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(54) **MINOR URINARY DISCHARGE CAPTURE (INCONTINENCE) DEVICE**

(71) Applicant: **Powers & Son, Inc.**, Allison Park, PA (US)

(72) Inventors: **Michael Powers**, Allison Park, PA (US); **Larry Powers**, Allison Park, PA (US)

(73) Assignee: **Powers & Son, Inc.**, Allison Park, PA (US)

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(51) **Int. Cl.**

A61F 13/471	(2006.01)
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A61F 13/15	(2006.01)
A61F 13/47	(2006.01)
A61F 13/45	(2006.01)

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CPC ***A61F 13/471*** (2013.01); ***A61F 5/453*** (2013.01); ***A61F 13/15739*** (2013.01); ***A61F 13/4704*** (2013.01); *A61F 2013/4506* (2013.01)

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CPC A61F 5/44; A61F 5/4401; A61F 5/443; A61F 5/451; A61F 5/453; A61F 13/45; A61F 13/4704; A61F 13/471; A61F 2013/4506; A61F 2013/4512

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,627,846	A *	12/1986	Ternstrom	A61F 5/4401 604/385.19
5,383,867	A *	1/1995	Klinger	A61F 13/42 604/395
5,735,837	A *	4/1998	Ishikawa	A61F 5/453 604/352
5,827,250	A *	10/1998	Fujioka	A61F 5/453 604/385.19
6,129,719	A	10/2000	Nozaki et al.	
6,530,909	B1 *	3/2003	Nozaki	A61F 13/471 604/349
11,801,172	B1 *	10/2023	Powers	A61F 5/453
2005/0015067	A1	1/2005	Suzuki et al.	
2006/0149196	A1	7/2006	Bjornberg et al.	
2011/0015604	A1	1/2011	Bäck	
2012/0046633	A1	2/2012	Okawa et al.	

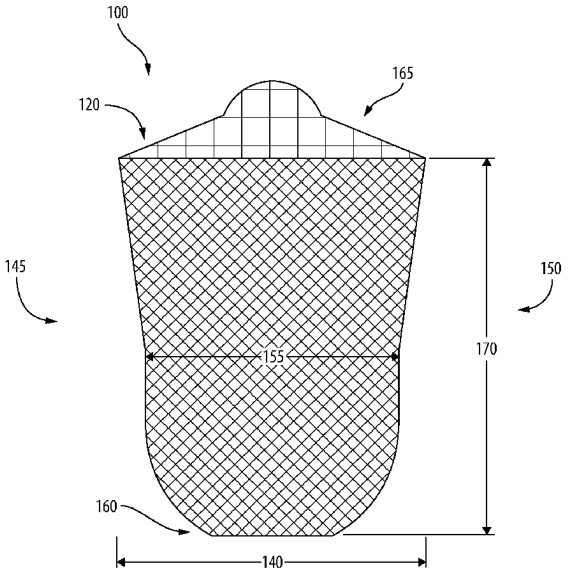
* cited by examiner

Primary Examiner — Catharine L Anderson
Assistant Examiner — Lynne Anderson
(74) *Attorney, Agent, or Firm* — Michael Best & Friedrich LLP

(57) **ABSTRACT**

A product for mitigating the ill-effects of post-coital discharge, post-medical-procedure discharge, and post-urination discharge in men. A sleeve-like pouch includes an inside and an outside, with a top layer disposed on the inside of the sleeve-like pouch, and a bottom layer disposed on the outside of the sleeve-like pouch. An absorbent layer is disposed between the top layer and bottom layer. The sleeve-like pouch is configured to be slid onto and securely surround a male appendage.

