| | |
|---|---|
| United States Patent | 12391460 |
| Kind Code | B2 |
| Date of Patent | August 19, 2025 |
| Inventor(s) | Boukidjian; Roy et al. |


# Modular dispenser


## Abstract

A modular dispenser is disclosed, having a first cover body with a first face having an aperture, and a second cover body hingedly coupled to the first cover body through at least one hinge. The first cover body and second cover body are movable between an open position and a closed position. The second cover body includes a second face that is opposite the first face of the first cover body when in the closed position. The first cover body and second cover body together define a cavity that may hold hygiene wipes or sanitizing gel. The modular dispenser also includes at least one attachment mechanism coupled to the second cover body, and a moisture lock coupled to one of the first cover body and the second cover body and disposed along the interface between the first cover body and the second cover body when in the closed position.



**Inventors:** **Boukidjian; Roy (Winnetka, CA), Boukidjian; Gregoire (Winnetka, CA)**

**Applicant:** **DIGNITY HEALTH** (Phoenix, AZ)



**Family ID:** **1000008767005**

**Assignee:** **DIGNITY HEALTH (Phoenix, AZ)**

**Appl. No.:** **16/643523**

**Filed (or PCT Filed):** **September 13, 2018**

**PCT No.:** **PCT/US2018/050869**

**PCT Pub. No.:** **WO2019/055646**

**PCT Pub. Date:** March 21, 2019

## Prior Publication Data

| Document Identifier | Publication Date |
|---|---|
| US 20200361697 A1 | Nov. 19, 2020 |

## Related U.S. Application Data

us-provisional-application US 62572633 20171016
us-provisional-application US 62557833 20170913

---

## Publication Classification

**Int. Cl.:** **B65D83/08** (20060101); **A47K10/18** (20060101); **A47K10/42** (20060101); A47K10/32 (20060101)

**U.S. Cl.:**

CPC **B65D83/0805** (20130101); **A47K10/185** (20130101); **A47K10/42** (20130101); A47K2010/3233 (20130101); A47K2010/3266 (20130101)

## Field of Classification Search

**CPC:** A47K (10/42); A47K (10/185); A47K (10/421); A47K (2010/3233); A47K (2010/3246); A47K (2010/3266); A47K (2201/02); B65D (83/0805)

---

## References Cited

**U.S. PATENT DOCUMENTS**

| Patent No. | Issued Date | Patentee Name | U.S. Cl. | CPC |
|---|---|---|---|---|
| 2472058 | 12/1948 | Artley | 248/108 | A47K 1/09 |
| D285529 | 12/1985 | Huxhold | D8/367 | N/A |
| 4856744 | 12/1988 | Frankel | 224/558 | B62B 9/26 |
| 5087007 | 12/1991 | Gaderick | 248/108 | A47K 3/281 |
| D336842 | 12/1992 | Hampshire | D8/372 | N/A |
| 5246190 | 12/1992 | Swirkal | 224/567 | B60K 35/50 |
| 5265785 | 12/1992 | Chudy | 224/679 | B65D 83/0805 |
| 5325570 | 12/1993 | Chin-Ho | 24/511 | D06F 55/00 |
| 5439104 | 12/1994 | Wolska-Klis | 206/233 | G02C 13/006 |
| D377309 | 12/1996 | Hofman | D8/372 | N/A |
| 5785222 | 12/1997 | Basso | 224/555 | B60N 3/103 |
| D445332 | 12/2000 | Breiding | D9/416 | N/A |
| 6283334 | 12/2000 | Mahaffey | 222/212 | B65D 47/2031 |
| 6427293 | 12/2001 | Bowes, Jr. | 24/3.12 | F16B 45/02 |
| 6543737 | 12/2002 | Decker | 248/905 | A47K 10/185 |
| 6842951 | 12/2004 | Barre | 24/515 | B25B 7/02 |
| 7185864 | 12/2006 | Adams | 248/304 | A47G 25/0614 |
| 7207088 | 12/2006 | Adams | 16/404 | A47G 25/0614 |
| D573449 | 12/2007 | Goodman | D8/371 | N/A |
| D617998 | 12/2009 | Goodman | D6/323 | N/A |
| 7992833 | 12/2010 | Goodman | 248/339 | A47G 25/0614 |
| 8132692 | 12/2011 | Jordan | 221/196 | A61B 42/40 |
| D766707 | 12/2015 | Greenleaf | D8/367 | N/A |
| D783304 | 12/2016 | Gray | D6/515 | N/A |

| | | | | |
|---|---|---|---|---|
| D849516 | 12/2018 | Johnson | D8/367 | N/A |
| 10299614 | 12/2018 | Adams | N/A | G09F 7/18 |
| D858261 | 12/2018 | Gong | D8/367 | N/A |
| D859132 | 12/2018 | Abeel | D8/367 | N/A |
| D864698 | 12/2018 | Wilson | D8/367 | A45F 5/00 |
| D898548 | 12/2019 | Elliott | D8/372 | N/A |
| 2002/0113187 | 12/2001 | Decker | 248/905 | A47K 10/185 |
| 2007/0289988 | 12/2006 | Sosalla | 221/150A | F28D 20/023 |
| 2008/0067185 | 12/2007 | Schlaupitz | 221/45 | A47K 10/421 |
| 2008/0128571 | 12/2007 | Dostaler | 248/231.51 | B62B 3/1428 |
| 2010/0219199 | 12/2009 | Andochick | 221/199 | B60R 7/084 |
| 2010/0254123 | 12/2009 | Brown | 362/191 | A42B 1/244 |
| 2011/0017745 | 12/2010 | Michaels | 220/521 | A47K 10/42 |
| 2012/0074140 | 12/2011 | Pittman-Spears | 220/200 | A47K 5/12 |
| 2012/0118905 | 12/2011 | Lindbergh | 221/197 | A47K 10/421 |
| 2014/0334975 | 12/2013 | Geesbreght | 222/108 | A45F 5/021 |
| 2015/0173573 | 12/2014 | Dunn et al. | N/A | N/A |
| 2015/0374182 | 12/2014 | Delaney | N/A | N/A |
| 2020/0281374 | 12/2019 | Madueke | N/A | A45C 11/00 |

*Primary Examiner:* Crawford; Gene O

*Assistant Examiner:* Randall, Jr.; Kelvin L

*Attorney, Agent or Firm:* Booth Udall, PLC

## Background/Summary

RELATED APPLICATIONS (1) This application is the U.S. National Stage of International Application No. PCT/US2018/050869, filed Sep. 13, 2018, which claims the benefit of U.S. provisional patent application No. 62/557,833, filed Sep. 13, 2017 titled “Systems and Methods for Modular Dispenser”, as well as U.S. provisional patent application No. 62/572,633, filed Oct. 16, 2017 titled “Systems and Methods for Modular Dispenser”, the contents of each of which are incorporated herein by reference in their entireties.

