

Número de Solicitud: 61/287,815

Fecha de Presentación: Diciembre 18 de 2009

EL CÓDIGO DEL PAÍS Y EL NÚMERO DE SU SOLICITUD DE PRIORIDAD, PARA SER USADA EN LA PRESENTACIÓN EXTRANJERA BAJO EL CONVENIO DE PARÍS ES US 61/287,815

Por la autoridad de

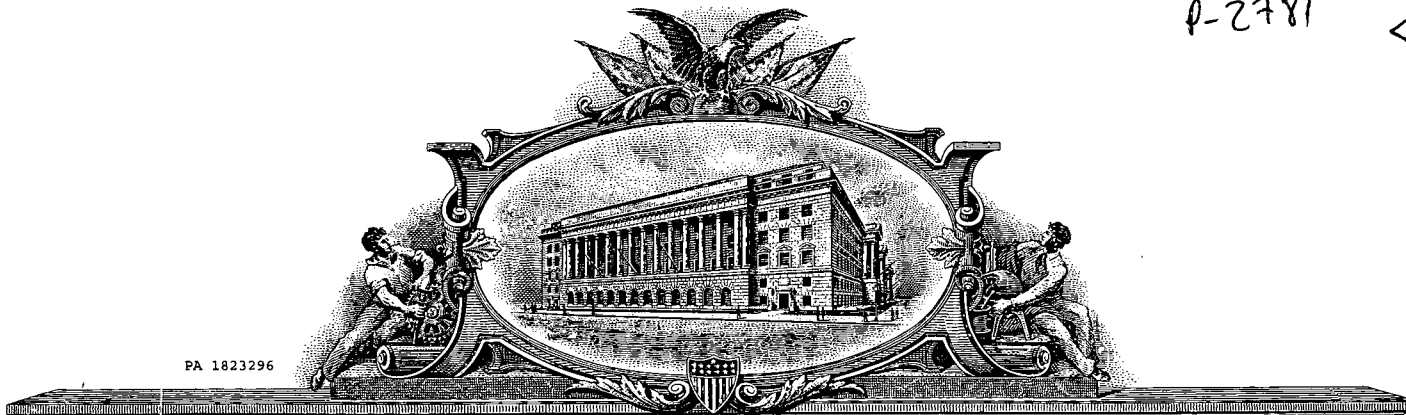
Bajo el Secretario de Comercio para la Propiedad Intelectual y el Director de la Oficina de Patentes y Marcas de los Estados Unidos de América

(fdo) **T. LAWRENCE**

Oficial Certificador

Sello oficial de la Oficina de Patentes y Marcas de los Estados Unidos de América

PA 1823296



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OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT
APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A
FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 61/287,815

FILING DATE: December 18, 2009

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY
APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS
CONVENTION, IS US61/287,815

By Authority of the
Under Secretary of Commerce for Intellectual Property
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T. LAWRENCE

Certifying Officer



79

Electronic Acknowledgement Receipt

EFS ID:	6667458
Application Number:	61287815
International Application Number:	
Confirmation Number:	1042
Title of Invention:	PRODUCT DISPENSER AND ABSORBENT ARTICLE KIT
First Named Inventor/Applicant Name:	Kofi A. Bissah
Customer Number:	27777
Filer:	Paul J. Higgins./Dana Deinstadt
Filer Authorized By:	Paul J. Higgins.
Attorney Docket Number:	PPC-5337-USPSP1
Receipt Date:	18-DEC-2009
Filing Date:	
Time Stamp:	13:11:57
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$220
RAM confirmation Number	10402
Deposit Account	100750
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

4

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	Trans.pdf	195344 369b9a4ba25e8d32c2264455625ee9ccfae c502	no	1

Warnings:**Information:**

2		ppcKITfinal.pdf	326872 9a64c1fed8a04037b81b7889c98b5574f04 7bfa	yes	48
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Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	40
Claims	41	47
Abstract	48	48

Warnings:**Information:**

3	Oath or Declaration filed	Figs.pdf	360028 db42f20274787fd434168aeb60fe42232c5 a2eb	no	5
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Warnings:**Information:**

4	Authorization to access Appl. by Trilateral Office	AuthtoPermit.pdf	217715 2146c191d25cea25abed2b3c51d0c4aa8b6 39e7f	no	1
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Warnings:**Information:**

5	Fee Worksheet (PTO-875)	fee-info.pdf	29260 0d9ff7c3e16684d54567c0b11fd67ea72669 725c	no	2
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Total Files Size (in bytes):			1129219		
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

6

82

PROVISIONAL APPLICATION COVER SHEET

Commissioner For Patents
Alexandria, VA 22313-1450

This is a request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53 (c).

			DOCKET NUMBER	PPC-5337-USPSP1
INVENTOR(s) / APPLICANT(s)				
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)	
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LiBrizzi	Joseph	J.	Hillsborough, New Jersey	
Nguyen	Thong		Vestal, New York	
Pillai	Shoba		Feasterville, Pennsylvania	
TITLE OF THE INVENTION (280 characters max)				
PRODUCT DISPENSER AND ABSORBENT ARTICLE KIT				
CORRESPONDENCE ADDRESS				
Direct all correspondence to:				
☒ Customer Number 000027777				
OR				
☐ Firm of Individual Name:				
ENCLOSED APPLICATION PARTS (check all that apply)				
☒ Specification	Number of Pages	<u>48</u>	☐ Application Data Sheet	
☒ Claims	Number of Claims	<u>34</u>	☐ CD(s), Number	<u> </u>
☒ Drawing(s)	Number of Sheets	<u>5</u>	☐ Other (specify)	
METHOD OF PAYMENT (check one)				
☐ A check or money order is enclosed to cover the Provisional filing fees.			Provisional Filing Fee Amount (\$)	\$ 220.00
☒ The Commissioner is hereby authorized to charge filing fees and credit any overpayment to Deposit Account No. 10-0750				

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No

☐ Yes, the name of the U.S. Government agency and the Government contract number are:

Respectfully submitted,

SIGNATURE: /Paul J. Higgins/

REGISTRATION NO. 44,152

TYPED or PRINTED NAME: Paul J. Higgins

DATE: December 18, 2009

TELEPHONE (732) 524-1728

PROVISIONAL APPLICATION FILING ONLY

7

PRODUCT DISPENSER AND ABSORBENT ARTICLE KIT**FIELD OF THE INVENTION**

The present invention relates to a product dispenser for dispensing a personal care composition, and in particular for a product dispenser for dispensing and applying such a composition to a surface of the human body. The dispenser according to the present invention is particularly usefully for applying such a composition to the intimate area of the body. The present invention also relates to compositions for repelling fluid from a surface, in particular a surface of the human body. The compositions of the present invention comprise a volatile carrier, a powder-feel agent, and an ester, and are useful, for example, in those areas of the human body which are prone to wetness, such as the intimate area. The compositions of the present invention further tend to aid in preventing odor, skin irritation and chafing associated with exposure to moisture or fluid. The present invention further relates to a kit including a product dispenser of the type described above in combination with an absorbent article.

BACKGROUND OF THE INVENTION

The intimate area and other surfaces of the body which come in regular contact with fluid can be a source of discomfort and embarrassment in both men and women. Such discomfort and embarrassment may be associated, for example, with adults that suffer from incontinence, and the regular monthly cycles of women during their reproductive years. In both these cases, the discomfort is generally related to irritation and the feeling of wetness and the embarrassment is usually due to the presence of odor. Also, in children, especially infants, the intimate area can become irritated due to the contact of urine and feces with the skin.

To overcome these issues, products have been developed which either absorb fluids or wick the fluid away from the body. Examples of such types of products include sanitary protection articles, diapers and incontinence products. Over the years, several improvements have been made to such products to aid in absorbing or wicking fluid, for example, superabsorbent material has been added to the constructions, new materials have been developed for the cover layer, and transfer layers added to help wick the fluid into the absorbent layers. Additionally, odor control agents have been incorporated to absorb or mask the odor. Inclusion of fragrances may also add additional odor control. All these improvements are based on an external absorbent product which wicks away the fluid or moisture.

Additionally, people for years have used products such as zinc oxide, oil or petrolatum to repel fluid from their skin. These products, while performing quite well at providing a water-proof barrier also left an undesirable sticky feel to the skin.

Examples of other compositions designed to overcome the sticky feel can be found in US 6200964 and US 6384023 (both to Singleton et al.) and US 20060159645 (Miller et al.). These references all use a volatile liquid and a silicone polymer.

Nevertheless, applicants have recognized the need for compositions that are more effective at repelling fluid from a surface, such as the surface of a human body than prior compositions, and preferably overcome the sticky feel associated with prior compositions as well. In addition, applicants have recognized the need for a product dispenser that can be used effectively dispense and apply such compositions to the body in a discreet, sanitary and simple fashion.

85

SUMMARY OF THE INVENTION

In view of the foregoing the present invention provides a kit including a product dispenser assembly and at least one absorbent article, the product dispenser assembly including a container housing having a head portion and an internal chamber for holding a composition, the head portion including a plurality of apertures, a moveable member arranged within the container housing that is selectively moveable by a user within the container to allow a user to selectively manipulate a volume of the internal chamber, the moveable member being adapted to enable a user to selectively deploy the composition from within the internal chamber, through the apertures, by reducing the volume within the chamber, a cap assembly structured and arranged to be placed on top of the head portion of the container, the cap assembly including an outer shell having a first open end and a second closed end, a first absorbent pad arranged on top of the head portion for receiving the composition as it is deployed from the container, the first removable pad being adapted to enable a user to apply the composition to the body and manually remove the pad from the head portion after the composition has been applied, a plurality of absorbent pads arranged in a stacked configuration within the outer shell, each of the plurality of pads being adapted to be sequentially arranged on top of the head portion after the first removable pad has been used to apply the composition and then removed from the head portion by the user.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a product dispenser assembly according to a first
5 embodiment the present invention;

FIG. 2 is a partially exploded view of the product dispenser assembly shown in FIG. 1
showing the cap assembly removed from the container housing;

FIG. 3 is a detailed perspective view of the cap assembly showing the manner in which a
plurality of absorbent pads are arranged within the outer shell of the cap assembly;

10 FIG. 4 is a sectional view of the cap assembly taken along line 4-4 in FIG. 2;

FIG. 5 is a partially exploded perspective view showing the manner in which one of the
absorbent pads is arranged on the head portion of the container housing;

FIG. 5a is a detailed perspective view of the head portion, according to one embodiment
of the invention, showing the encircled region of head portion in FIG. 5;

15 FIG. 6 is a sectional view of the container housing and absorbent pad taken along line 6-6
in FIG. 2;

FIG. 7 is a detailed sectional view of container housing and absorbent pad, showing the
encircled portion in FIG. 6, and depicting the manner in which the composition contained within
the container housing permeates through the absorbent pad during use of the assembly;

20 FIG. 8 and 9 are partial sectional views of the cap assembly and container housing
showing the manner in which a clean pad is retained on the head portion of container housing
when the cap assembly is removed from the container housing;

FIG. 10 is a perspective view of an absorbent pad and container housing according to an alternate embodiment of the present invention;

FIG. 11 is a detailed sectional view taken along line 11-11 in FIG. 10 and depicting the manner in which the composition contained within the container housing passes through the apertures of the absorbent pad;

FIG. 12-14 are perspective views of a product dispenser assembly according to a second embodiment the present invention, depicting the manner in which an absorbent pad can be manually removed from the cap assembly and applied to the head portion of the container housing.

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DETAILED DESCRIPTION OF THE INVENTION

It is believed that one skilled in the art can, based upon the description herein, utilize the present invention to its fullest extent. The following specific embodiments are to be construed as merely illustrative, and not limitative of the remainder of the disclosure in any way whatsoever.

5 Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which the invention belongs. Also, all publications, patent applications, patents, and other references mentioned herein are incorporated by reference.

10 All percentages listed in this specification are percentages by weight, unless otherwise specifically mentioned.

As used herein, the term "intimate area" shall mean the area near or between the thighs, including the crotch area of a human where body exudates, such as urine, feces, vaginal discharge, menstrual fluid, and the like, may be present. The intimate area shall also include the breasts. The intimate area is typically covered by undergarments or absorbent articles.

15 As used herein the term "absorbent articles" includes articles such as diapers (infant and adult), sanitary napkins, shields, pantyliners, breast pads, and the like.

Referring now to the drawings, a product dispenser assembly 10 according to a first embodiment of the invention is shown in Figs. 1-11. As seen in Fig. 1, the product dispenser assembly 10, generally includes a container housing 12 and a removable cap assembly 14 to
20 protect the composition contained within the housing 12.

As best seen in Fig. 6, the container housing 12 defines an internal chamber 16 adapted to hold a composition 18. Preferably the composition 18 is in the form of a liquid or gel. The container housing 12 further includes a head portion 20 that includes a plurality of apertures 22

as best seen in Figs. 6 and 7. As described in further detail below, the plurality of apertures 22 permit a user to selectively deploy the composition from within the internal chamber 16 through the apertures 22.

As seen in Fig. 6, the product dispenser assembly 10 further includes a moveable member 24 arranged within the container housing 12 and adapted to enable a user to selectively manipulate a volume of the internal chamber 16. By manipulating the volume of the internal chamber 16, and specifically by reducing the volume of the internal chamber, a user can selectively deploy the composition 18 through the apertures 22. A central portion of the movable member 24 is provided with a threaded coupling sleeve 26 for cooperation with an elevator screw 28. The lower end of the elevator screw 28 is axially fixed but rotatable within an opening 29 of the container housing 12. The lower end of elevator screw 28 is operatively coupled to a knob 30. Rotation of the knob 30 permits the user to raise or lower the moveable member 24 relative to the container housing 12. In this manner, the user can manually control the volume within the internal chamber 16 and thereby deploy the composition 18 from within the chamber 16 through the apertures 22.