17 Claims, 5 Drawing Sheets



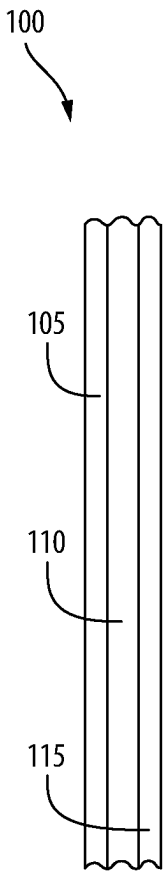


Fig. 1A

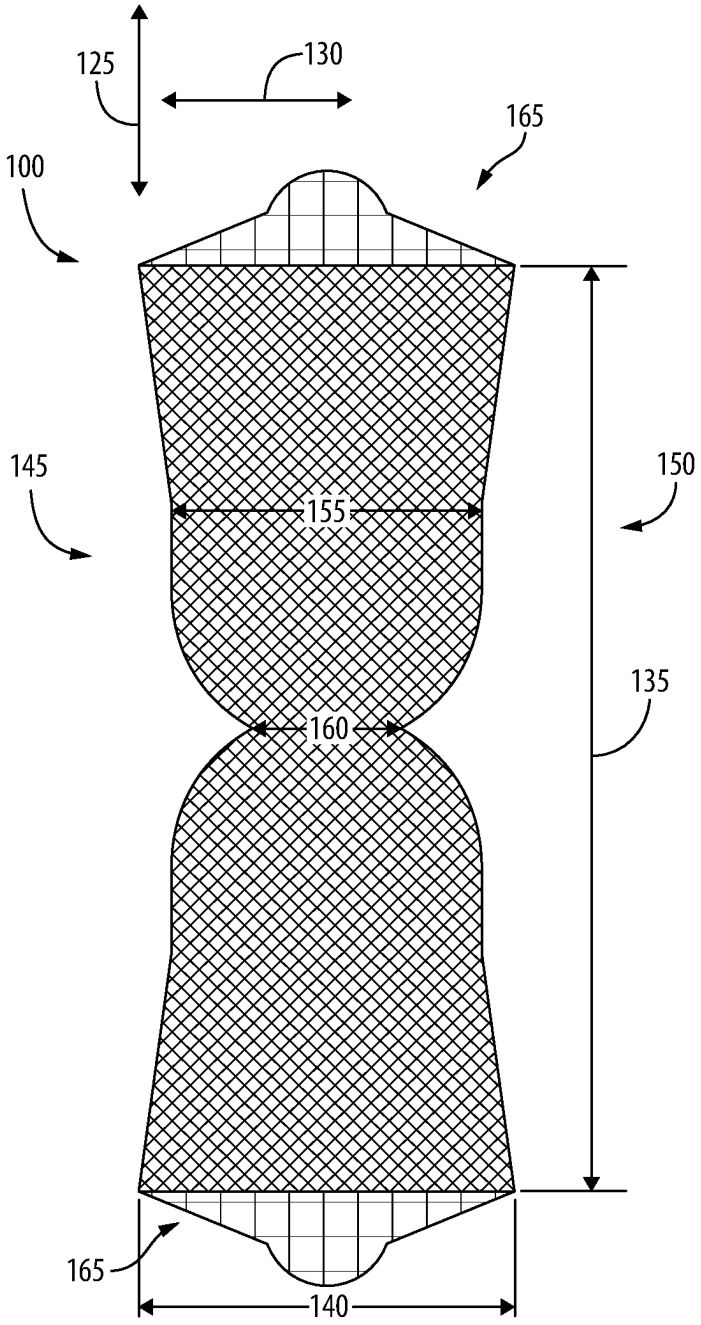