TECHNICAL FIELD
(1) Aspects of this document relate generally to modular dispensers for use in a healthcare setting.
BACKGROUND
(2) Hospitals go to great lengths to ensure a clean environment is maintained. Hand sanitization stations are never more than a few steps away, making it easy for almost everyone in the hospital to prevent transferring bacteria and viruses through contact. An exception to this are bedridden patients. While hand sanitization and other cleaning and hygiene products are often provided to these patients, they are rarely kept in a convenient location. Mobile tabletops are often moved to provide access to health care providers, and hygiene products are commonly placed out of the way on nearby tables. While moving hygiene wipes to a bedside table may seem to be a minor detail in the overall care of a patient, it may have dire consequences.
(3) The last thing on a patient's mind while in a hospital bed, often experiencing pain, discomfort, or fear, is how to sanitize their hands before eating. Hygiene products moved out of the way of caregivers are commonly put out of sight, and therefore often out of mind, of the bedridden patient.

Even if remembered, when sanitization requires a painful reach to a bedside table, or a call for assistance, it is often simply skipped, and the likelihood of hospital acquired infection increases.

SUMMARY

(4) According to one aspect, a modular dispenser includes a first cover body with a first face having an aperture, and a second cover body hingedly coupled to the first cover body through at least one hinge. The first cover body and second cover body are movable between an open position and a closed position. The second cover body includes a second face that is opposite the first face of the first cover body when in the closed position. The first cover body and second cover body together define a cavity when in the closed position. The modular dispenser further includes at least one attachment mechanism integral with the second cover body, and a moisture lock comprising silicone and coupled to one of the first cover body and the second cover body and disposed along the interface between the first cover body and the second cover body when in the closed position.

(5) Particular embodiments may comprise one or more of the following features. The modular dispenser may further include an aperture seal disposed over the aperture. The aperture seal may include an elastomeric material and may have a slit that may be biased closed. The modular dispenser may further include an aperture cover that may be hingedly coupled to the first cover body and may cover the aperture seal. The aperture cover may be composed of the same material as the first cover body. The modular dispenser may further include a gel dispensing mechanism that may be releasably coupled to the first cover body and may pass through the aperture. A volume enclosed by the first cover body may be less than ¼ a volume enclosed by the second cover body. The at least one attachment mechanism may include a clip. The clip may have a head portion partially encircling a receiving void and/or tapering downward to a tail portion that may have a tail end. The clip may be sufficiently flexible that the tail portion is deflectable away from the second cover body to a distance at least equal to a width of the receiving void. The tail end may be biased toward the second cover body. The receiving void may be at least 4 cm wide. The clip may further include a utility hanger extending outward from the clip, away from the second cover body, and/or curving upward. The first face and the second face may be substantially parallel while in the closed position. The first face and the second face may both be closer to vertical than horizontal when the at least one attachment mechanism is engaged with a hospital bed.

(6) According to another aspect of the disclosure, a modular dispenser includes a first cover body having an aperture, and a second cover body hingedly coupled to the first cover body through at least one hinge. The first cover body and second cover body are movable between an open position and a closed position, the first cover body and second cover body together defining a cavity when in the closed position. The modular dispenser further includes at least one attachment mechanism coupled to the second cover body.

(7) Particular embodiments may comprise one or more of the following features. The modular dispenser may further include a moisture lock that may include an elastomer coupled to one of the first cover body and the second cover body and/or disposed along the interface between the first cover body and the second cover body when in the closed position. The at least one attachment mechanism may include a loop that may have a flat side and/or a strap that may include an elastomer material and may pass through the loop to releasably couple to itself. The modular dispenser may further include a utility hanger coupled to one of the at least one attachment mechanism. The utility hanger may extend outward and away from the second cover body and/or curve upward. The modular dispenser may further include a lock coupled to the first cover body and may be movable between an unlocked position and a locked position. The lock may be engaged with a lock port on the second cover body while in the locked position.

(8) According to yet another aspect of the disclosure, a modular dispenser includes a first cover body having an aperture, and a second cover body releasably coupled to the first cover body, the first cover body and second cover body together enclosing a cavity. The modular dispenser also includes at least one attachment mechanism coupled to the second cover body.

(9) Particular embodiments may comprise one or more of the following features. The at least one attachment mechanism may include a clip. The clip may have a head portion partially encircling a receiving void and tapering downward to a tail portion that may have a tail end. The clip may be sufficiently flexible that the tail portion is deflectable away from the second cover body to a distance at least equal to a width of the receiving void. The tail end may be biased toward the second cover body. The clip further may further include an elastomeric material that may be non-slip along a segment of the head portion that may face the receiving void. The modular dispenser may further include an aperture seal disposed over the aperture. The aperture seal may include an elastomeric material and may have a slit.

(10) Aspects and applications of the disclosure presented here are described below in the drawings and detailed description. Unless specifically noted, it is intended that the words and phrases in the specification and the claims be given their plain, ordinary, and accustomed meaning to those of ordinary skill in the applicable arts. The inventors are fully aware that they can be their own lexicographers if desired. The inventors expressly elect, as their own lexicographers, to use only the plain and ordinary meaning of terms in the specification and claims unless they clearly state otherwise and then further, expressly set forth the “special” definition of that term and explain how it differs from the plain and ordinary meaning. Absent such clear statements of intent to apply a “special” definition, it is the inventors' intent and desire that the simple, plain and ordinary meaning to the terms be applied to the interpretation of the specification and claims.

(11) The inventors are also aware of the normal precepts of English grammar. Thus, if a noun, term, or phrase is intended to be further characterized, specified, or narrowed in some way, then such noun, term, or phrase will expressly include additional adjectives, descriptive terms, or other modifiers in accordance with the normal precepts of English grammar. Absent the use of such adjectives, descriptive terms, or modifiers, it is the intent that such nouns, terms, or phrases be given their plain, and ordinary English meaning to those skilled in the applicable arts as set forth above.

(12) Further, the inventors are fully informed of the standards and application of the special provisions of 35 U.S.C. § 112(f). Thus, the use of the words “function,” “means” or “step” in the Detailed Description or Description of the Drawings or claims is not intended to somehow indicate a desire to invoke the special provisions of 35 U.S.C. § 112(f), to define the invention. To the contrary, if the provisions of 35 U.S.C. § 112(f) are sought to be invoked to define the inventions, the claims will specifically and expressly state the exact phrases “means for” or “step for”, and will also recite the word “function” (i.e., will state “means for performing the function of [insert function]”), without also reciting in such phrases any structure, material or act in support of the function. Thus, even when the claims recite a “means for performing the function of . . . ” or “step for performing the function of . . . ,” if the claims also recite any structure, material or acts in support of that means or step, or that perform the recited function, then it is the clear intention of the inventors not to invoke the provisions of 35 U.S.C. § 112(f). Moreover, even if the provisions of 35 U.S.C. § 112(f) are invoked to define the claimed aspects, it is intended that these aspects not be limited only to the specific structure, material or acts that are described in the preferred embodiments, but in addition, include any and all structures, materials or acts that perform the claimed function as described in alternative embodiments or forms of the disclosure, or that are well known present or later-developed, equivalent structures, material or acts for performing the claimed function.

(13) The foregoing and other aspects, features, and advantages will be apparent to those artisans of ordinary skill in the art from the DESCRIPTION and DRAWINGS, and from the CLAIMS.