As best seen in Fig. 2 and Fig. 5, the product dispenser assembly 10 further includes a first absorbent pad 32 that is arranged on top of the head portion 20 of the container housing 12. As shown in Fig. 7, the first absorbent pad 32 is adapted to receive the composition 18 as it is deployed from the internal chamber 16 and through the apertures 22. As will be described in greater detail below, the absorbent pad 32 is adapted temporarily absorb and retain the composition to enable a user to apply the composition 18 to the body of the user by placing the pad 32 in contact with the body.

As seen in Fig. 5a, a top surface 34 of the head portion 20 may be provided with a material including a plurality of hooks 36 adapted to retain the absorbent pad 32 in place while the user applies the composition 18 to the body. The material including the plurality of hooks 36 also permits a user to manually remove the absorbent pad 32 from the head portion 20, and
5 dispose of the same, after the pad 32 has been used to apply the composition 18 to the body. Particularly suitable hook materials of the type referred to above are commercially available from Velcro USA Inc., Manchester, New Hampshire. Other means may also be used to retain the pad absorbent pad 32 in place, such as certain adhesives, provided that such means permit the user to selectively remove the pad 32 after it has been used to apply the composition 18 to the
10 body.

As shown in Fig. 1 the cap assembly 14 is structured and arranged to be placed on top of the head portion 20 of the container housing 12. As shown in Figs. 3 and 4, the cap assembly 14 includes an outer shell 38 that has a first open end 40 and a second opposed closed end 42. As shown in Fig. 3, the outer shell 36 is structured and arranged to hold a plurality of absorbent pads
15 44 that are arranged in a stacked configuration within the outer shell 36. As shown in Fig. 4, the plurality of pads 44 includes a lowermost pad 44a that is arranged closest to the open end 40 of the outer shell 38 and a plurality of pads 44b arranged on top of the lowermost pad 44a. As shown in Figs. 3 and 4, the outer shell 38 includes a rib structure 46 that extends outwardly from an internal surface 48 of the outer shell 38. As will be described in greater detail below, the rib
20 structure 46 is adapted to retain the plurality of pads 44 within the cap assembly 14 until such time as each of the pads 44 is ready for use.

As shown in Fig. 4, the cap assembly 14 further includes a platform 48 arranged within the outer shell 38. As will be described in greater detail below, the platform 48 is adapted to

urge the plurality of absorbent pads 44 toward the open end 40 of the outer shell 38. The cap assembly 14 further includes a resilient member 50 that is arranged between the outer shell 38 and the platform 48 and is adapted to urge the platform 48 towards the open end 40 of the outer shell 38. The resilient member 50 may comprise, for example, a spring having a first end
5 coupled to the outer shell 38 and a second end coupled to the platform 48. Other suitable resilient member structures may alternatively be employed provided that they effectively urge the platform 46 towards the open end 40 of the outer shell 38.

The first absorbent pad 32 and each of the plurality of absorbent pads 44 are preferably formed from a fibrous material. Suitable fibrous materials include, without limitation, woven,
10 nonwoven (oriented, e.g., via a carding process, or non-oriented), or knit fabrics. The fibers may be integrated into a nonwoven structure via, for example, needle punching, through-air bonding, hydro entangling, spun-bonding, chemical bonding (including adhesive bonding), or mechanical processing (such as embossing).

The first absorbent pad 32 and each of the plurality of absorbent pads 44 preferably has a
15 thickness of about 0.5 mm to about 5 mm, more preferably from about 1 mm to about 5 mm. Preferably each absorbent pad has a basis between about 10 gsm (g/m^2) and about 450 gsm, preferably between about 300 and about 400 gsm. The fibrous material forming each absorbent pad preferably includes rayon to provide softness and a strong, resilient material such as an olefin or polyester. One particularly suitable fibrous material is a needle-punched blend of
20 staple-length 1.5 denier "TENCEL" rayon and staple-length 4-5 denier PET available from Precision Custom Coating, Totowa, NJ.

92

The container housing 12, removable cap assembly 14, moveable member 24, elevator screw 28, knob 30, as well as the constituent parts thereof, can be constructed from any suitable rigid material. Preferably the container housing 12, removable cap assembly 14, moveable member 24, elevator screw 28, knob 30, as well as the constituent parts thereof, are formed from plastic by molding, although other suitable rigid materials could be used.

Referring to Figs. 10 and 11, the absorbent pad 32 may optionally be provided with a plurality of holes 33 that correspond in location to the apertures 22 in the container housing 12. The holes 33 are intended to promote the flow of the composition through and into the absorbent pad 32 as shown in Fig. 22. Of course, if the absorbent pad 32 is structured to include such plurality of holes the plurality of pads 44 would likewise include such plurality of holes 33.

The method of using the product dispenser assembly 10 according to the first embodiment of the invention will now be described with reference to Figs. 1-9. First the user removes the cap assembly 14 from the container housing 12 as shown in Figs. 1 and 2. Once the cap assembly 14 is removed from the container housing 12 the first absorbent pad 32 is revealed as shown in Fig. 2. Thereafter, the user can turn the knob 30 (Fig. 6) thereby causing the moveable member 24 to move in an upward direction thereby reducing the volume of the internal chamber 16. By reducing the volume of the internal chamber 16, the composition 18 is urged through the apertures 22 in the head portion 20 of the container housing 12, as shown in Fig. 7. As the composition 18 is urged through the apertures 22 such composition is then absorbed by the first absorbent pad 32. Thereafter, the user may use the product dispenser assembly 10 to apply the composition to the body by placing the first absorbent pad 32 in surface to surface contact with the body. The first absorbent pad 32 is retained in place during application of the composition 18 to the body by means of the material including the plurality of

17

hooks 36 that is arranged on the top surface 34 of the head portion 20, as seen in Fig. 5 and 5a.

After the first absorbent pad 32 is used to apply the composition 18 to the body, the user may manually remove the first absorbent pad 32 from the head portion 20 and discard of the same.

Thereafter, the user places the cap assembly 14 back on the container housing 12 as shown in

5 Fig. 8. Once the cap assembly 14 is placed back on the container housing 12, the lowermost pad 44a of the plurality of pads 44 is placed in abutment with the top surface 34 of the head portion, and therefore in abutment with the material including the plurality of hooks 36, and the plurality of hooks 36 engage lowermost pad 44a. Once the user is ready to use the product dispenser assembly 10 again, the user removes the cap assembly 14, as shown in Fig. 9. Upon removal of the cap assembly 14, the lowermost pad 44a is retained in place on the top surface 34 of the head portion 20 by the material including the plurality of hooks 36. In this manner the lowermost pad 44a is automatically applied to, and retained on, the head portion 20 of the container housing 12. As shown in Fig. 9, as the cap assembly 14 is removed from the container housing 12, the platform 48 is urged toward the open end 40 of the outer shell 38 by the resilient member 50. In 15 this way the remainder of the plurality of absorbent pads 44b are urged towards the open end 40 of the outer shell 38. The absorbent pads 44b are retained within the cap assembly 14 by the rib structure 46. In this manner, a new clean absorbent pad 44 is always ready for use when the user removes the cap assembly 14.

A product dispenser assembly 10a according to a second embodiment of the invention is 20 shown in Figs. 12-14. The product dispenser assembly 10a according to second embodiment is substantially identical to the product dispenser assembly 10b described above. However, the product dispenser assembly 10a does not include the platform 48 or the resilient member 50. Rather, when the user desires to replace the used first absorbent pad 32, the user simply manually

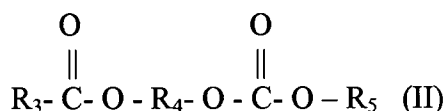
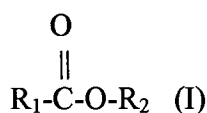
removes a new clean absorbent pad 44 from the cap assembly 14, as shown in Fig. 13 and manually applies the clean absorbent pad 44 to the head portion 20 of the container housing 12 as shown in Fig. 14. To facilitate the manual removal of the clean absorbent pad 44 from cap assembly 14, the outer shell 38 is provided with an access port 52 as shown in Figs. 12 and 13.

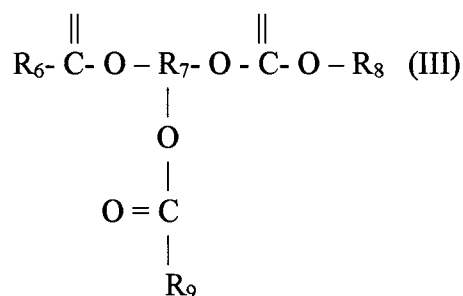
5 The product dispenser assembly 10a is in all other respects identical to the product dispenser 10 according to the first embodiment as described above.

Personal Care Compositions

Personal care compositions particularly suitable for use with the dispenser assembly described above are described in detail below. Although preferred compositions are described in detail below, other liquid or gel compositions could be used with the dispensing device described above.

The composition of the present invention contains at least three components: a volatile cyclic silicone, a silicone-based powder-feel agent and an ester selected from the group consisting of compounds of Formula I, Formula II, Formula III, and combinations of two or more thereof:





wherein R₁, R₂, R₃, R₅, R₆, R₈ and R₉ are independently linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ alkyl or alkenyl groups, R₄ is a linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ alkylene or alkenylene moiety, and R₇ is a linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ moiety, the composition being substantially anhydrous and the ester present in an amount of about 5% or less.

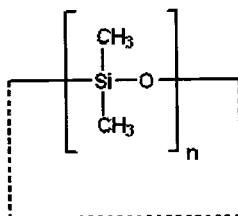
It has surprisingly been found that application of this composition results in a greater repulsion of fluid from the body than previously seen by other comparable compositions. This benefit is demonstrated by the measurement of the contact angle of water placed on a surface that has been treated with the composition in accord with the Contact Angle Test as described herein below. Applicants have discovered unexpectedly, that compositions of the present invention tend to exhibit a contact angle of 90° or greater. In certain preferred embodiments, the compositions exhibit a contact angle of 91° or greater and more preferably 92° or greater. In certain particularly preferred embodiments, the compositions exhibit a contact angle of 93° or greater.

Applicants have also measured the Body Dryness Index associated with compositions and uses of the present invention. Applicants have discovered that the claimed compositions provide a significant body dryness as compared to other comparable compositions.

Applicants have further recognized that in addition to unexpected fluid repellency, the compositions of the present invention may further be used on the body to deliver an aesthetically pleasing feel to the skin. Upon application to the skin, the composition delivers a "powdery" feel that is pleasing to the user and yet continues to deliver the benefit of lubrication and slip between the skin surface and other surfaces such as other skin surfaces or external clothing.

Applicants have also measured the Body Dryness Index associated with compositions and uses of the present invention. Applicants have discovered that the claimed compositions provide a significant body dryness as compared to other comparable compositions.

Any suitable volatile cyclic silicone carrier may be used in the present invention. As used herein the term "volatile" refers to those liquids that have a measurable vapor pressure at ambient temperature. Examples of suitable volatile cyclic silicone carriers include cyclomethicones of the formula:



wherein $n=3$ to 6. Examples of certain preferred volatile cyclic silicone carriers include decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, and the like. A particularly preferred volatile cyclic silicone is decamethylcyclopentasiloxane. A variety of commercially

available volatile, cyclic polydimethylsiloxanes include: Dow Corning DC 244 and DC 344 fluids (cyclotetrasiloxanes) and DC 245 and DC345 (cyclopentasiloxanes) manufactured by Dow Corning, Midland Mich.; Volatile Silicone 7158, 7207 and 7349 manufactured by Momentive Performance Materials, Tarrytown, NY and KF9937 and KF9945 manufactured by Shin- Etsu Silicones.

Any material that is capable of delivering a "powdery" feel when released onto the skin may be used in the present invention as a powder-feel agent. Suitable powder-feel agents include a variety of silicone polymers, gels, gums, particulate materials, combinations of two or more thereof, and the like.

Examples of silicone polymers useful as powder-feel agents in the present invention include crosslinked siloxane (e.g., dimethicone or dimethicone derivatives) copolymers such as stearyl methyl-dimethyl siloxane copolymer (Gransil SR-CYC, available from Grant Industries, Elmwood Park, N.J.); dimethicone/vinyldimethicone crosspolymers; Polysilicone-11 (i.e., a crosslinked silicone rubber formed by the reaction of vinyl terminated silicone and methylhydrodimethyl siloxane in the presence of cyclomethicone), cetearyl dimethicone/vinyl dimethicone crosspolymer (i.e., a copolymer of cetearyl dimethicone crosslinked with vinyl dimethyl polysiloxane), dimethicone/phenyl vinyl dimethicone crosspolymer (i.e., copolymer of dimethylpolysiloxane crosslinked with phenyl vinyl dimethylsiloxane), and dimethicone/vinyl dimethicone crosspolymer (i.e., copolymer of dimethylpolysiloxane crosslinked with vinyl dimethylsiloxane). More preferably, the compositions useful in the method of this invention include silicone elastomer blends containing dimethicone/vinyldimethicone crosspolymers (such as those made by Dow Corning), dimethicone, cyclopentasiloxane, trisiloxane, dimethicone and hydrophobically-modified silica.

The silicone polymers may be of any suitable molecular weight. In certain preferred embodiments, the polymers have a weight average molecular weight in excess of 10,000 (e.g., between about 10,000 and 10,000,000).

Examples of suitable silicone gels include the following which are also available

5 commercial from Grant Industries by the indicated tradename: cyclomethicone (and) polysilicone-11 (Gransil GCM5), cyclotetrasiloxane(D4) (and) petrolatum (and) polysilicone-11 (Grangil PS-4), cyclopentasiloxane(D5) (and) petrolatum (and) polysilicone-11 (Gransil PS-5), cyclopentasiloxane(D5) (and) dimethicone (and) polysilicone-11 (Gransil DMCM-5),
cyclotetrasiloxane(D4) (and) dimethicone (and) polysilicone-11 (Gransil DMCM-4),
10 polysilicone-11 (and) isododecane (Gransil IDS), and cyclomethicone (and) polysilicone-11 (and) petrolatum (and) phytosphingosine (Gransil SPH). Other examples of such gels, available from General Electric, include cyclopentasiloxane (and) dimethicone/vinyl dimethicone crosspolymer (SFE839). In general, the compositions set forth in U.S. Patent No. 6,200,964 and U.S. Patent No. 6,384,023, which are hereby incorporated herein by reference, are suitable for
15 use in the methods of this invention.

Suitable silicone gels include silicone elastomer gels. The elastomer chemically is a crosslinked, 3-dimensional network of intertwined silicone polymers that swell in the presence of a carrier. Elastomers are not soluble in the carrier but swollen in the carrier. Typically the “effective” carrier solvent is a low molecular weight species that can migrate into the
20 network. The crosslinking density of the elastomer can affect the “swelling” efficiency; generally, lower crosslinking density favors swelling (for a given carrier) and gives a “wetter” feel initially (sometimes could be sticky). Conversely a higher crosslinking density elastomer swells less and gives a “drier” skin feel initially. Most elastomer products dry down to a

99

“powdery” after-feel particularly if the solvent is volatile. One non-limiting example of a suitable class of silicone elastomers is crosslinked organopolysiloxane (or siloxane) elastomers, which are generally described in U.S. patent application publication US2003/0049212A1.

The crosslinked organopolysiloxane elastomers may be categorized as emulsifying or
5 non-emulsifying. "Emulsifying," as used herein, means crosslinked organopolysiloxane elastomers having at least one polyoxyalkylene (e.g., polyoxyethylene or polyoxypropylene) or polyglycerin moiety. The polyoxyalkylene (e.g., polyoxyethylene or polyoxypropylene) or polyglycerin moiety may serve as the crosslinker within the elastomer. Exemplary emulsifying crosslinked organopolysiloxane elastomers are described in U.S. Pat. Nos. 5,412,004; 5,837,793,
10 and 5,811,487. Suitable emulsifying crosslinked organopolysiloxane elastomers include dimethicone/PEG-10 crosspolymers such as KSG 24; dimethicone/PEG-10 crosspolymers such as KSG 21 and KSG 210; PEG-15/lauryl dimethicone crosspolymers such as KSG 31, KG 32, KSG 33, KSG 310, KG 320, KSG 330; PEG-15/lauryl dimethicone crosspolymers and PEG-10/lauryl dimethicone crosspolymers such as KSG 34 and KSG 340; dimethicone/polyglycerine-
15 3 crosspolymers such as KSG-710; and lauryl dimethicone/polyglycerine-3 crosspolymers such as KSG 810, KSG 820, KSG 830, and KSG 840. Also from Shin-Etsu are Silicone Rubber powder, KMP-400 type, Silicone resin powder, KMP-590, X-52-1631, Hybrid silicone powders, KSP-100, KSP-101 and KSP-300, etc.

"Non-emulsifying" means crosslinked organopolysiloxane elastomers are essentially free
20 of polyoxyalkylene or polyglycerin moieties. Exemplary non-emulsifying crosslinked siloxane elastomers include the CTFA (Cosmetic, Toiletry, and Fragrance Association International Cosmetic Ingredient Dictionary and Handbook, 11.sup.th ed.) designated dimethicone/vinyl dimethicone crosspolymers supplied by a variety of suppliers including Dow Corning (DC

24

100

9506), General Electric (SFE 839), Shin Etsu (KSG 15 and 16), and Grant Industries (GRANSIL RPS-NA) and dimethicone/phenyl vinyl dimethicone crosspolymer such as KSG 18 available from Shin Etsu. Other exemplary non-emulsifying crosslinked siloxane elastomer include the CTFA designated dimethicone crosspolymers including Dow Corning. (DC 9040, DC 9041, DC 9045).

Also suitable are high molecular weight silicone gums with linear high molecular polymer "solids (gums)" which are soluble in a carrier and water-insoluble silicones inclusive of non-volatile polyalkyl and polyaryl siloxane gums and fluids, volatile cyclic and linear polyalkylsiloxanes, polyalkoxylated silicones, amino and quaternary ammonium modified silicones, rigid cross-linked and reinforced silicones and mixtures thereof. E.g, Dimethiconol (DC 2-9023 fluid), KF 8018 from shinetsu which is an amino gum in cyclomethicone.

The smooth soft, silky and powdery feel may also be achieved by using particulate materials. Typically, the particulate materials are free-flowing and solid (i.e., the particles are not hollow).

Suitable organic particulate materials include those available commercially under the tradenames as follows: those made of polymethylsilsesquioxane (e.g., Tospearl 145A available from GE Toshiba Silicone Co., Ltd.), polyamide (e.g., nylon-12 and Orgasol 2002D Nat C05 available from Atofina), polyolefines (e.g., Microthene FN510-00 available from Equistar), polyacrylates (e.g., ethylene acrylate copolymer, sold under the name FloBead EA209 available from Kobo), polymethacrylates (PMMA) (e.g., Micropearl M 100 available from Seppic), polystyrene (e.g., Dynospheres available from Dyno Particles), polytetrafluoroethylene (PTFE), polyurethanes, starch and starch derivatives, composite particles, and mixtures thereof. Copolymers derived from monomers of the aforementioned materials can also be used. The

25

101
aforementioned polymers derived from carboxylic acid containing monomer further include ester and salts of the monomers.

Inorganic materials for improving skin feel include natural minerals such as mica, talc, and sericite, synthetic mica, synthetic sericite, plate-formed titanium oxide, plate-formed silica, 5 plate-formed aluminum oxide, boron nitride, barium sulfate, plate-formed titania-silica composite oxide, and bismuth oxychloride. Further these inorganic particles comprising those described above as a base material and one or more inorganic oxides coating the base material such as titanium oxide, aluminum oxide, iron oxide, silicon dioxide, cerium oxide, and 10 zirconium. The pure titanium or zinc oxides pigments may be coated with compounds such as amino acids such as lysine, silicones, lauroyl, collagen, polyethylene, lecithin and ester oils. The inorganic particles may be resin coated as cited in US patent application 2003/0171475. The resin is preferably one or more selected from the group consisting of polyurethane, a styrene-butadiene copolymer, an acrylonitrile-butadiene copolymer, a silicone-based elastomer, and a 15 polyolefin-based elastomer.

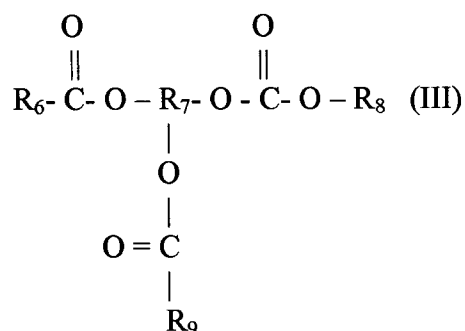
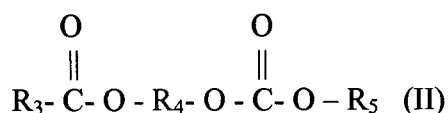
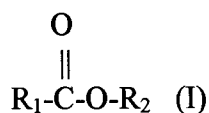
15 According to certain preferred embodiments, the powder-feel agent is preferably a silicone-based powder feel agent such as a silicone polymer, silicone gels, silicone gums, hydrophobically-modified silica, combinations thereof, and the like. Preferred silicone-based powder feel agents include silicone elastomer blends and hydrophobic silica blends, combinations of two or more thereof, and the like.

20 Any suitable amounts of powder-feel agents may be used in the present invention. In certain embodiments, the powder feel agent is present in the composition in an amount of about 65% or less by weight of the total composition. In certain preferred embodiments, the powder feel agent is present in an amount of from about 5% to about 65%, more preferably from about

102

8% to about 65%, more preferably from about 8% to about 60%, more preferably from about 8% to about 40%, and even more preferably from about 8% to about 30% by weight of the total composition.

5 Suitable esters for use in the present invention include those of Formula I, Formula II, Formula III:



30 wherein R₁, R₂, R₃, R₅, R₆, R₈ and R₉ are independently linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ alkyl or alkenyl groups, R₄ is a linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ alkylene or alkenylene moiety, and R₇ is a linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ moiety.

27

103

In certain preferred embodiments the ester of Formula I, Formula II, or Formula III have a viscosity ranging from about 10 to 1,000,000 centipoise at 25° C.

Examples of monoester oils of Formula I that may be used in the compositions of the invention include, but are not limited to, hexyldecyl benzoate, hexyl laurate, hexadecyl isostearate, hexyldecyl laurate, hexyldecyl octanoate, hexyldecyl oleate, hexyldecyl palmitate, hexyldecyl stearate, hexyldodecyl salicylate, hexyl isostearate, butyl acetate, butyl isostearate, butyl oleate, butyl octyl oleate, cetyl palmitate, cetyl octanoate, cetyl laurate, cetyl lactate, octyl isononanoate, isostearyl isononanoate, isononyl isononanoate, cetyl isononanoate, cetyl stearate, stearyl lactate, stearyl octanoate, stearyl heptanoate, stearyl stearate, and so on.

Suitable diesters of Formula II that may be used in the compositions of the invention are the reaction product of a dicarboxylic acid and an aliphatic or aromatic alcohol, or a monocarboxylic acid and an aliphatic or aromatic alcohol containing at least two hydroxyl groups. Preferably, one or more of the acid or alcohol is a fatty acid or alcohol, i.e. contains 3-22 carbon atoms. The dicarboxylic acid may also be an alpha hydroxy acid. Examples of diester oils that may be used in the compositions of the invention include diisostearyl malate, neopentyl glycol dioctanoate, dibutyl sebacate, di-C₁₂₋₁₃ alkyl malate, dicetearyl dimer dilinoleate, dicetyl adipate, diisocetyl adipate, diisononyl adipate, diisopropyl adipate, diisostearyl dimer dilinoleate, disostearyl fumarate, diisostearyl malate, isononyl isononanoate, isohexadecyl stearate, and so on.

Suitable triesters of Formula III comprise the reaction product of a tricarboxylic acid and an aliphatic or aromatic alcohol, or the reaction of an aliphatic or aromatic alcohol having three or more hydroxyl groups with mono- or dicarboxylic acids. Preferably, one or more of the acid or alcohol is a fatty acid or alcohol containing 3 to 22 carbon atoms. Examples of triesters include

28

104
triarachidin, tributyl citrate, triisostearyl citrate, tri C₁₂₋₁₃ alkyl citrate, tricaprylin, tricaprylyl citrate, tridecyl behenate, trioctyldodecyl citrate, tridecyl behenate, tridecyl cocoate, tridecyl isononanoate, and so on.

In certain preferred embodiments, the ester of the present invention is selected from the group consisting of octyl isononanoate, isopropyl palmitate, butyl stearate, diisopropyl adipate, triisostearyl citrate, and combinations of two or more thereof. In certain more preferred embodiments, the ester is selected from the group consisting of octyl isononanoate, isopropyl palmitate, butyl stearate, and combinations of two or more thereof. In certain more preferred embodiments, the ester comprises octyl isononanoate.

The ester selected from the group consisting of esters of Formula I, Formula II, Formula III, and combinations of two or more thereof may be present in the compositions of the invention in an amount of 5% or less by weight based on the total weight of composition. In certain preferred embodiments, the ester is present in an amount of from about 0.5 to about 4.5%, more preferably from about 1 to about 4%, more preferably from about 2-4%, and even more preferably from about 2-3%.

In certain preferred embodiments, the composition is substantially anhydrous. As used herein, the term "substantially anhydrous" means that the composition contains less than 5% w/w water. In more preferred embodiments, the composition contains less than 3%, more preferably less than 2%, more preferably less than 1%, more preferably less than 0.5% w/w water. In certain preferred embodiments, the substantially anhydrous composition is an anhydrous composition (free of water).

The invention features a method of applying a cosmetic composition suitable for application to the skin, e.g., in the intimate area such as the perineum, under the breasts or on the

thighs, of a subject in association with a cosmetically acceptable carrier. The individual components of the carrier are numerous and varied, but are also well known to one skilled in the art. In one aspect, the carrier comprises one or more of the members selected from the group consisting of acidifying agents, alkalizing agents, aerosol propellants, antimicrobial agents, antioxidants, buffering agents, chelating agents, coloring additives, dermatologically active agents, dispersing agents, emollients, emulsifying agents, humectants, fragrances, masking agents, preservatives, sugars, sunscreen agents, surfactants, suspending agents, thickening agents, and vehicles. These ingredients are discussed below. Examples of these agents are listed below as well as in the International Cosmetic Ingredient Dictionary and Handbook, eds. Wenninger and McEwen (The Cosmetic, Toiletry, and Fragrance Assoc., Washington, D.C., 7th Edition, 1997) (hereinafter "ICT Handbook").

Acidifying and alkalizing agents are preferably added to obtain the desired pH of the composition. Examples of acidifying agents included acetic acid, citric acid, glacial acetic acid, malic acid, and propionic acid. Examples of alkalizing agent include edetol, potassium carbonate, potassium hydroxide, sodium borate, sodium carbonate, and sodium hydroxide. Other acidifying and alkalizing agents are listed on page 1653 of the ICT Handbook.

Aerosol propellants are used when the composition is to be administered as an aerosol under pressure. Examples of aerosol propellants include halogenated hydrocarbons such as dichlorodifluoromethane, dichlorotetrafluoroethane, and trichloromonofluoromethane, nitrogen, and volatile hydrocarbons such as butane, propane, isobutane, or mixtures thereof. Other propellants are listed on page 1655 of the ICT Handbook.