---

## Description

## BRIEF DESCRIPTION OF THE DRAWINGS

(1) The invention will hereinafter be described in conjunction with the appended drawings, where like designations denote like elements, and:

(2) FIG. **1** is a front view of a modular dispenser;

(3) FIG. **2** is a rear view of a modular dispenser;

(4) FIGS. **3***a* and **3***b* are cross-sectional views of the modular dispenser of FIG. **2** in closed and open configurations, respectively;

(5) FIG. **4** is a front view of a first cover body;

(6) FIG. **5** is a cross-sectional view of the first cover body of FIG. **4**;

(7) FIG. **6** is front view of a second cover body having a clip;

(8) FIG. **7***a* is a cross-sectional view of the second cover body of FIG. **6**;

(9) FIG. **7***b* is a cross-sectional view of the second cover body of FIG. **6** after being attached to a hospital bed;

(10) FIG. **8** is a cross-sectional view of the second cover body of FIG. **2**;

(11) FIG. **9** is a perspective view of a strap;

(12) FIG. **10** is a front view of a second cover body having a clamp;

(13) FIG. **11** is a cross-sectional view of the second cover body of FIG. **10**;

(14) FIG. **12** is a front view of a modular dispenser; and

(15) FIG. **13** is a cross-sectional view of the modular dispenser of FIG. **12**.

## DETAILED DESCRIPTION

(16) This disclosure, its aspects and implementations, are not limited to the specific material types, components, methods, or other examples disclosed herein. Many additional material types, components, methods, and procedures known in the art are contemplated for use with particular implementations from this disclosure. Accordingly, for example, although particular implementations are disclosed, such implementations and implementing components may comprise any components, models, types, materials, versions, quantities, and/or the like as is known in the art for such systems and implementing components, consistent with the intended operation.

(17) The word “exemplary,” “example,” or various forms thereof are used herein to mean serving as an example, instance, or illustration. Any aspect or design described herein as “exemplary” or as an “example” is not necessarily to be construed as preferred or advantageous over other aspects or designs. Furthermore, examples are provided solely for purposes of clarity and understanding and are not meant to limit or restrict the disclosed subject matter or relevant portions of this disclosure in any manner. It is to be appreciated that a myriad of additional or alternate examples of varying scope could have been presented, but have been omitted for purposes of brevity.

(18) While this disclosure includes a number of embodiments in many different forms, there is shown in the drawings and will herein be described in detail particular embodiments with the understanding that the present disclosure is to be considered as an exemplification of the principles of the disclosed methods and systems, and is not intended to limit the broad aspect of the disclosed concepts to the embodiments illustrated.

(19) Hospitals and other healthcare facilities go to great lengths to ensure a clean environment is maintained. For example, hand sanitization stations are commonly never more than a few steps away, making it easy for almost everyone in the hospital to prevent transferring pathogens through contact. An exception to this are bedridden, or otherwise immobile or mobility impaired, patients. While hand sanitization and other cleaning products and materials (hereinafter referred to generally as hygiene products) are often provided to these patients, they are rarely kept in a convenient location. Over-bed tabletops are often moved to provide access to caregivers, and hygiene products are commonly placed out of the way on nearby tables. While moving hygiene products to a bedside table may seem to be a minor detail in the overall care of a patient, it may have dire consequences.

(20) The last thing on a patient's mind while in a hospital bed, often experiencing pain, discomfort,

or fear, is how to sanitize their hands before eating. Hygiene products moved out of the way of caregivers are commonly put out of sight, and therefore often out of mind, of the bedridden patient. Even if remembered, when sanitization requires a painful reach to a bedside table, or a call for assistance, it is often simply skipped, and the likelihood of hospital acquired infection increases.
(21) Contemplated herein is a modular dispenser that provides 24-hour direct access to hygiene products for substantially immobile patients without impeding medical care. Various embodiments of the modular dispenser are configured to be attached (releasably) to an item of medical equipment/furniture/structure, such as a hospital bed, a gurney, or other item that can support a patient. Since the modular dispenser does not have to rest on a flat surface such as a table, but instead can be attached to something a patient has access to, it may be placed within reach of the patient without obstructing the access of a caregiver or interfering with the operation of medical equipment (e.g. movable hospital beds, etc.)
(22) Different embodiments of the modular dispenser can be used to dispense a variety of hygiene products, including but not limited to hygiene wipes and sanitizing gel for one or more extremities of an individual in need thereof, such as an individual that is substantially or completely immobile. For example, in some embodiments, the modular dispenser can be configured and arranged to dispense hygiene wipes that the patient can access after an event that may have soiled the patient's extremities (e.g., using a bedpan or a urinal, sneezing, using a tissue to clean his or her nose, etc.) or can access the hygiene wipes prior to an event for which the patient desires clean extremities (e.g., prior to eating).
(23) FIGS. **1-3** show various views of a non-limiting example of a modular dispenser **100**. Specifically, FIG. **1** shows a front view, FIG. **2** shows a rear view, FIG. **3***a* shows a cross sectional view along A-A of the modular dispenser **100** in a closed position, and FIG. **3***b* shows that same cross section while in an open position. It should be noted that, particularly in cross section views, the relative thickness of different elements should be taken as representative, and not to scale. According to various embodiments, elements depicted as having the same thickness or other dimension may differ in other embodiments and implementations.
(24) As shown, the modular dispenser **100** comprises a first cover body **102**, a second cover body **200**, and at least one attachment mechanism **114**. The first cover body **102** is coupled to the second cover body **200**, together forming or defining a cavity **302** from which a hygiene product is dispensed. It should be noted that while the figures of this disclosure depict embodiments configured for dispensing hygiene wipes and sanitizing gel, other embodiments may be configured for the dispensing of additional or multiple types of hygiene products.
(25) According to various embodiments, the first cover body **102** and second cover body **200** are able to move with respect to each other. In some embodiments, the first cover body **102** and second cover body **200** may be integral with each other and formed as a single unit. For example, in one embodiment, the two bodies may be formed as a single piece, connected by a segment of material that is thin enough to flex, allowing the two bodies to hinge open and closed.
(26) In other embodiments, including the non-limiting example shown in FIGS. **1-3**, the cover bodies **100**, **200** may be formed separately and then coupled to each other. For example, in some embodiments, the first cover body **102** may be coupled to the second cover body **200** through one or more hinges **112**, allowing the first and second cover bodies to hinge with respect to each other between an open position **310** and a closed position **300**.
(27) In the context of the present description and the claims that follow, a closed position **300** is a configuration of the first cover body **102** and the second cover body **200** such that an enclosed cavity **302** has been formed and the hygiene product is contained (e.g. it will not fall out of the cavity **302** while in an intended orientation, etc.). Furthermore, an open position **310** is any position that is not a closed position **300**. According to various embodiments, the modular dispenser **100** may be placed in an open position **310** to deposit hygiene product into the dispenser **100**, and placed in a closed position **300** so the hygiene product may be dispensed to a user (e.g. patient,