Anti-microbial agents are used when the area that the composition is to be applied is prone to microbial infection, e.g., by bacteria, fungal, or protozoa. Examples of such agents

106

include benzyl alcohol, chlorobutanol, phenylethyl alcohol, phenylmercuric acetate, potassium sorbate, and sorbic acid, benzoic acid, butyl paraben, ethyl paraben, methyl paraben, propyl paraben, and sodium benzoate. Other anti-microbial agents are listed on page 1612 of the ICT Handbook.

5 Antioxidants are used to protect ingredients of the composition from oxidizing agents that are included within or come in contact with the composition. Examples of antioxidants include water soluble antioxidants such as ascorbic acid, sodium sulfite, metabisulfite, sodium bisulfite, sodium formaldehyde, sulfoxylate, isoascorbic acid, isoascorbic acid, cysteine hydrochloride, 1,4-diazobicyclo-(2,2,2)-octane, and mixtures thereof. Examples of oil-soluble antioxidants
10 include ascorbyl palmitate, butylated hydroxyanisole, butylated hydroxytoluene, potassium propyl gallate, octyl gallate, dodecyl gallate, phenyl-alpha-naphthyl-amine, and tocopherols such as alpha-tocopherol. Other antioxidants are listed on pages 1612-13 of the ICT Handbook.

 Coloring additives are used to add color to the composition. Examples of such coloring additives include titanium dioxide, yellow iron oxide, red iron oxide, black iron oxide, caramel,
15 carmine, fluorescein derivatives, methoxsalen, trioxsalen, carbon black, azo dyes, anthraquinone dyes, blue azulenes, guajazulene, chamuzulene, erythrosin, bengal rose, phloxin, cyanosin, daphnin, eosin G, cosin 10B, and Acid Red 51. Other coloring agents are listed on pages 1628-
30 of the ICT Handbook.

 Dermatologically active agents include agents for treating wound healing, inflammation,
20 acne, psoriasis, cutaneous aging, skin cancer, impetigo, herpes, chickenpox, dermatitis, pain, itching, and skin irritation. Examples of such dermatologically active agents include hydrocortisone, dexamethasone, panthenol, phenol, tetracycline hydrochloride, yeast, hexylresorcinol, lamin, kinetin, betamethagone, triamcinolone, fluocinolone,

31

109

methyprednisolone, retinoids such as retinol and retinoic acid, dapsone, sulfasalazine, resorcinol, salicylic acid, benzoyl peroxide, erythromycin-benzoyl peroxide, erythromycin, clindamycin, mupirocin, griseofulvin, azoles such as miconazole, econazole, itraconazole, fluconazole, and ketoconazole, ciclopirox, allylamines such as naftifine and terfenadine, 5 acyclovir, famciclovir, valacyclovir, benzocaine, lidocaine, dibucaine, pramoxine hydrochloride, methyl salicylate, camphor, menthol, resorcinol, and vitamins such as tocopherol, tocopheryl acetate, pantothenic acid, ascorbic acid, biotin, and retinoids such as retinol, retinoic acid, retinal, retinyl acetate, and retinyl palmitate, .alpha.-hydroxy acid, a .beta.-hydroxy acid, or poly- hydroxy acid such as glycolic acid, lactic acid, citric acid, malic acid, and azelaic acid, and 10 sunless tanning agents such as 1,3-dihydroxyacetone and 1,3,4-trihydroxy-2-butanone (erythrulose).

Examples of dispersing and suspending agents include quaternium-18 hectorite, polyhydroxy stearic acid, polyurethane and silicon dioxide. Other dispersing and suspending agents are listed on page 1690-91 of the ICT Handbook.

15 Emollients are agents that soften and smooth the skin. Examples of emollients include hydrocarbon oils and waxes (e.g., natural and synthetic waxes) such as mineral oil, petrolatum, microcrystalline wax, polyethylene, triglyceride esters such as those of castor oil, cocoa butter, safflower oil, cottonseed oil, corn oil, olive oil, cod liver oil, almond oil, avocado oil, palm oil, sesame oil, squalene, and soybean oil, acetylated monoglycerides, ethoxylated glycerides, fatty 20 acids, alkyl esters of fatty acids, alkenyl esters of fatty acids, fatty alcohols, fatty alcohol ethers, ether-esters, lanolin and derivatives of lanolin, polyhydric alcohol esters, wax esters such as beeswax, vegetable waxes, phospholipids, and sterols. Other emollients are listed on pages 1656-61 of the ICT Handbook.

32

Emulsifying agents are used for preparing emulsions of the present invention. Examples of emulsifying agents used for preparing silicone-in-oil, or oil-in-silicone emulsions include cyclomethicone (and) dimethicone copolyol, dimethicone copolyol, cetyl dimethicone copolyol,

Humectants are agents that promote the retention of moisture, e.g., moisturizers.

- 5 Examples of humectants include sorbitol, matricaria extract, aloe barbadensis gel, glycerin, glycereth 5 lactate, glycereth 7 triacetate, glycereth 7 diisononate, hexanetriol, hexylene glycol, propylene glycol, dipropylene glycol, alkoxylated glucose, D-panthenol, 1-2-pantandiol, 2-methyl-1,3-propanediol, and derivatives thereof, and hyaluronic acid. Other humectants are listed on pages 1661-62 of the ICT Handbook.

10 Examples of fragrances include peppermint, rose oil, rose water, aloe vera, clove oil, menthol, camphor, eucalyptus oil, and other plant extracts. Certain fragrances may require a solubilizer, e.g., PPG-5-ceteareth-20. To eliminate certain odors from compositions, masking agents may be used. An example of a masking agent includes ethylene brassylate. Other fragrances and masking agents are listed on pages 1639-40 of the ICT Handbook.

- 15 Preservatives are used to protect the composition from degradation. Examples of preservatives include liquipar oil, phenoxyethanol, methyl paraben, propyl paraben, butyl paraben, isopropyl paraben, isobutyl paraben, diazolidinyl urea, imidazolidinyl urea, diazolidinyl urea, benzalkonium chloride, benzethonium chloride, phenol, and mixtures thereof (e.g., liquipar oil). Other preservatives are listed on pages 1654-55 of the ICT Handbook.

- 20 Surfactants are agents used to stabilize multi-component compositions, e.g., used as wetting agents, antifoam agents, emulsifiers, dispersing agents, and penetrants. Examples of surfactants include methyl gluceth 20, decyl polyglucoside, lauryl chloride, laureth 4, laureth 9, monoethanolamine, nonoxynol 4, nonoxynol 9, nonoxynol 10, nonoxynol 15, nonoxynol 30,

poloxalene, polyoxyl 8, 40, and 50 stearate, polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 65, polysorbate 80, and polysorbate 85, sodium lauryl sulfate, sorbitan and its derivatives. Other surfactants are listed on page 1672-90 of the ICT Handbook.

5 The cosmetically acceptable carrier that may be in a number of different delivery forms, e.g., a spray, mist, aerosol, mousse, semi-solid cream, liquid such as a solution, emulsion, or suspension, lotion, gel, solid such as a powder, adherent stick, flexible mask, self-hardening liquid or gel, or other suitable forms intended to be applied to the skin of a subject (e.g., a human).

10 The viscosity of the compositions of the present invention may be different dependent upon the type of formulation being prepared, e.g., a liquid formulation will have a lower viscosity than a gel or cream formulation. Typically, the viscosity of liquid formulations of the present invention will range from 5,000 to 25,000 cps. Bulking agents may be used to increase the viscosity of the composition.

15 The compositions of this invention may be prepared using methodology that is well known by an artisan of ordinary skill (e.g., by using well-known mixing and blending procedures).

EXAMPLES

The following is a description of the manufacture of certain compositions of the present invention. Other compositions of the invention can be prepared in an analogous manner by a person of ordinary skill in the art.

Test Procedure for Measuring Contact Angle (CAM)

Test fluid was made of the following mixture to simulate bodily fluids: 49.5% of 0.9% sodium chloride solution (VWR catalog # VW 3257-7), 49.05% Glycerin (Emery 917), 1% Phenoxyethanol (Clariant Corporation Phenoxetol.TM.) and 0.45% Sodium Chloride (Baker sodium chloride crystal # 9624-05).

For each sample, a 2 A 2" x 2" sample film was created using Leneta 2A Opacity charts, BYK Gardner Opacity Drawdown Base, and a BYK Gardner wet film drawdown bar with a thickness of 1.5mil. The Opacity Drawdown Base was used to hold the opacity charts at a constant position during the drawdown application process. The drawdown process involved placing small amount of gels across the top of the opacity charts and using the Drawdown bar to vertically cover the chart with the gel. This vertically up-down motion was carried out until the gels formed a uniform film over the opacity charts. The charts were then cut into 2" x 2" film strips, and weighed on a Mettler Toledo scale.

Advancing contact angles of each sample strip were measured using the Krüss DS 100 Drop Shape Analysis machine. Following the manual instructions of the machine, the angle of inclination on were tilted to 2 degrees; the third syringe was selected; the drop type was changed to sessile drop; and the drop subtype was changed to normal sessile drop. The thickness of the

needle was 0.509mm. Test fluid was placed in the machine and allowed to flush through the needle for a few minutes in order to remove flush the needle. The drop volume was manually controlled at a rate of 50 μ l/minute. With the camera in focus, contact angles of 4 sessile drops were measured on each strip. The sample size of this experiment is 4 (n=4) and Average Contact Angle Measurement (CAM) was recorded.

Comparative Example 1

Contact Angle Testing was performed to determine the contact angle of a series of esters (Repellant Agents) labeled as comparative compositions C1-C5.

Table 1

Example	Ester/ Repellant Agent	INCI Name	Supplier	Location	Contact Angle Measureme nt
C1	HallStar Octyl Isononanoate (Duck Oil)	Octyl isononano ate	HallStar Co	Hackettstown, NJ	55.0°
C2	HallStar IPP	Isopropyl palmitate	HallStar Co	Hackettstown , NJ	53.1°
C3	HallStar BST	Butyl stearate	HallStar Co	Hackettstown , NJ	56.2°
C4	Ceraphyl (DIPA)	Diisopropyl adipate	Internatio nal Specialty Products	Wayne, NJ	74.3°
C5	TISC Ester	Triisostearyl citrate	Lubrizol Advanced Materials	Cleveland, OH	78.6°

M2

Duck oil is a long chain monoester with two branches. IPP is a long chain monoester with a single chain. BST is a long chain monoester, unbranched. DIPA is a branched diester. TISC is a large, branched triester. All of these esters alone have a contact angle of less than 90°.

5

Example 1

A base formulation (B1), several inventive examples (E1-E5), and comparative examples (C6-C15) were prepared as described below. The CAM of each was measured and is reported below in Table 3.

10 A base formulation B1 was prepared using the ingredients of Table 2.

Table 2 – Base Formulation (B1)

Function	Trade Name	INCI Name	Supplier	Address	Conc. w/w%
Volatilizing Agent	DC 245 Fluid	Decamethylcyclopentasiloxane	Dow Corning Corp.	Midland, MI	56.57
Powder Feel Agents	USG-103	Dimethicone/vinyl dimethicone crosspolymer	Shin-Etsu Silicone of America	Akron, OH	18.18
Bulking Agents	DC 200 Fluid, 350 cSt	Dimethicone	Dow Corning Corp.	Midland, MI	10.1
Bulking Agents	KF 8018	Aminopropyl dimethicone	Shin-Etsu Silicone of America	Akron, OH	7.07
Powder Feel Agents	KSP 100	Vinyl dimethicone/methicone silsesquioxane crosspolymer	Shin-Etsu Chemical Co.	Tokyo, Japan	5.05
Powder	Cabosil	Silica	Cabot	Somerset,	1.52

37

Feel Agents	M5		Corp.	NJ	
Powder Feel Agents	Cabosil TS 610	Dichlorodimethylsilane	Cabot Corp.	Somerset, NJ	1.52

The ingredients were combined in the order they appear in the table into a glass beaker, stirred with a propeller mixer until the resultant composition was completely uniform. The composition was prepared at room temperature. The CAM of the composition B1 was measured to be 85.6°.

- 5 Compositions E1-E5 of the present invention and comparative compositions C6-C16 were made by combining all of the ingredients from B1 and an additional ester (Repellant Agent) as identified, and in the amount as indicated, in Table 4. The general formulations of such compounds were thus as indicated in Table 3.

10

Table 3

Function	Trade Name	INCI Name	E1-E5	C6-C10	C11-C15
Volatilizing Agent	DC 245 Fluid	Decamethyl-cyclopentasiloxane	56.0	53.737	50.909
Powder Feel Agents	USG-103	Dimethicone/vinyl dimethicone crosspolymer	18.0	17.273	16.364
Bulking Agents	DC 200 Fluid, 350 cSt	Dimethicone	5.0	4.798	4.545
Bulking Agents	KF 8018	Aminopropyl dimethicone	7.0	6.717	6.364
Powder Feel Agents	KSP 100	Vinyl dimethicone/methicone silsesquioxane crosspolymer	10.0	9.596	9.091
Powder Feel Agents	Cabosil M5	Silica	1.5	1.439	1.364
Powder Feel Agents	Cabosil TS 610	Dichlorodimethylsilane	1.5	1.439	1.364

Repellant Agent from Table 4	-	-	1.0	5.0	10.0
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Compositions E1-E5 and C6-C15 were made as follows: the ratios of materials specified in Table 4 were measured out such that the total mixture weight was 100 grams. The Repellant Agents (esters) were added first to the Volatilizing Agents and mixed in a beaker using a propeller mixing blade at 100 RPM for 1-2 minutes. Powder Feel Agents were then added and mixed at 400-500 RPM until there were no visible clumps. CAM was measured for each resultant composition and reported in Table 4.