etc.).
(28) According to various embodiments, the cavity **302** can extend some or all of the length and width of the internal area of the modular dispenser **100**. As such, the user/patient can access the cavity **302** by reaching through the aperture **106** and the aperture seal **108**. In some embodiments, one or more items of interest to the user/patient can be at least partially positioned within the cavity **302**. For example, in some embodiments, one or more hygiene wipes can be positioned within the cavity **302** and accessed by the patient (e.g., via the aperture **106** and aperture seal **108**). In particular, the hygiene wipes may comprise/be impregnated with a compound that is capable of substantially sanitizing a portion of the user's body. For example, in some embodiments, the hygiene wipes may be impregnated with an alcohol-based solution that is of a sufficient concentration to at least partially sanitize the user's hands after using a bedpan or urinal and/or prior to eating or drinking. In other embodiments, the hygiene wipes can be impregnated with any other form of sanitizing solution/compound. In yet other embodiments, the hygiene wipes may not be impregnated with any sanitizing solution and may be dry tissues and/or comprise other compounds and solutions for washing and cleaning the patient.
(29) In some embodiments, the modular dispenser **100** may have a substantially rhombohedral shape. For example, the dispenser **100** may be a thin, rectangular box, sized to hold hygiene wipes. As a specific example, the modular dispenser **100** shown in FIGS. **1-3**, having a first face **104** and a second face **202** that are substantially parallel when in the closed position **300**, may be engaged with a structure near the patient using one or more attachment mechanisms such that the first face **104** and second face **202** are closer to vertical than horizontal, allowing the hygiene product to be dispensed in a substantially vertical direction. This allows the patient to simply pull towards themselves, rather than having to pull upward then inward.
(30) In other embodiments, the modular dispenser **100** may have other shapes, such as cylindrical. In some embodiments, the shape of the modular dispenser **100**, or more specifically, the shape of the cavity **302** within the dispenser **100**, may be configured to receive a hygiene product that is stored or delivered in a standardized or common packaging, shape, form, or arrangement.
(31) As previously mentioned, some embodiments of the modular dispenser **100** comprise cover bodies that are hingedly coupled through one or more hinges **112**. The non-limiting example shown in FIGS. **1-3** employs two male/female hinges. Male/female hinges are advantageous as they may be formed entirely through injection molding of plastic, and thus can be formed integral with and simultaneous to the first cover body **102** and second cover body **200**. Those skilled in the art will recognize that other numbers, sizes, and types of hinges may be used to movably couple the first cover body **102** and the second cover body **200**. In some embodiments the hinges **112** may be formed integral with one or both cover bodies, while in other embodiments the hinge or hinges **112** may be affixed to the two bodies after formation. In still other embodiments, the first cover body **102** may be releasably coupled to the second cover body **200** without using hinges. Exemplary coupling methods include, but are not limited to, threading, magnets, friction fitting, snap-ins, and the like.
(32) In some embodiments, the first cover body **102** may have a first face **104** that may be the largest facet or substantially planar surface of the first cover body **102**, and the second cover body **200** may have a second face **202**. In some embodiments, the second face **202** may be opposite, and substantially parallel to (i.e. parallel within 15 degrees) the first face **104**. In other embodiments, the first and second faces may be non-parallel, and in yet other embodiments, the second cover body **200** may not have a planar surface or face.
(33) The first and second cover bodies may be formed from various materials that are compatible with the overall goal of reducing the transfer of pathogens. They may comprise a substantially inert material that will pose little to threat of physical harm to a patient. For example, in some embodiments, the first and second cover bodies **100**, **200** may be made from a sterilizeable or washable plastic, thermoplastic, or other polymer is substantially moisture proof and sufficiently

non-porous that it does not pose a substantial threat of harboring bacteria or is difficult to disinfect. The use of thermoplastics may be advantageous, in that the cover bodies may be formed through injection molding. In other embodiments, the first and second cover bodies **100**, **200** may be formed from any hard material that is substantially inert and that does not pose a risk to the patient. In still other embodiments, the first and second cover bodies **100**, **200** may be formed from material that is not able to be repeatedly disinfected, but is intended for use by a single patient and then discarded rather than being refilled and/or sanitized for another patient to use.

(34) The first cover body **102** may comprise at least one aperture **106**. According to various embodiments, the first face **104** of the first cover body **102** may comprise an aperture **106** through which a hygiene product or other material within the cavity **302** may be dispensed or accessed without requiring the modular dispenser **100** to be placed in an open position **310**.

(35) In some embodiments, an aperture seal **108** may be coupled to or substantially integral with the first cover body **102** to substantially cover the aperture **106**. In some embodiments, the aperture seal **108** can provide a point of access to the internal cavity **302** of the modular dispenser **100** while also providing a partial seal (e.g., the aperture seal **108** can be substantially moisture-proof).

(36) For example, the aperture seal **108** can comprise a flexible material (e.g., elastomer, silicone, etc.) and may have one or more access portals or openings that can provide access to the area internal to the modular dispenser **100** when the patient or other user needs to access the cavity **302**. In some embodiments, the aperture seal **108** may have one or more slits **110** that are biased closed. In the context of the present disclosure and the claims that follow, a slit that is biased closed refers to an elongated opening or incision in an aperture seal **108** wherein the slit is narrow enough and/or the seal **108** is thick enough that in the absence of a penetrating object (e.g. hand, finger, etc.), the slit **110** will tend toward (i.e. bias towards) a closed state. As a specific example, this closed state may be tight enough to prevent or at least inhibit transfer of moisture or vapor from the cavity **302** to the outside. This may facilitate the dispensing of moistened hygiene wipes while preventing them from quickly drying out.

(37) By way of example only, the user can put a finger, fingers, or hand through the aperture seal **108** to access the internal cavity **302**. In some embodiments, the aperture seal **108** can be coupled to the first face **104**. In other embodiments, the aperture seal **108** can be substantially integral with the first face **104**.

(38) In some embodiments, the modular dispenser **100** may comprise one or more locks **116** that prevent accidental opening of the dispenser **100**. For example, a lock **116** can be positioned on or along a side of the modular dispenser **100** that opposes the hinge **112** or hinges **112**. In some embodiments, including the non-limiting example shown in FIGS. **1**-**3**, the lock may be positioned on the first cover body **102**, while in others it may be positioned on the second cover body **200**. In some embodiments, the lock **116** may comprise a lever **307** that is movably (e.g., pivotably) engaged to the first cover body **102** and a lock member **309** that is capable of engaging a lock port **308** defined on the second cover body **200** (see FIGS. **3***a* and **3***b*). For example, the lever **307** can be pivotably engaged with the first cover body **102** such that the user/patient can move the lever **307** to seal and unseal the cavity **302**. Moreover, in some embodiments, the lock port **308** and the lock member **309** can be configured and arranged so that, when the user desires to lock together the first and second cover bodies **102**, **200** the user can actuate the lever **307** to move the lock member **309** to be at least partially received within and engage the lock port **308**, placing it in a locked position **306**.