Table 4

Example	Repellant Agent	Concentration	CAM
B1	Base Formulation	-	85.6°
E1	Octyl isononanoate	1	93.6
E2	HallStar IPP	1	93.6
E3	HallStar BST	1	93.8
E4	Ceraphyl (DIPA)	1	93.2
E5	TISC Ester	1	95.2
C6	Octyl isononanoate	5	82.0
C7	HallStar IPP	5	82.9
C8	HallStar BST	5	83.4
C9	Ceraphyl (DIPA)	5	84.9
C10	TISC Ester	5	86.7
C11	Octyl isononanoate	10	59.3
C12	HallStar IPP	10	73.5
C13	HallStar BST	10	79.6
C14	Ceraphyl (DIPA)	10	80.4
C15	TISC Ester	10	82.4

As illustrated in Table 4, adding less than 5% of the Repellant Agent to the base formulation resulted in a composition having a CAM over 90°. This is a significant and

surprising increase over the CAM of the base formulation (B1) or the Repellant Agents alone (see Table 1).

Example 2

Several compositions of the claimed invention (E6-E9) and comparative compositions (C16-C27) were made and the CAM of each tested and reported in Table 5. Each of compositions E6-E9 and C16-C27 were made up of three components: the Volatilizing Agent, Powder Feel Agent, and Repellant Agent (Duck Oil (HallStar Octyl Isononanoate)) as identified, and in the amounts as listed, in Table 5. Such compositions were made as follows: the Repellant Agent was added first to the Volatilizing Agent and mixed in a beaker using a propeller mixing blade at 100 RPM for 1-2 minutes. The Powder Feel Agent was then added and mixed at 400-500 RPM until there were no visible clumps.

Table 5

Comp	Volatilizing Agent (VA)	INCI	VA Conc w/w %	Powder Feel Agent (PFA)	PFA Conc w/w %	RA (Duck Oil - Hallstar) Conc. w/w%	CAM
C16	IDD (Isododecane)	Isododecane	41.5	USG 103	57.5	1	78.3°
C17	IDD	Isododecane	75	KSP 100	24	1	48.1
C18	IDD	Isododecane	91	TS 610	8	1	83.9

C19	IDD	Isododecane	94	M5	5	1	12.6
C20	IHD (Isohexadecane)	Isohexadecane	41.5	USG 103	57.5	1	77.9
C21	IHD	Isohexadecane	75	KSP 100	24	1	51.2
C22	IHD	Isohexadecane	91	TS 610	8	1	81.4
C23	IHD	Isohexadecane	94	M5	5	1	14.2
C24	DC 200 (DC 200 5 cST)	Dimethicone	41.5	USG 103	57.5	1	71.3
C25	DC 200	Dimethicone	75	KSP 100	24	1	54.5
C26	DC 200	Dimethicone	91	TS 610	8	1	85.1
C27	DC 200	Dimethicone	94	M5	5	1	21.3
E6	DC 245	Decamethyl- cyclopentasilox ane	41.5	USG 103	57.5	1	92.8
E7	DC 245	Decamethyl- cyclopentasilox ane	75	KSP 100	24	1	90.5
E8	DC 245	Decamethyl- cyclopentasilox ane	91	TS 610	8	1	96.4
E9	DC 245	Decamethyl- cyclopentasilox ane	94	M5	5	1	34.1

As illustrated in Table 5, the compositions comprising a volatile cyclic silicone carrier, ester, and certain powder feel agents tended to exhibit significantly higher CAM than

comparative compositions. In particular, the compositions of the invention exhibited CAM values above 90°.

Example 3

5 Four compositions of the claimed invention (E10-E13) and a comparative composition (C28) were made and the CAM of each tested and reported in Table 6. Each of the compositions were made up of three components: the Volatilizing Agent, Powder Feel Agent, and Repellant Agent (Duck Oil) as identified, and in the amounts as listed, in Table 6. The compositions were made in the same manner as E6-E9.

Table 6

Comp.	DC 245 Conc. w/w%	Duck Oil – Hallstar Conc. w/w%	Powder Feel Agent	Characteristics	Conc.	CAM (degrees)
E10	41.5	1	USG 103	High MW silicone elastomer/cross-linked polymer gel in volatile cyclic silicone solvent	57.5	92.8°
E11	34	1	USG 103	High MW silicone elastomer/cross-linked polymer gel in volatile cyclic silicone solvent	65	93.8
E12	75	1	KSP 100	High MW silicone cross-linked polymer powder, thickener	24	90.5
E13	91	1	TS 620	Low MW hydrophobic silica, thickener	8	96.4
C28	91-94	1	M5	Low MW untreated silica, thickener	5-8	Below 90

As illustrated in Table 6, compositions comprising a volatile cyclic silicone carrier, ester, and certain powder feel agents tended to exhibit significantly higher CAM than comparative compositions. In particular, the compositions of the invention exhibited CAM values above 90°.

Example 4

Six compositions of the claimed invention (E14-E19) and seven comparative compositions (C29-C35) were made and the CAM of each tested and reported in Table 7. Each of the compositions were made up of three components: the Volatilizing Agent (DC 245, decamethylcyclopentasiloxane), Powder Feel Agent, and Repellant Agent (Duck Oil - Hallstar) as identified, and in the amounts as listed, in Table 7. The compositions were made in the same manner as E6-E9.

Table 7

Comp.	DC 245 Conc. w/w%	Duck Oil (Conc. w/w%)	Powder Feel Agent	Powder Feel Agent (Conc. w/w%)	CAM
E14	91	1	TS 610	8	96.4
E15	41.5	1	USG 103	57.5	92.8
E16	75	1	KSP 100	24	90.5
C29	94	1	M5	5	34.1
E17	89	3	TS 610	8	93.2
E18	39.5	3	USG 103	57.5	90.1
C30	73	3	KSP 100	24	76.6
C31	92	3	M5	5	31.8
E19	88	4	TS 610	8	90.4
C32	38.5	4	USG 103	57.5	83.4
C33	72	4	KSP 100	24	53.4
C34	91	4	M5	5	32.1
C35	74	2	KSP	24	86.7

As illustrated in Table 7, compositions comprising a volatile cyclic silicone carrier, ester, and certain powder feel agents tended to exhibit significantly higher CAM than comparative compositions. In particular, the compositions of the invention exhibited CAM values above 90°.

Example 5

The Body Dryness Index for the base formulation B1 and Examples E1-E5 was measured in accord with the procedure below and is reported in Table 8.

Test Procedure for Body Dryness Index

Test fluid was made of the following mixture to simulate bodily fluids: 49.5% of 0.9% sodium chloride solution (VWR catalog # VW 3257-7), 49.05% Glycerin (Emery 917), 1%

Phenoxyethanol (Clariant Corporation Phenoxetol.TM.) and 0.45% Sodium Chloride (Baker sodium chloride crystal # 9624-05).

For each test composition (B1, E1-E5), a 2"x2" sample of hydrated V-skin (Vitro-skin-N-19 manufactured by IMS Inc, 70 Robinson Blvd, Orange, CT 06477; Telephone # 203-795-9047) was cut and the weight recorded. This film sample provides a liquid impervious surface and represents the body in this test. The test composition, 0.5 grams thereof, is spread uniformly across the top surface of the film to form a test sample (Gardner Draw with variable thickener was used with 1.5mil set clearance is used to spread the test composition evenly across the hydrated V-skin to form a substantially uniform coated film on the V-skin). A control sample with no test composition applied thereto was prepared. All samples were weighed and recorded as initial weights. N=3

Using a Corning Syringe Pump, 10 mL of test fluid was dispensed onto the surface of the test samples and control sample. The test samples and control sample were then allowed to rest for 2 minutes. Each film was then tilted at a 45 incline for 1 minute to allow excess fluid to drain off. The weights were recorded as final weights N=3.

Calculating the Body Dryness Index

The Body Dryness Index (BDI) is based on the Body Wetness Index (BWI), which is the residual fluid on the skin (g) divided by the total weight of the fluid dispensed.

$$\text{Body Wetness Index (BWI)} = \frac{\text{residual fluid on skin (g)}}{\text{Total weight of fluid dispensed (g)}}$$

$$\text{Body Dryness Index (BDI)} = \frac{1}{\text{BWI}}$$

Table 8 represents the volume of test fluid absorbed by the V-skin uncoated or coated with the test composition for certain times. The values were generated by subtracting the initial weight(W_i) from the final weight(W_f) for each time period.

5

Table 8

Sample	$W_f - W_i$	BDI
Control (uncoated skin)		74
B1		1250
E1	0.006	1667
E2	0.007	1429
E3	0.005	2000
E4	0.003	3333
E5	0.003	3333

As shown by the above data, surfaces coated with a layer of the test composition containing a repellent agent had a higher BDI than the surface coated with just the control test formulation (no repellent agent).

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122

Personal Product Kit

According to another aspect of the invention, the present invention provides a personal product kit including in combination a product dispenser assembly as described above, a composition of the type described above provided within the product dispenser assembly, and at least one absorbent article. As used herein the term "absorbent articles" includes articles such as
5 diapers (infant and adult), sanitary napkins, shields, pantyliners, breast pads, and the like.

A specific example of a personal product kit according to the present invention could include, a product dispenser assembly as described above, a composition of the type described above adapted to be applied the vaginal area of a user's body, and at least one sanitary napkin.
10 To use such a kit, a user would apply the composition to vaginal area using the dispenser assembly and then wear the sanitary napkin in a conventional fashion. The use of the composition in this manner would promote menstrual and/or urine flow into the napkin and thereby provide a clean dry feeling to the user. Kits according to the present invention could of course be provided with a plurality of absorbent articles, e.g. a plurality of sanitary napkins, to
15 enable a user to replace the used absorbent after it has been soiled. Kits according to the present invention may alternative include other absorbent articles, such as pantyliners or diapers, in combination with a product dispenser assembly and a composition of the type described above.

Another specific example of a personal product kit according to the present invention could include, a product dispenser assembly as described above, a composition of the type
20 described above adapted to be applied the nipple area of a user's body, and at least one breast pad. To use such a kit, a user would apply the composition to nipple area using the dispenser assembly and then wear the breast pad. The use of the composition in this manner would promote the flow of fluid into the breast and thereby provide a clean dry feeling to the user.

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123

CLAIMS

We claim:

- 5 1. A kit comprising:
- a product dispenser assembly; and
- at least one absorbent article;
- wherein the product dispenser assembly comprises a container housing having a head
- portion and an internal chamber for holding a composition, the head portion including a plurality
- 10 of apertures, a moveable member arranged within the container housing that is selectively
- moveable by a user within the container to allow a user to selectively manipulate a volume of the
- internal chamber, the moveable member being adapted to enable a user to selectively deploy the
- composition from within the internal chamber, through the apertures, by reducing the volume
- within the chamber, a cap assembly structured and arranged to be placed on top of the head
- 15 portion of the container, the cap assembly including an outer shell having a first open end and a
- second closed end, a first absorbent pad arranged on top of the head portion for receiving the
- composition as it is deployed from the container, the first removable pad being adapted to enable
- a user to apply the composition to the body and manually remove the pad from the head portion
- after the composition has been applied, a plurality of absorbent pads arranged in a stacked
- 20 configuration within the outer shell, each of the plurality of pads being adapted to be sequentially
- arranged on top of the head portion after the first removable pad has been used to apply the
- composition and then removed from the head portion by the user.

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124

2. The kit according to claim 1, wherein the plurality of pads includes a lowermost pad and a plurality of pads arranged on top of the lowermost pad.

3. The kit according to claim 2, wherein the lowermost pad is adapted to be arranged on top
5 of the head portion after the first removable has been used to apply the composition to a body of a user and then removed by the user from the head portion of the assembly.

4. The kit according to claim 3, wherein the lowermost pad is automatically applied to, and
10 retained on, the head portion by placing the cap assembly on top of the head portion of the container housing.

5. The kit according to claim 4, further comprising:
a platform arranged within the outer shell, the platform being structured and arranged to
urge the plurality of pads toward the open end of the outer shell.

15 6. The kit according to claim 5, further comprising:
a member arranged between the platform and the outer shell, the member
being adapted to urge the platform towards the open end of the outer shell.

20 7. The kit according to claim 1, further comprising a material arranged on a top surface of the head portion, the material including a plurality of upwardly extending hooks, the hooks being adapted to retain the removable pad against the head portion during application of the composition to the body.

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125

8. The kit according to claim 1, wherein the outer shell includes a rib structure structured and arranged to retain the plurality of pads within the outer shell.

5 9. The kit according to 3, wherein the lowermost pad is structured and arranged to be manually removed from the outer shell and manually applied to the top of the head portion by a user.

10 10. The kit according to claim 9, wherein the outer shell is provided with an access port to enable a user to manually remove the lowermost pad from within the outer shell.

11. The kit according to claim 1, wherein the moveable member is coupled to an elevator screw structured and arranged to enable a user selectively control a movement of the moveable member.

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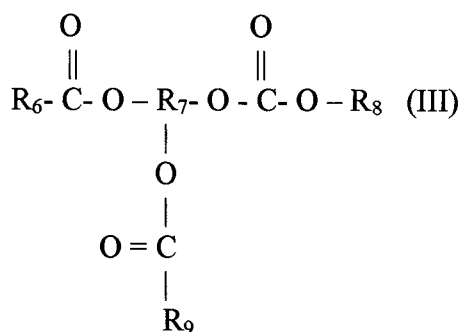
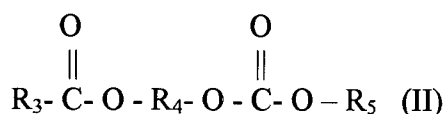
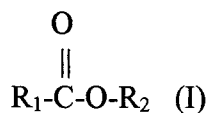
12. The kit according to claim 11, wherein the moveable member is coupled to the elevator screw by means of a threaded coupling sleeve.