(39) In some aspects, the lock port **308** can comprise a substantially semi-circular-like configuration and the lock member **309** can comprise a similar circular or semi-circular-like configuration to be received within and engage the lock port **308**. In other embodiments, the lock port **308** and the lock member **309** can comprise any other shape desired. In addition, the lock port **308** and the lock member **309** can be sized and dimensioned such that the lock member **309** remains engaged in the lock port **308** until the user again actuates the lever **307** to remove the lock

member **309** from the lock port **308**, placing it in an unlocked position **312**. In such a case, the user/patient can then move the first and/or second cover bodies **102**, **200** with respect to each other.
(40) In some embodiments, the modular dispenser **100** can operate without the aperture **106** and aperture seal **108**. For example, in some aspects, in order to access the recess **312**, the user/patient can actuate the lever **307** of the lock **116** to disengage the lock member **309** from the lock port **308** so that the user can access the recess **312** and any item(s) contained therein.
(41) In some embodiments, the modular dispenser **100** may comprise at least one attachment mechanism **114**. In the context of the present description and the claims that follow, an attachment mechanism **114** is a structure that allows the modular dispenser **100** to be attached to something that places the dispenser **100** within easy reach of the patient but out of the way of caregivers. For example, an attachment mechanism **114** may allow the modular dispenser **100** to be attached to the rail of a hospital bed.
(42) In some embodiments, the modular dispenser **100** may comprise one or more attachment mechanisms **114**. Furthermore, in some embodiments, a modular dispenser **100** may comprise more than one type of attachment mechanism **114**. Different types of attachment mechanisms **114** will be discussed in greater detail below, with respect to FIGS. **6-11**.
(43) In some embodiments, one or more attachment mechanisms **114** may be disposed substantially adjacent to a hinge or hinges **112**. By way of example only, in some embodiments, the attachment mechanisms **114** may be disposed substantially adjacent to an edge or corner of the modular dispenser **100**, as illustrated in the figures referenced above. In other embodiments, the attachment mechanisms **114** can be positioned at or along any other portion of the modular dispenser **100**.
(44) In some embodiments, the second cover body **200** can comprise the attachment mechanism(s) **114**. For example, in some embodiments, the attachment mechanisms **114** can be coupled to the second cover body **200** prior to use. In other embodiments, the second cover body **200** can be manufactured such that one or more attachment mechanisms **114** are integral with the second cover body **200**. Moreover, in some embodiments, the attachment mechanisms **114** may comprise a material that is the same or substantially similar as the material used to manufacture the second cover body **200**. In other embodiments, the attachment mechanisms **114** may comprise a different material. For example, in some aspects, the attachment mechanisms **114** may comprise a more flexible material (e.g., silicone, elastomer, etc.) compared to the rest of the modular dispenser **100** (e.g., polymer, thermoplastic, etc.).
(45) In some embodiments, the modular dispenser **100** can comprise a moisture lock **304**, to inhibit the dehydration or leaking of materials within the cavity **302**. For example, in some embodiments, one or more hygiene wipes can be positioned within the cavity **302** and some of the wipes may comprise a sanitizing solution. As such, it can be desirable to retain some or all of the moisture/sanitizing solution impregnated within the hygiene wipes. In some embodiments, the modular dispenser **100** may comprise the moisture lock **304** to provide such moisture retention within the cavity **302**.
(46) In some embodiments, the first and second cover bodies **102**, **200** may comprise different portions of the moisture lock **304**. For example, in some embodiments, the first cover body **102** may comprise a first portion **314** of the moisture lock and the second cover body **200** may comprise a second portion **316** of the moisture lock. In some embodiments, the first portion **314** of the moisture lock may be configured as a groove **314** or female lock. For example, the first portion/groove **314** may disposed substantially adjacent to the edge of the first cover body **102** and may run a partial or a complete length of a perimeter of the first cover body **102**. More specifically, in some aspects, the groove **314** may be defined substantially adjacent to the edge and along a portion of an inner surface **322** of the first cover body **102**. In some embodiments, the first cover body **102** can be formed such that the groove **314** is defined upon manufacture. In other embodiments, the groove **314** can be formed in the inner surface **322** of the first cover body **102** after manufacture.

(47) In these embodiments, the second cover body **200** can comprise the second portion **316** of the moisture lock **304**. For example, as shown, the edge of the second cover body **200** can comprise a curved region **318** and an engagement region **320**. As illustrated in the cross-sectional view of FIG. **3***a*, when the first and second cover bodies **102**, **200** are coupled together, the curved region **318** can extend from the second cover body **200** toward the first cover body **102** and the engagement region **320** can be configured and arranged to engage the inner surface **322** of the first cover body **102**. For example, in some embodiments, the second portion **316** of the moisture lock **304** can be configured as a male member **316** that extends from the engagement region **320** and engages with the groove/first portion **314** of the moisture lock **304** to provide a moisture seal. Moreover, the male member **316** can extend along a partial or complete length of a perimeter of the second cover body **200**. For example, the male member **316** can be provided for substantially the same length as the length of the groove **314** on the first cover body **102**. As such, upon closure of the first and second cover bodies **102**, **200**, the male member **316** can be at least partially received within the groove **314** to reduce and/or eliminate any fluid circulation (e.g., air circulation) within the cavity **302**. As a result, the cavity **302** remains substantially sealed because of the substantially or complete moisture-tight seal formed by the first and second portions **314**, **316** of the moisture lock **304**.
(48) In other embodiments, the moisture lock **304** may be formed by the placement of an elastomer material along the interface between the first cover body **102** and the second cover body **200** when they are in the closed position. Said material may be coupled to either of the bodies, or may be split between the two bodies. As an option, an elastomer material may be employed along with other embodiments of the moisture lock **304**. For example, an elastomer material may be placed between the first portion **314** and second portion **316** of the previously discussed moisture lock **304**.
(49) Referring now to FIGS. **4** and **5**, a front cover body **102** may further comprise an aperture cover **400**. For example, as previously mentioned, it may be desirable to retain moisture within one or more items disposed within the cavity **302** (e.g., sanitizing compound contained within hygiene wipes, etc.). Accordingly, the aperture cover **400** can be configured and arranged to substantially or completely seal (e.g., moisture-tight seal) the area substantially or immediately adjacent to the aperture **106** and aperture seal **108** to provide substantial or complete moisture retention within and around the items disposed within the cavity **302**. As an option, the cover **400** may be composed of the same material as the first cover body **102**.
(50) In some embodiments, the aperture cover **400** may comprise a hinge **402**, an aperture cover male member **404**, and an aperture cover female member **406**. For example, the hinge **402** may be coupled to or substantially integral with the first cover body **102**. Moreover, the hinge **402** may provide the ability to move the aperture cover **400**. For example, the hinge **402** may provide the ability to move the aperture cover **400** between 1 and 180 degrees to enable the user to access the cavity **302** via the aperture **106** and/or aperture seal **108**. Moreover, in some embodiments, a portion of the aperture cover **400** may be configured as the aperture cover male member **404** and the aperture cover female member **406** may be coupled to and/or substantially or completely integral with the first cover body **102**. As such, the aperture cover male member **404** and the aperture cover female member **406** can engage each other when the user desires the aperture cover **400** to be in a closed position. When engaged, the aperture cover male member **404** and the aperture cover female member **406** can provide the substantial or complete moisture seal of the aperture **106** and/or aperture seal **108**. Conversely, the user can disengage the aperture cover male member **404** from the aperture cover female member **406** to access the cavity **302** via the aperture **106** and/or aperture seal **108**.
(51) As illustrated in FIG. **5**, the hinge **402** may be positioned substantially or immediately adjacent to a first side of the aperture **106** and/or aperture seal **108** and the aperture cover female member **406** can be positioned on an opposing side. As such, the hinge **402** can provide the movement capability for the aperture cover **400** and the aperture cover male and female members **404**, **406** can