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126

13. The kit according to claim 1, wherein the composition comprises a volatile cyclic silicone carrier, a silicone-based powder-feel agent, and less than 5 weight % of an ester selected from the group consisting of formula I, formula II, formula III, and combinations of two or more thereof:



wherein R₁, R₂, R₃, R₅, R₆, R₈ and R₉ are independently linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ alkyl or alkenyl groups, R₄ is a linear or branched, substituted or unsubstituted, saturated or unsaturated, C₃-C₂₂ alkylene or alkenylene moiety, and R₇ is a linear or branched, substituted or unsubstituted, saturated or unsaturated C₃-C₂₂ moiety, the composition being substantially anhydrous.

14. The kit according to claim 13, wherein the composition has a Contact Angle of 90° or greater.

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129

15. The kit according to claim 13, wherein said cyclic volatile silicone carrier is a cyclomethicone.

5 16. The kit according to claim 13, wherein said cyclic volatile silicone carrier is decamethylcyclopentasiloxane or dodecamethylcyclohexasiloxane.

17. The kit according to claim 13, wherein said cyclic volatile silicone carrier is decamethylcyclopentasiloxane.

10

18. The kit according to claim 13, wherein said powder feel agent is selected from the group consisting of silicone polymers, silicone gels, silicone gums, hydrophobic silica particles, and combinations of two or more thereof.

15 19. The kit according to claim 13, wherein said powder feel agent is selected from the group consisting of high-molecular weight crosslinked silicone polymers, high molecular weight elastomer crosslinked silicone polymer gels, hydrophobic silica particles, and combinations of two or more thereof.

20 20. The kit according to claim 13, wherein the powder feel agent comprises a high molecular weight cross-linked silicone elastomer.

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21. The kit according to claim 13, wherein the powder feel agent comprises a hydrophobic silica particle.

22. The kit according to claim 13, wherein the ester comprises an unbranched monoester.

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23. The kit according to claim 13, wherein the ester comprises a branched monoester.

24. The kit according to claim 13, wherein the ester is selected from the group consisting of ,
 hexyldecyl benzoate, hexyl laurate, hexadecyl isostearate, hexyldecyl laurate, hexyldecyl
 10 octanoate, hexyldecyl oleate, hexyldecyl palmitate, hexyldecyl stearate, hexyldodecyl salicylate,
 hexyl isostearate, butyl acetate, butyl isostearate, butyl oleate, butyl octyl oleate, cetyl palmitate,
 cetyl octanoate, cetyl laurate, cetyl lactate, octyl isononanoate, isostearyl isononanoate, isononyl
 isononanoate, cetyl isononanoate, cetyl stearate, stearyl lactate, stearyl octanoate, stearyl
 heptanoate, stearyl stearate, and combinations of two or more thereof.

15

25. The kit according to claim 13, wherein the ester is a diester.

26. The kit according to claim 13, wherein the ester is triester.

20 27. The kit according to claim 13, wherein the ester is selected from the group consisting of
 octyl isononanoate, isopropyl palmitate, butyl stearate, diisopropyl adipate, triisostearyl citrate,
 and combinations of two or more thereof.

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28. The kit according to claim 13, wherein the ester is selected from the group consisting of octyl isononanoate, isopropyl palmitate, butyl stearate, and combinations of two or more thereof.

29. The kit according to claim 13, wherein the ester is octyl isononanoate.

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30. The kit according to claim 13, wherein said volatile cyclic silicone carrier comprises decamethylcyclopentasiloxane, said silicone-based powder-feel agent comprises a silicone elastomer blend, hydrophobic silica, or a combination thereof, and said ester comprises octyl isononanoate, isopropyl palmitate, butyl stearate, diisopropyl adipate, triisostearyl citrate, or a combination of two or more thereof.

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31. The kit according to claim 1, wherein the absorbent article is a sanitary napkin.

32. The kit according to claim 1, wherein the absorbent article is a pantiliner.

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33. The kit according to claim 1, wherein the absorbent article is a diaper.

34. The kit according to claim 1, wherein the absorbent article is a breast pad.

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54

REIVINDICACIONES

1. Un paquete que comprende:

un ensamble dispensador de producto; y

5 por lo menos un artículo absorbente;

en donde el ensamble dispensador de producto comprende un alojamiento contenedor que tiene una porción de cabeza y una cámara interna para contener una composición, la porción de cabeza incluye una pluralidad de aberturas, un elemento móvil dispuesto dentro del alojamiento contenedor que es móvil dentro del envase, de manera selectiva, por parte de un usuario, para permitir a un usuario manipular de manera selectiva un volumen de la cámara interna, el elemento móvil se adapta para facilitar que el usuario haga uso de la composición, de manera selectiva, desde el interior de la cámara interna, a través de las aberturas, mediante la reducción del volumen dentro de la cámara, un ensamble de tapa estructurado y dispuesto para ser colocado en la parte superior de la porción de cabeza del contenedor, el ensamble de tapa incluye una carcasa externa que tiene un primer extremo abierto y un segundo extremo cerrado, una primera almohadilla absorbente dispuesta sobre la parte superior de la porción de cabeza para recibir la composición a medida que se está haciendo uso de ella desde el contenedor, la primera almohadilla removible está adaptada para permitir que un usuario aplique la composición al cuerpo y que retire manualmente la almohadilla de la porción de cabeza después de que la composición ha sido aplicada, una pluralidad de almohadillas absorbentes dispuestas en una configuración apilada dentro de la carcasa externa, cada una de la pluralidad de almohadillas está adaptada para estar dispuesta, de manera secuencial, en la parte superior de la porción de cabeza después de que la primera almohadilla removible ha sido usada para aplicar la composición, y para luego ser retirada de la porción de cabeza por el usuario.

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2. El paquete de acuerdo con la reivindicación 1, en donde la pluralidad de almohadillas incluye una almohadilla inferior y una pluralidad de almohadillas dispuestas en la parte superior de la almohadilla inferior.

5

3. El paquete de acuerdo con la reivindicación 2, en donde la almohadilla inferior está adaptada para estar dispuesta en la parte superior de la porción de cabeza después de que la primera almohadilla removible ha sido usada para aplicar la composición al cuerpo de un usuario y para luego ser retirada de la porción de cabeza del ensamble por el usuario.

10

4. El paquete de acuerdo con la reivindicación 3, en donde la almohadilla inferior se aplica automáticamente a, y se retiene en, la porción de cabeza al colocar el ensamble de tapa en la parte superior de la porción de cabeza del alojamiento contenedor.

15

5. El paquete de acuerdo con la reivindicación 4, que además comprende:

una plataforma dispuesta dentro de la carcasa externa, la plataforma se estructura y dispone para impulsar la pluralidad de almohadillas hacia el extremo abierto de la carcasa externa.

20

6. El paquete de acuerdo con la reivindicación 5, que además comprende:

un miembro dispuesto entre la plataforma y la carcasa externa, el miembro se adapta para impulsar la plataforma hacia el extremo abierto de la carcasa externa.

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7. El paquete de acuerdo con la reivindicación 1, que además comprende un material dispuesto en una superficie superior de la porción de cabeza, el material

incluye una pluralidad de ganchos que se extienden hacia arriba, los ganchos se adaptan para retener la almohadilla removible contra la porción de cabeza durante la aplicación de la composición al cuerpo.

5 8. El paquete de acuerdo con la reivindicación 1, en donde la carcasa externa incluye una estructura de salientes estructurada y dispuesta para retener la pluralidad de almohadillas dentro de la carcasa externa.

10 9. El paquete de acuerdo con la reivindicación 3, en donde la almohadilla inferior está estructurada y dispuesta para ser removida manualmente de la carcasa externa y para ser aplicada manualmente a la parte superior de la porción de cabeza por un usuario.

15 10. El paquete de acuerdo con la reivindicación 9, en donde la carcasa externa está provista de un puerto de acceso para permitir a un usuario remover manualmente la almohadilla inferior de dentro de la carcasa externa.

20 11. El paquete de acuerdo con la reivindicación 1, en donde el elemento móvil está acoplado a un tornillo elevador estructurado y dispuesto para permitir a un usuario controlar selectivamente un movimiento del elemento móvil.

12. El paquete de acuerdo con la reivindicación 11, en donde el elemento móvil está acoplado al tornillo elevador por medio de un manguito de acoplamiento roscado.

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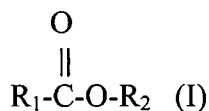
13. El paquete de acuerdo con la reivindicación 1, en donde la composición comprende un portador de silicona cíclica volátil, un agente de sensación pulverulenta

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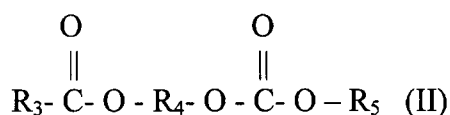
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basado en silicona, y menos de 5 % en peso de un éster seleccionado del grupo que consiste de la Fórmula I, la Fórmula II, la Fórmula III, y combinaciones de dos o más de éstos:

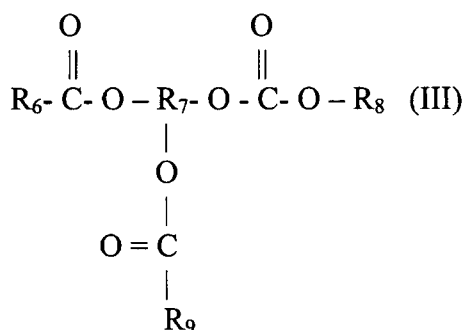
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en donde R_1 , R_2 , R_3 , R_5 , R_6 , R_8 y R_9 son independientemente grupos alquilos o alquénilos de $\text{C}_3\text{-C}_{22}$ rectos o ramificados, sustituidos o insustituidos, saturados o insaturados, R_4 es una porción alquilenos o alquénilenos de $\text{C}_3\text{-C}_{22}$ recto o ramificado, sustituido o insustituido, saturado o insaturado, y R_7 es una porción de $\text{C}_3\text{-C}_{22}$ recto o ramificado, sustituido o insustituido, saturado o insaturado, la composición es sustancialmente anhidra.

14. El paquete de acuerdo con la reivindicación 13, en donde la composición tiene un ángulo de contacto de 90° o mayor.

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15. El paquete de acuerdo con la reivindicación 13, en donde el portador de silicona cíclica volátil es una ciclometicona.

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16. El paquete de acuerdo con la reivindicación 13, en donde el portador de silicona cíclica volátil es decametilciclopentasiloxano o dodecametilciclohexasiloxano.

5 17. El paquete de acuerdo con la reivindicación 13, en donde el portador de silicona cíclica volátil es decametilciclopentasiloxano.

18. El paquete de acuerdo con la reivindicación 13, en donde el agente de sensación pulverulenta se selecciona del grupo que consiste de polímeros de
10 silicona, geles de silicona, gomas de silicona, partículas de sílice hidrófoba, y combinaciones de dos o más de éstos.

19. El paquete de acuerdo con la reivindicación 13, en donde el agente de sensación pulverulenta se selecciona del grupo que consiste de polímeros
15 reticulados de silicona de alto peso molecular, geles poliméricos de elastómero de silicona reticulados de alto peso molecular, partículas de sílice hidrófoba, y combinaciones de dos o más de éstos.

20. El paquete de acuerdo con la reivindicación 13, en donde el agente de
20 sensación pulverulenta comprende un elastómero de silicona reticulado de alto peso molecular.

21. El paquete de acuerdo con la reivindicación 13, en donde el agente de sensación pulverulenta comprende una partícula de sílice hidrófoba.

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22. El paquete de acuerdo con la reivindicación 13, en donde el éster comprende un monoéster no ramificado.

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23. El paquete de acuerdo con la reivindicación 13, en donde el éster comprende un monoéster no ramificado.

5 24. El paquete de acuerdo con la reivindicación 13, en donde el éster se selecciona del grupo que consiste de benzoato de hexildecilo, laurato de hexilo, isostearato de hexadecilo, laurato de hexidecilo, octanoato de hexildecilo, oleato de hexildecilo, palmitato de hexildecilo, estearato de hexildecilo, salicilato de hexildodecilo, isoestearato de hexilo, acetato de butilo, isoestearato de butilo, oleato de butilo, oleato
10 de octilo de butilo, palmitato de cetilo, octanoato de cetilo, laurato de cetilo, lactato de cetilo, isononanoato de octilo, isononanoato de isoestearilo, isononanoato de isononilo, isononanoato de cetilo, estearato de cetilo, lactato de estearilo, octanoato de estearilo, heptanoato de estearilo, estearato de estearilo, y combinaciones de dos o más de éstos.

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25. El paquete de acuerdo con la reivindicación 13, en donde el éster es un diéster.

26. El paquete de acuerdo con la reivindicación 13, en donde el éster es un triéster.

20 27. El paquete de acuerdo con la reivindicación 13, en donde el éster se selecciona del grupo que consiste de isononanoato de octilo, palmitato de isopropilo, estearato de butilo, adipato de diisopropilo, citrato de triisoestearilo, y combinaciones de dos o más de éstos.

25 28. El paquete de acuerdo con la reivindicación 13, en donde el éster se selecciona del grupo que consiste de isononanoato de octilo, palmitato de isopropilo, estearato de butilo, y combinaciones de dos o más de éstos.

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29. El paquete de acuerdo con la reivindicación 13, en donde el éster es isononanoato de octilo.

5 30. El paquete de acuerdo con la reivindicación 13, en donde el portador de silicona cíclica volátil comprende decametilciclopentasiloxano, el agente de sensación pulverulenta basado en silicona comprende una combinación de elastómeros de silicona, sílice hidrófoba, o una combinación de éstos, y el éster comprende
10 diisopropilo, citrato de triisoestearilo, o una combinación de dos o más de éstos.

31. El paquete de acuerdo con la reivindicación 1, en donde el artículo absorbente es una toalla sanitaria.

15 32. El paquete de acuerdo con la reivindicación 1, en donde el artículo absorbente es un pantiprotector.

33. El paquete de acuerdo con la reivindicación 1, en donde el artículo absorbente es un pañal.

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34. El paquete de acuerdo con la reivindicación 1, en donde el artículo absorbente es una almohadilla para lactancia.