provide sealing/locking capabilities.
(52) FIGS. **6-11** show non-limiting examples of different kinds of attachment mechanisms **114**, specifically a clip **600**, a strap **900**, and a clamp **1000**. Those skilled in the art will recognize that other attachment mechanisms **114** may also be employed to couple a modular dispenser **100** to a structure or object within a hospital or healthcare setting, as previously discussed.
(53) FIGS. **2**, **6**, and **10** show views of various attachment mechanisms **114** coupled or integral with the second cover body **200**. In some embodiments, an attachment mechanism **114** may be coupled to or integral with the second cover body **200**, while in others it may be coupled to or integral with the first cover body **102**. The following discussion of three different examples of attachment mechanisms **114** will be done in the context of their being formed integral with a second cover body **200**. However, it should be noted that this is for exemplary purposes only, and that in other embodiments these and other attachment mechanisms **114** could be coupled or part of a first cover body **102**.
(54) FIG. **6** shows a front view of a non-limiting example of a second cover body **200** whose attachment mechanisms **114** are clips **600**. FIGS. **7***a* and **7***b* are cross-sectional views of the second cover body **200** of FIG. **6**, along D-D. As shown, each clip **600**, comprises a head portion **602** that extends upward and curves outward, then downward from the second cover body **200**, partially encircling a receiving void **700** then tapering (e.g. angling back toward the second cover body **200**) downward to a tail portion **604** that is less curved and terminating at a tail end **606** that is biased, the bias **710** being toward the second cover body **200**.
(55) Before proceeding, it should be noted that, in discussing the elements that make up various embodiments of a clip **600**, the term “downward” is used as a contrast to “upward” being used to describe the initial trajectory of the head portion **602** after interfacing with the second cover body **200**, and should not be taken as an indication or limitation of the orientation of any part of the clip **600** with respect to any other part of the modular dispenser **100** (e.g. the clip **600** could be angled with respect to the second cover body **200**, etc.).
(56) In the context of the present description and the claims that follow, a receiving void **700** refers to the volume, or cross-sectional area of a volume, that can be occupied by a structure that the clip **600** is attached to while functioning within normal use conditions (e.g. clip **600** is not strained to a breaking point by inserting an object that is too large, etc.). This void **700** has a width **702**. In the context of the present description and the claims that follow, the width **702** of a receiving void **700** refers to the largest distance within the head portion **602**, normal to the second cover body **200**. In other words, it is the thickness of the void **700**, as measured from the second cover body **200**. Furthermore, in the same context, to at least partially encircle said receiving void **700** means to trace at least part of the perimeter or surface of the void. Regarding these definitions, the distinction between volume/surface and cross-sectional area of a volume/perimeter depends upon if the head portion **602** has a cross section that is substantially constant as the cutting plane propagates along a line.
(57) FIG. **7***a* shows a non-limiting example of a clip **600** that in a free position in which the clip **600** is not engaged with anything, while FIG. **7***b* shows that same clip **600** in a hooked position in which the clip **600** is engaged with a hospital bed **708**. When engaged with a desired location (e.g. the rail of a hospital bed **708**), the biasing of the tail end **606** may help prevent inadvertent removal or disengagement of the modular dispenser **100** from the location. In some embodiments, the bias **710** is such that, when not engaged, the tail end **607** is in contact with the second cover body **200**, while in others the tail end **607**, while in a relaxed state, is not in contact with the second cover body **200**. Furthermore, according to various embodiments, the clip **600** may be shaped and/or composed of a material that, in addition to providing the bias **710**, is flexible enough that the tail portion **604** is deflectable away from the second cover body **200** to a distance **712**, measured like the previously discussed width **702**, that is at least equal to the width **702** of the receiving void **700**. In some embodiments, the width **702** of the void **700** is at least 4 cm, while in other embodiments,

the width **702** is at least 6 cm, 8 cm, 10 cm, or larger. FIGS. **7***a* and **7***b* also illustrate that, in some embodiments, the clip **600** comprises a straight portion **608** and the utility hanger **704** comprises a straight portion **714**. When the clip **600** is in the free position, as shown in FIG. **7***a*, the straight portion **608** of the clip **600** may be oblique with respect to the second cover body and the straight portion **714** of the utility hanger **704** may be substantially parallel to the second cover body. When the clip **600** is in the hooked position, the straight portion **608** of the clip **600** may be parallel to the second cover body and the straight portion **714** of the utility hanger **704** may be oblique with respect to the second cover body.

(58) In some embodiments, the clip **600** may further comprise a segment **706** of the head portion **602** that is facing the void **700** that is composed of, coated with, or coupled to, an elastomeric material that is non-slip, thereby enhancing the grip the clip **602** can exert on the various structures it may be engaged with. The non-slip segment **706** may comprise an elastomer, or any other non-slip or grip material known in the art. Improving the grip, combined with the bias **710**, may allow the clip **600** to maintain the modular dispenser **100** in an orientation that may be at odds with gravity (e.g. tipped at an angle, etc.), which may allow it to be positioned for easier access by the patient.

(59) As shown in FIGS. **7***a* and **7***b*, in some embodiments, the clip **600** may further comprise a utility hanger **704**. In some embodiments, a utility hanger **704** may be coupled to a clip **600** after formation, while in others it may be integral with the clip **600**. The utility hanger **704** is essentially a hook, extending outward from the clip **600**, away from the second cover body **200**, curving upward. It may be beneficial to have a means to hang a bag or other item from the modular dispenser **100**. For example, in embodiments where the modular dispenser **100** is dispensing hygiene wipes, it may be advantageous to hang a bag for receiving used wipes near the dispenser **100**, for easy access. Furthermore, while this discussion of a utility hanger **704** has been done in the context of a clip **600**, it should be noted that one or more utility hangers **704** could be coupled to or integral with any of the other attachment mechanisms **114** contemplated herein, or either of the cover bodies.

(60) FIG. **2** is a rear view of a modular dispenser **100**, but may also be considered a front view of a non-limiting example of a second cover body **200** having two strap-based attachment mechanisms **114**, each comprising a strap receiver **204** configured to receive a strap **900**. FIG. **8** shows a cross-sectional view of said second cover body **200**, along line B-B, and FIG. **9** shows a perspective view of a strap **900**. The use of a strap **900** as an attachment mechanism **114** may be advantageous as it is able to adjust to a wide range of shapes and sizes of target locations.

(61) According to various embodiments, the strap receiver **204** can be configured as a loop or buckle or any other configuration that is capable of engaging the strap **900**. For example, in some embodiments, the strap receiver **204** may be a loop having at least one flat side **206**, allowing the strap to sit flush with the loop.

(62) The strap **900** itself may releasably couple to itself, or to the receiver **204**, to engage a target location. For example, in some embodiments, the strap **900** may comprise one or more holes **904** and a strap male member **902** that is configured and arranged to be received within the holes **904**. In some aspects, the strap **900** can be at least partially fed through the strap receiver **204** and then coupled to the hospital bed rail/gurney rail, or other structure, using the holes **904** and strap male member **902**. As such, the attachment mechanism **114** and strap **900** can support the modular dispenser **100** when coupled to the rail. Moreover, in some embodiments, more than one strap **900** can be provided to be placed through one or more of the strap receivers **204**.

(63) In some embodiments, the strap **900** may comprise a substantially flexible and/or sterilizeable material, such as silicone, elastomer, or any other similar material. The strap **900** may be flat and ribbon-like in some embodiments, round and cord-like in others, but may also have any other cross-sectional shape known in the art.

(64) FIG. **10** is a front view of a non-limiting example of a second cover body **200** with clamps

**1000** as attachment mechanisms **114**. FIG. **11** is a cross-sectional view of said body, along line E-E. According to various embodiments, a clamp **1000** is an attachment mechanism **114** that is capable of engaging a portion of a hospital bed or gurney (e.g., the rail) or any other cylindrical location. In particular, the clamp **1000** may be configured and arranged as a semi-flexible and biased manner in which the modular dispenser **100** can be attached to the rail of a hospital bed, gurney or other desired location. When the desired location (e.g., the rail of a hospital bed) is generally cylindrical in configuration, the clamp **1000** can be configured in a semi-circular manner such that the clamp **1000** can be engaged to the desired location. In particular, the user can provide a force to bias the clamp(s) **1000** against the rail and then the clamp(s) **1000** will then engage the rail and retain in place the modular dispenser **100**. In some embodiments, the modular dispenser **100**/second cover body **200** can comprise a plurality of clamps **1000**, such as two clamps **1000**. In some embodiments, the modular dispenser **100** may comprise one or more clamps **1000** and one or more other attachment mechanisms **114**.

(65) In some embodiments, the modular dispenser **100** may include any combination of attachment mechanisms **114**. For example, the modular dispenser **100** may comprise one or more clip **600** together with one or more clamps **1000** and/or straps **900**. These configurations can be selected based at least partially on the end user's needs and requirements.

(66) FIGS. **12** and **13** show various views of a non-limiting example of a modular dispenser **1200** configured to dispense a fluid product, such as sanitizing gel. FIG. **12** is a front view of the modular dispenser **1200**, and FIG. **13** is a cross-sectional view, along line F-F, of the modular dispenser **1200** of FIG. **12**.

(67) In some embodiments, the second cover body **200** can be configured and arranged to hold the fluid within the cavity **302**. In some embodiments (not pictured), other aspects of the modular dispenser **1200** (e.g., the first cover body **102**) can be configured and arranged to hold some or all of the fluid. For example, in some aspects, the fluid may comprise a liquid or a gel such as a composition used for sanitizing or cleansing (e.g., a composition comprising alcohol or a detergent). In other embodiments, the fluid may comprise an aerosolized composition that can be used for like uses.

(68) As shown in FIG. **12**, the first cover body **102** can be coupled to the second cover body **200** in a substantially similar manner to retain the fluid within the cavity **302** and the attachment mechanism **114** can be similarly positioned to attached the modular dispenser **1200** to a hospital bed, gurney, or other desired location, as described above.

(69) In some aspects, the first cover body **102** may comprise one or more devices or mechanisms to dispense the liquid contained within the cavity **302** (not shown). For example, the first cover body **102** (or other aspects of the modular dispenser **10**) may comprise a hand pump, atomizer, or any other device that is capable of dispensing the fluid. In other embodiments, the first cover body **102** can be opened and the user/patient/caregiver can directly access the fluid stored in the cavity **302**.

(70) In some embodiments, the aperture **106** of the first cover body **102** may be configured to releasably couple to a fluid or gel dispensing mechanism **1202**, such as those discussed above. In some embodiments, the modular dispenser **1200** may be formed as a single-use device, intended to be disposed of once all the liquid has been dispensed, while in other embodiments, the liquid may be refilled.

(71) Embodiments of a modular dispenser configured to dispense liquid may have shapes that differ from those intended to dispense solid products, such as wipes. For example, as shown in FIG. **13**, the second cover body **200** may be much deeper, whereas embodiments intended for wipes may be wider but shallow. Furthermore, the cavity **302** intended for holding a fluid sometimes relies mainly on the second cover body **202**, which makes it easier to prevent leaks through a first and second cover body interface. As a specific example, in some embodiments, a volume **1300** enclosed by the first cover body **102** may be less than ¼ the volume **1302** enclosed by the second cover body **200**.

(72) Some embodiments may receive a fluid directly into the cavity **302** for dispensing. Other embodiments may be configured to receive a vessel containing the fluid. For example, in one embodiment, the second cover body **200** may be configured to receive a bottle of sanitizing gel. As an option, one or more dimensions of the cavity **302** (e.g. internal surfaces of the cavity **302**) may be biased or otherwise movable (e.g. spring-loaded, articulated, etc.) such that the cavity **302** may conformed to different shapes, allowing it to mate or better enclose different shaped vessels. Furthermore, some embodiments may omit the first cover body **102** entirely, making use of the second cover body **200** and one or more attachment mechanisms **114**.
(73) Some embodiments of the modular dispenser contemplated herein provide significant advantages compared to conventional hygiene wipe dispensers and other dispensers of sanitizing products. For example, a conventional dispenser of hygiene wipes may be placed on an over-bed tray, at a patient's bedside, or even in a patient's bed. Unfortunately, all of these positions are subject to being moved by a caregiver or the patient such that when the patient requires use of the hygiene wipes (e.g., after use of the bed pan or a urinal or prior to eating or drinking), the patient may not be able to access the wipes. Moreover, even if not moved from a position adjacent to the patient, the conventional dispensers may pose an obstacle for a caregiver seeking to access the patient. Provided herein is an improvement relative to those conventional systems. For example, by providing reverse coupling to the rail of a hospital bed or gurney, the patient may readily access the hygiene wipes contained in the modular dispenser while the dispenser, by being coupled to the rail, poses little to no obstacle for the caregiver.
(74) Where the above examples, embodiments and implementations reference examples, it should be understood by those of ordinary skill in the art that other embodiments and examples could be intermixed or substituted with those provided. In places where the description above refers to particular embodiments of a modular dispenser, it should be readily apparent that a number of modifications may be made without departing from the spirit thereof and that these embodiments and implementations may be applied to other dispensers and healthcare devices as well. Accordingly, the disclosed subject matter is intended to embrace all such alterations, modifications and variations that fall within the spirit and scope of the disclosure and the knowledge of one of ordinary skill in the art.