ABSTRACT

139

A kit including a product dispenser assembly and an absorbent article, the assembly including a container housing having a head portion and an internal chamber for holding a composition, the head portion including a plurality of apertures, a moveable member structured to enable a user to selectively deploy the composition from within the internal chamber through the plurality of apertures, a cap assembly, a first absorbent pad arranged on top of the head portion for receiving the composition as it is deployed from the container, a plurality of absorbent pads arranged in a stacked configuration within cap assembly, each of the plurality of pads being adapted to be sequentially arranged on top of the head portion after the first removable pad has used to apply the composition and then removed by the user.

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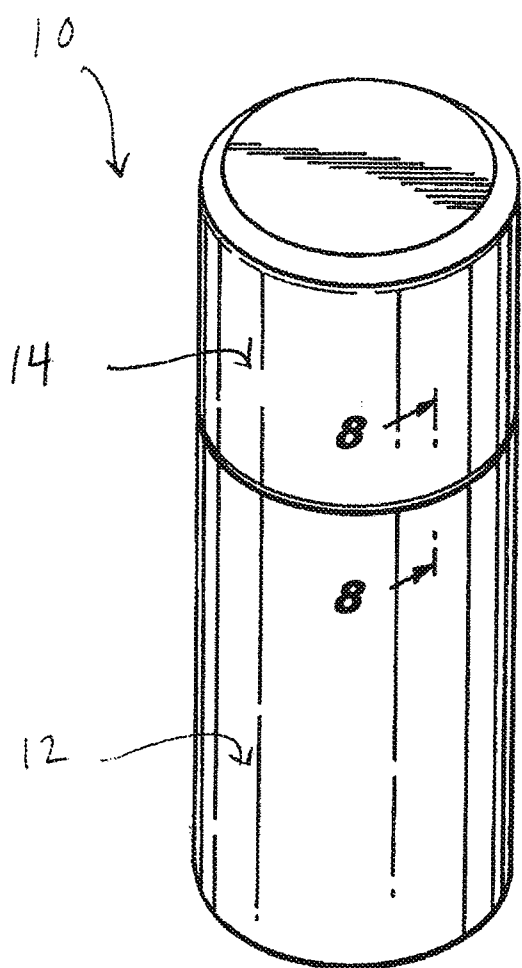


Fig. 1

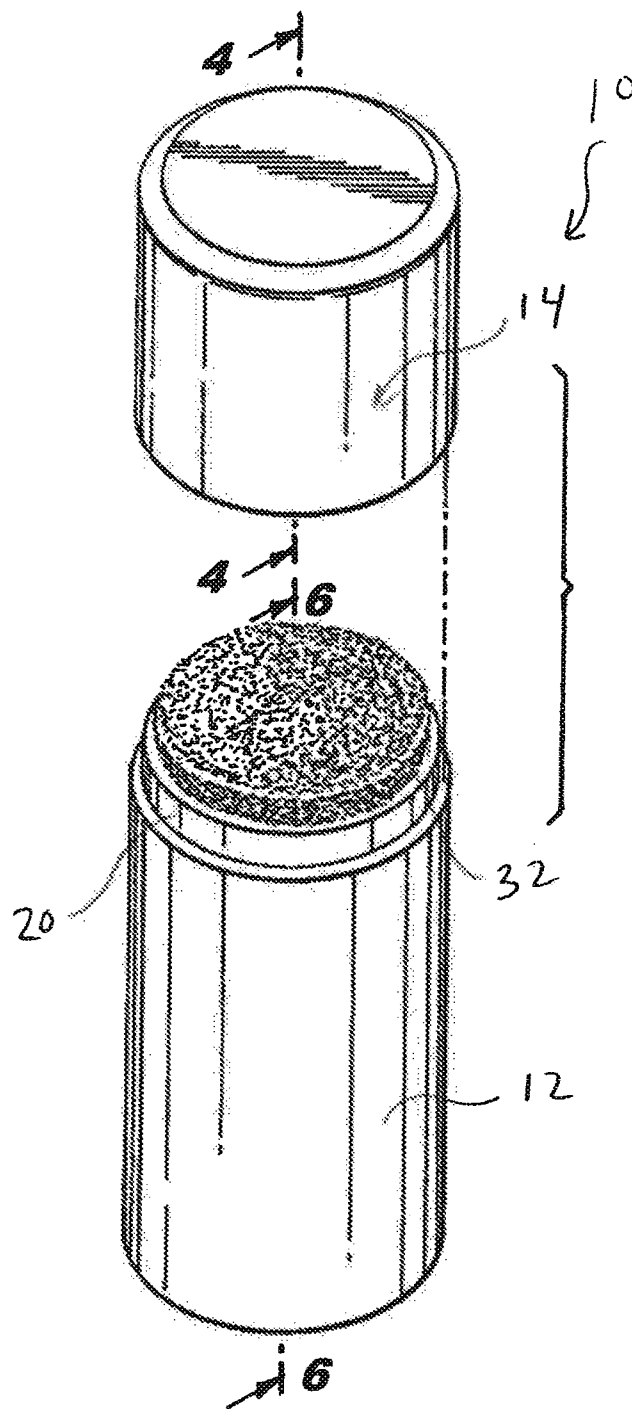


Fig. 2

63

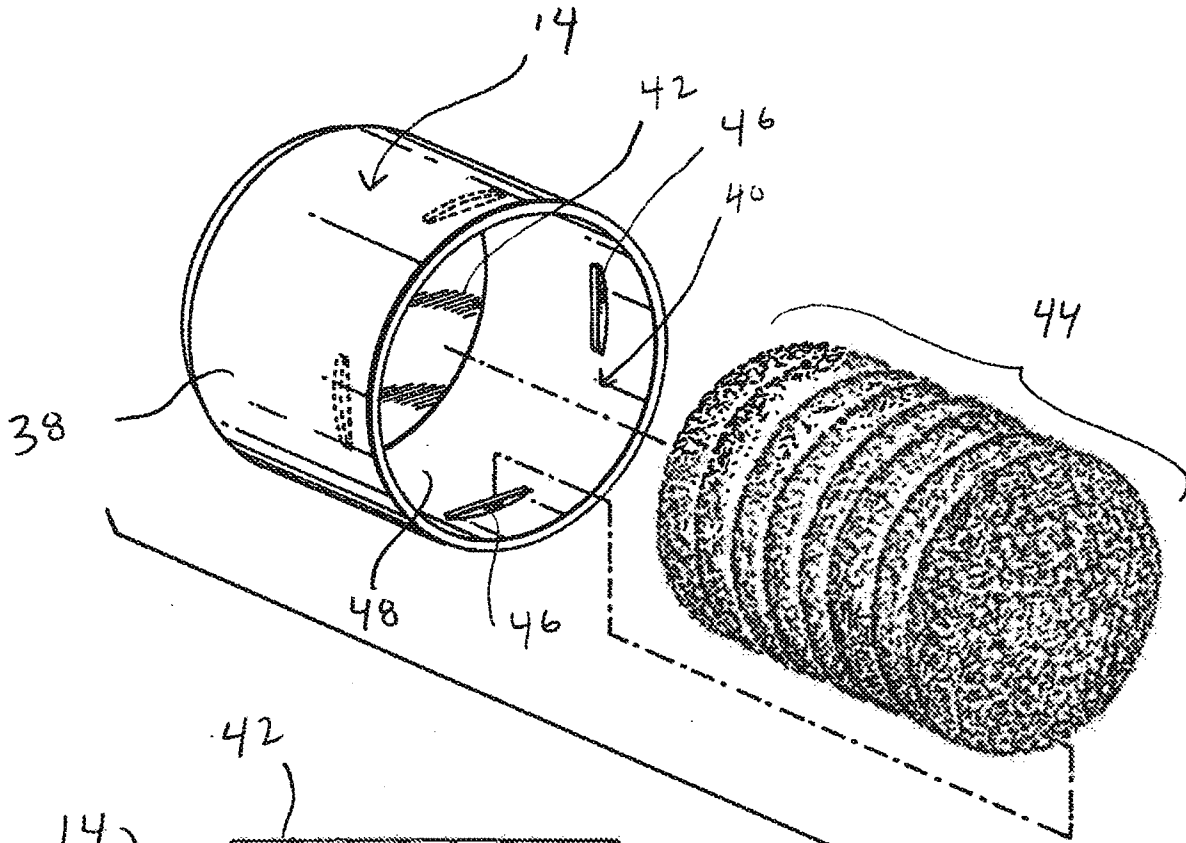


Fig. 3

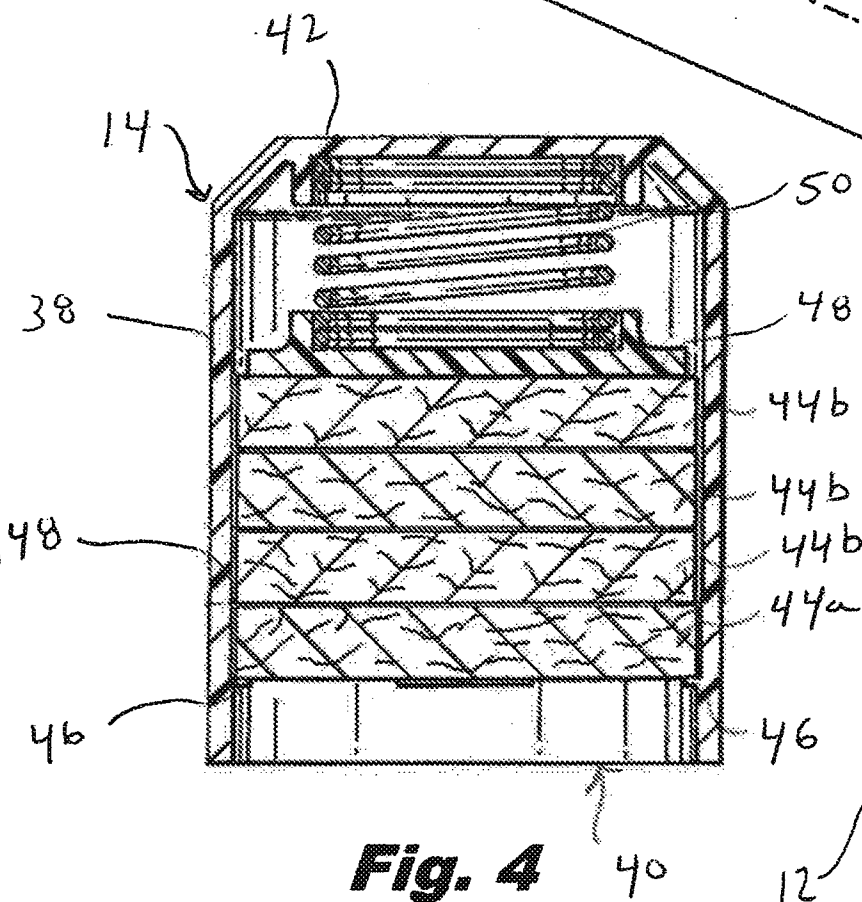


Fig. 4

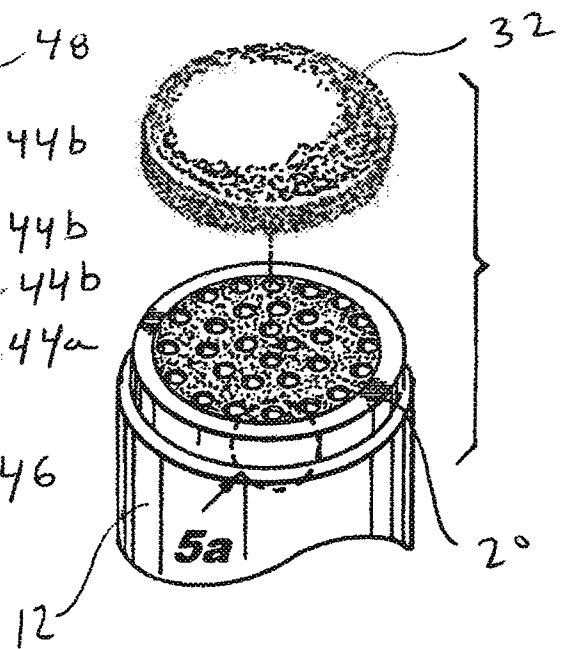


Fig. 5

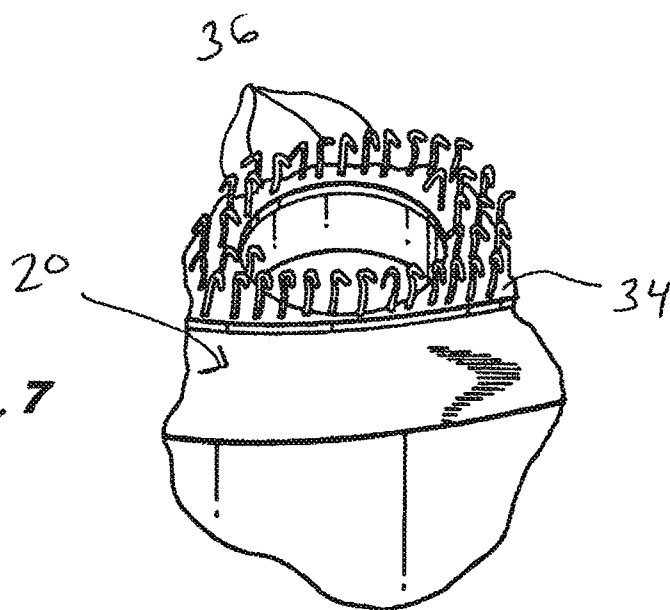
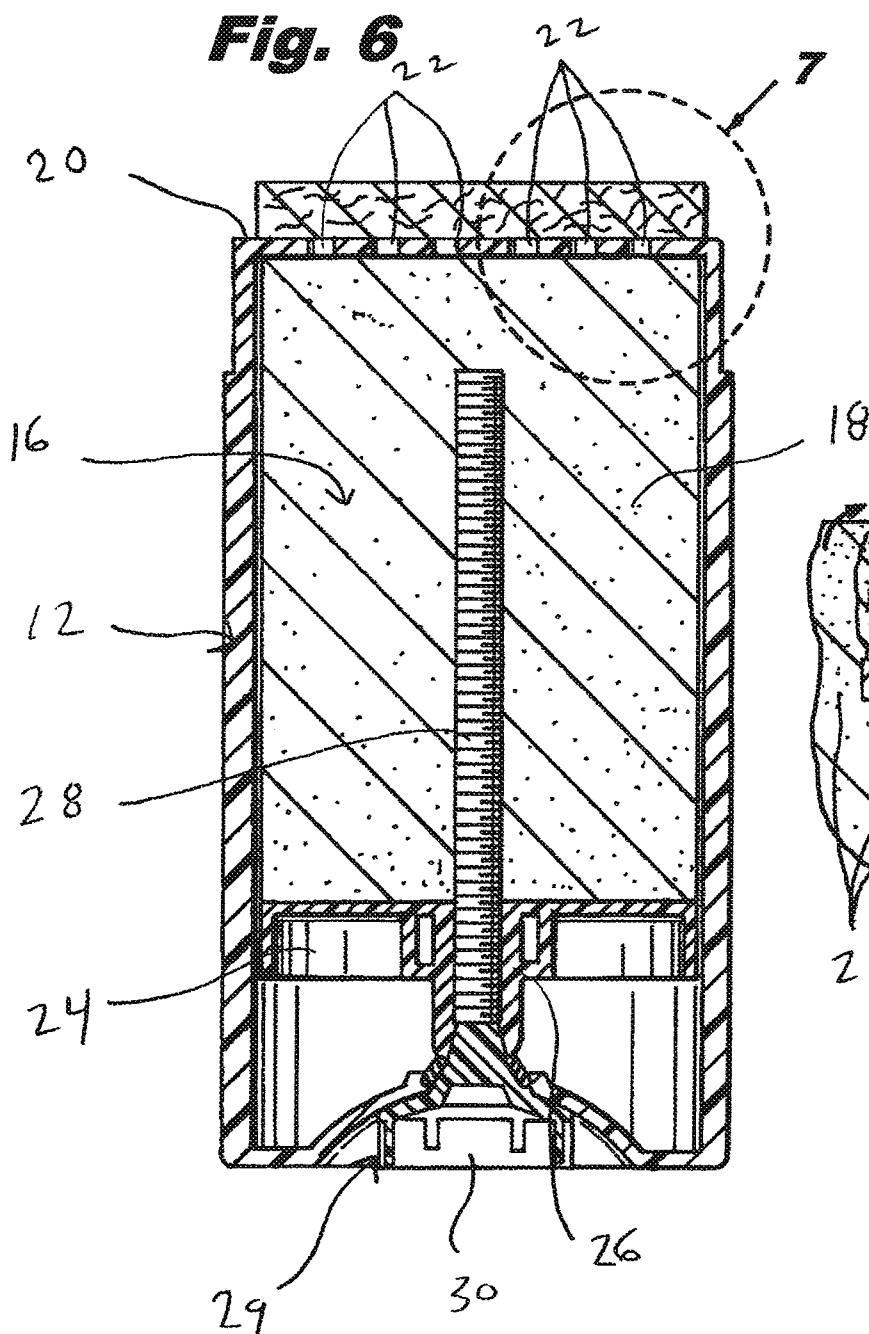


Fig. 5a

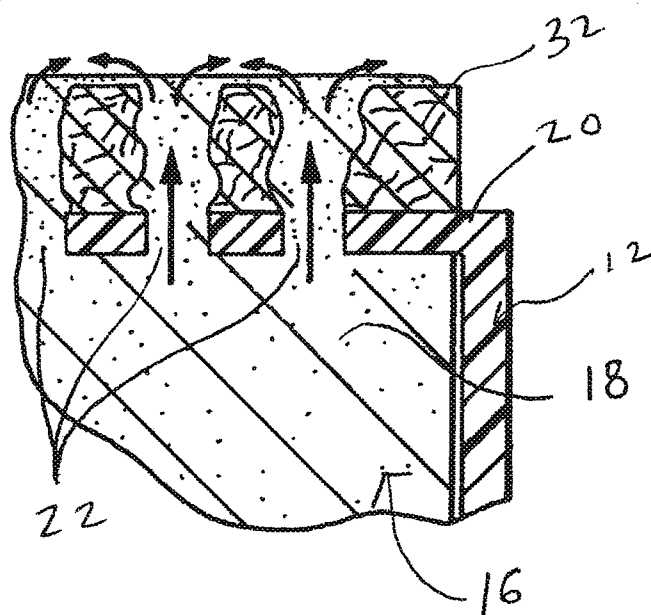


Fig. 7

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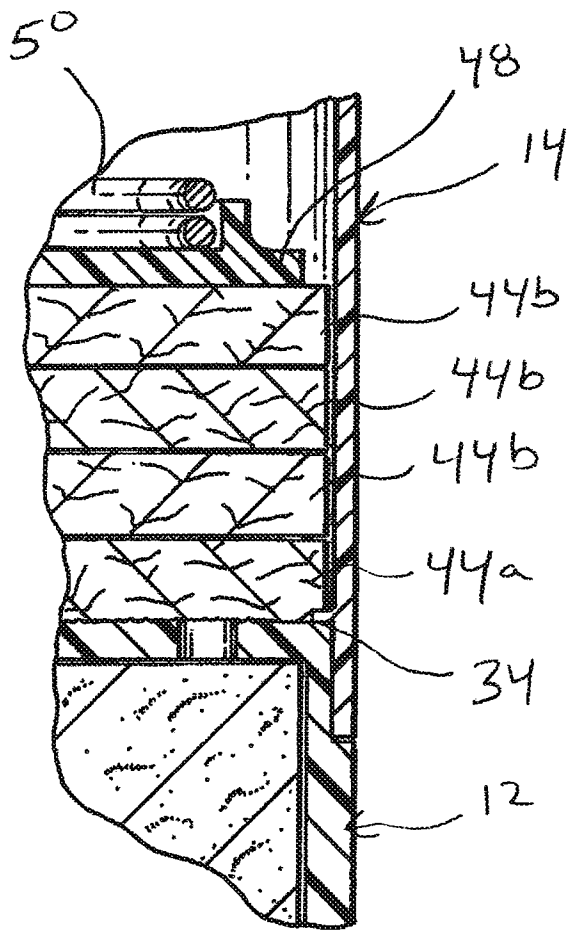


Fig. 8

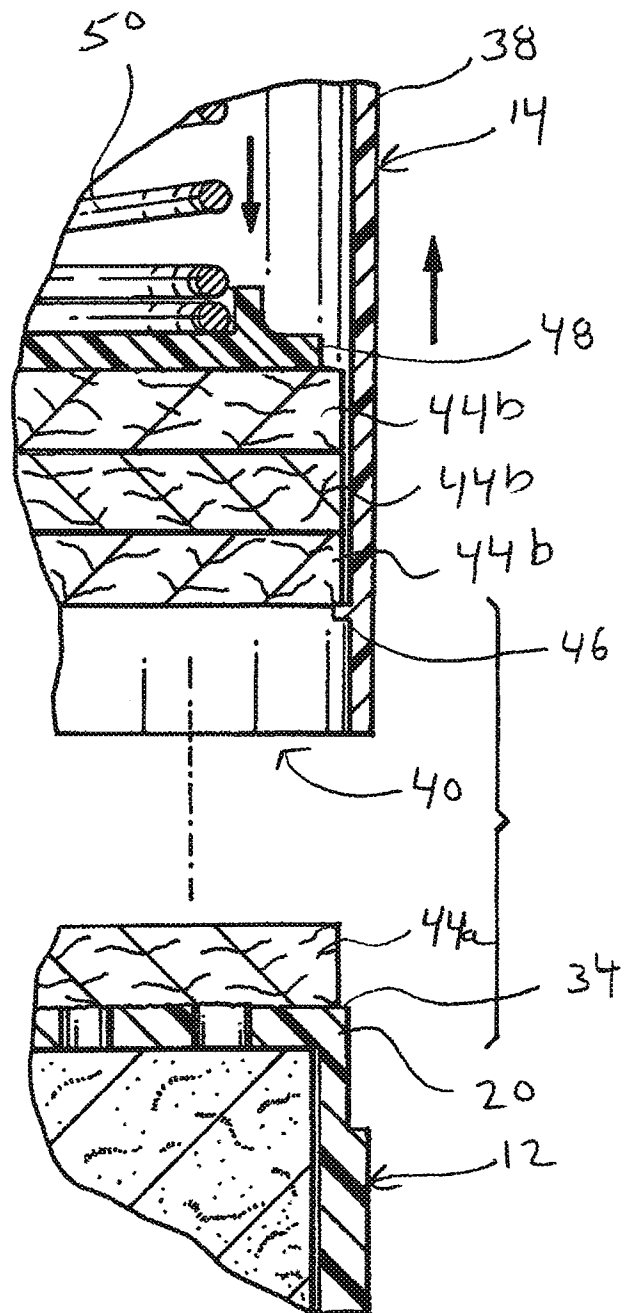


Fig. 9

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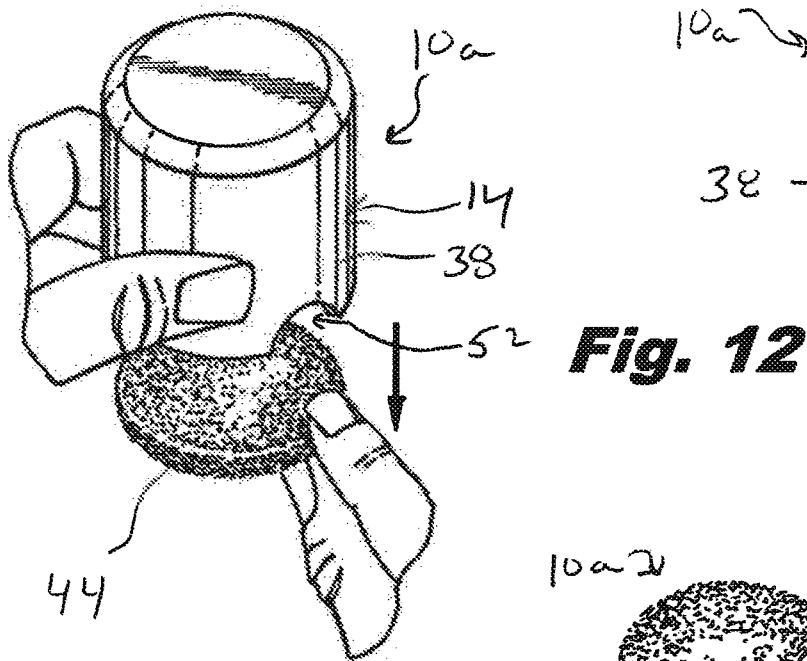
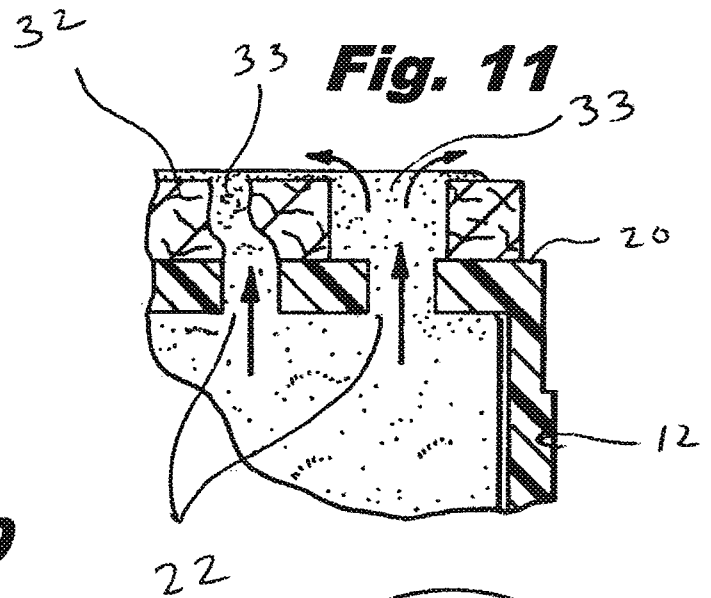
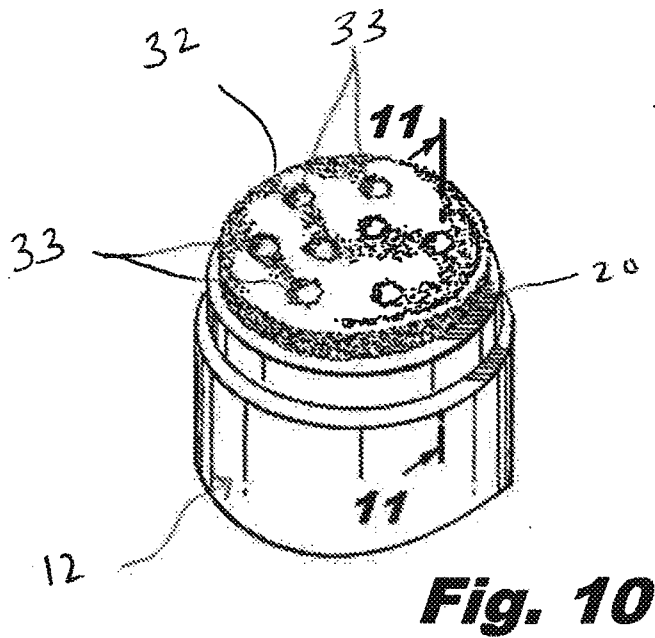


Fig. 13