## Claims

1. A modular dispenser configured to provide access to a hygiene product to an immobile patient in a hospital bed, the modular dispenser comprising: a first cover body comprising a first face having an aperture; a second cover body hingedly coupled to the first cover body through at least one hinge, the first cover body and second cover body movable between an open position and a closed position, the second cover body comprising a second face that is opposite the first face of the first cover body when in the closed position, the first cover body and second cover body together defining a cavity when in the closed position, the cavity configured to contain the hygiene product, wherein the hygiene product is accessible through the aperture of the first cover body; at least one attachment mechanism integral with the second cover body and configured to removably attach to a rail of the hospital bed and position the hygiene product in a location accessible to the patient, wherein the at least one attachment mechanism comprises a clip having a clip opening oriented in a downward direction, a tail end curving away from the second cover body, and a utility hanger separated from the tail end and formed as a hook extending outward from the clip with a hook opening oriented in an upward direction opposite the downward direction, wherein the hook is configured to support a disposal receptacle for receiving items to be disposed of and wherein the clip comprises a non-slip segment configured to enhance the grip of the clip and allow the clip to maintain the modular dispenser in an angled orientation with respect to the rail of the hospital bed; and a moisture lock comprising silicone and coupled to one of the first cover body and the second

cover body and disposed along the interface between the first cover body and the second cover body when in the closed position; wherein the modular dispenser is configured to provide the patient in the hospital bed with reliable access to the hygiene product without interfering with care provided to the patient; and wherein each of the clip and the utility hanger comprises a straight portion, wherein the clip is configured to move between a free position and a hooked position, wherein when the clip is in the free position, the straight portion of the clip is oblique with respect to the second cover body and the straight portion of the utility hanger is substantially parallel to the second cover body, and when the clip is in the hooked position, the straight portion of the clip is parallel to the second cover body and the straight portion of the utility hanger is oblique with respect to the second cover body, and wherein the clip is biased toward the free position.

2. The modular dispenser of claim 1, further comprising an aperture seal disposed over the aperture, the aperture seal comprising an elastomeric material and having a slit that is biased closed.

3. The modular dispenser of claim 2, further comprising an aperture cover hingedly coupled to the first cover body and covering the aperture seal, the aperture cover composed of the same material as the first cover body.

4. The modular dispenser of claim 1, further comprising a gel dispensing mechanism releasably coupled to the first cover body and passing through the aperture, wherein a volume enclosed by the first cover body is less than ¼ a volume enclosed by the second cover body.

5. The modular dispenser of claim 1, wherein the clip has a head portion partially encircling a receiving void and tapering downward to a tail portion having a tail end, the clip being sufficiently flexible that the tail portion is deflectable away from the second cover body to a distance at least equal to a width of the receiving void.

6. The modular dispenser of claim 5, wherein the receiving void is at least 4 cm wide.

7. The modular dispenser of claim 1, wherein first face and the second face are substantially parallel while in the closed position, and wherein the first face and the second face are both closer to vertical than horizontal when the at least one attachment mechanism is engaged with a hospital bed.

8. A modular dispenser configured to provide access to a hygiene product to an immobile patient in a hospital bed, the modular dispenser comprising: a first cover body having an aperture; a second cover body hingedly coupled to the first cover body through at least one hinge, the first cover body and second cover body movable between an open position and a closed position, the first cover body and second cover body together defining a cavity when in the closed position, the cavity configured to contain the hygiene product, wherein the hygiene product is accessible through the aperture of the first cover body; and at least one attachment mechanism coupled to the second cover body and configured to attach to a rail of the hospital bed and position the hygiene product in a location accessible to the patient, wherein the at least one attachment mechanism comprises a clip having a clip opening oriented in a downward direction, a tail end curving away from the second cover body, and a utility hanger separated from the tail end and formed as a hook extending outward from the clip with a hook opening oriented in an upward direction opposite the downward direction, wherein the hook is configured to support a disposal receptacle for receiving items to be disposed of and wherein the clip comprises a non-slip segment configured to enhance the grip of the clip; wherein the modular dispenser is configured to provide the patient in the hospital bed with reliable access to the hygiene product without interfering with care provided to the patient; and wherein each of the clip and the utility hanger comprises a straight portion, wherein the clip is configured to move between a free position and a hooked position, and wherein when the clip is in the free position, the straight portion of the clip is oblique with respect to the second cover body and the straight portion of the utility hanger is substantially parallel to the second cover body, and when the clip is in the hooked position, the straight portion of the clip is parallel to the second cover body and the straight portion of the utility hanger is oblique with respect to the second cover

body.
9. The modular dispenser of claim 8, further comprising a moisture lock comprising an elastomer coupled to one of the first cover body and the second cover body and disposed along the interface between the first cover body and the second cover body when in the closed position.
10. The modular dispenser of claim 8, wherein the clip has a head portion partially encircling a receiving void and tapering downward to a tail portion having a tail end, the clip being sufficiently flexible that the tail portion is deflectable away from the second cover body to a distance at least equal to a width of the receiving void, the tail end being biased toward the second cover body.
11. The modular dispenser of claim 8, further comprising a lock coupled to the first cover body and movable between an unlocked position and a locked position, wherein the lock is engaged with a lock port on the second cover body while in the locked position.
12. A modular dispenser configured to provide access to a hygiene product to an immobile patient in a hospital bed, the modular dispenser comprising: a first cover body having an aperture; a second cover body releasably coupled to the first cover body, the first cover body and second cover body together enclosing a cavity, the cavity configured to contain the hygiene product, wherein the hygiene product is accessible through the aperture of the first cover body; and at least one attachment mechanism coupled to the second cover body and configured to attach to a rail of the hospital bed and position the hygiene product in a location accessible to the patient, wherein the at least one attachment mechanism comprises a clip having a clip opening oriented in a downward direction, tail end curving away from the second cover body, and a utility hanger separated from the tail end and formed as a hook extending outward from the clip with a hook opening oriented in an upward direction opposite the downward direction, wherein the hook is configured to support a disposal receptacle for receiving items to be disposed of; wherein the modular dispenser is configured to provide the patient in the hospital bed with reliable access to the hygiene product without interfering with care provided to the patient; and wherein the clip is configured to move between a free position and a hooked position, wherein when the clip is in the free position, the clip is oblique with respect to the second cover body and the utility hanger is substantially parallel to the second cover body, and when the clip is in the hooked position, the clip is parallel to the second cover body and the utility hanger is oblique with respect to the second cover body.
13. The modular dispenser of claim 12, wherein the clip has a head portion partially encircling a receiving void and tapering downward to a tail portion having a tail end, the clip being sufficiently flexible that the tail portion is deflectable away from the second cover body to a distance at least equal to a width of the receiving void, the tail end being biased toward the second cover body.
14. The modular dispenser of claim 13, wherein the clip further comprises an elastomeric material that is non-slip along a segment of the head portion that faces the receiving void.
15. The modular dispenser of claim 12, further comprising a gel dispensing mechanism releasably coupled to the first cover body and passing through the aperture.
16. The modular dispenser of claim 12, further comprising an aperture seal disposed over the aperture, the aperture seal comprising an elastomeric material and having a slit.