Fig. 1B

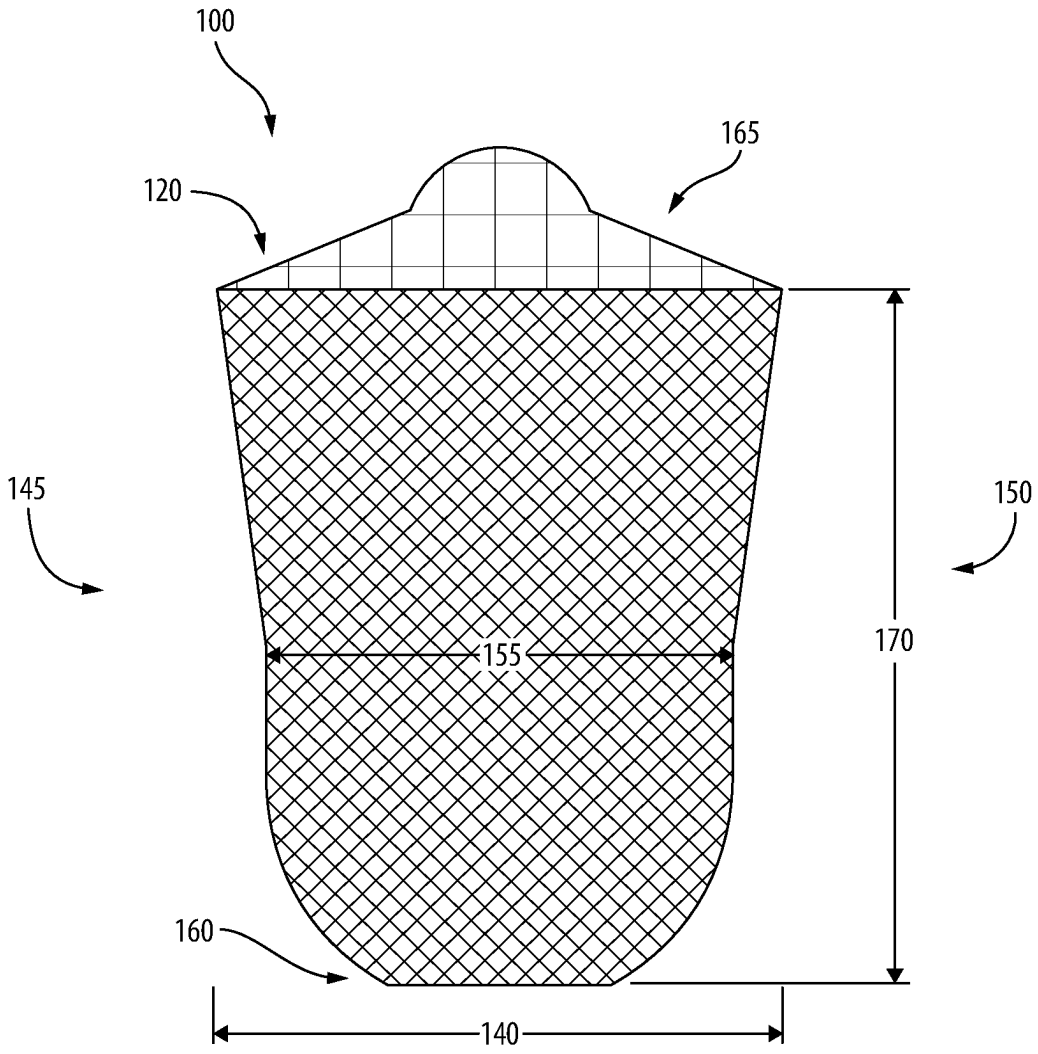


Fig. 1C

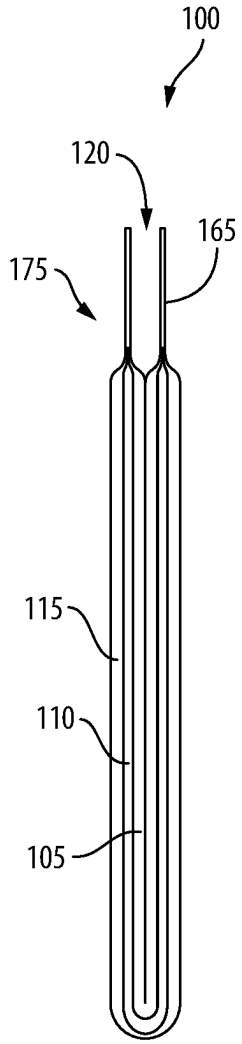


Fig. 1D

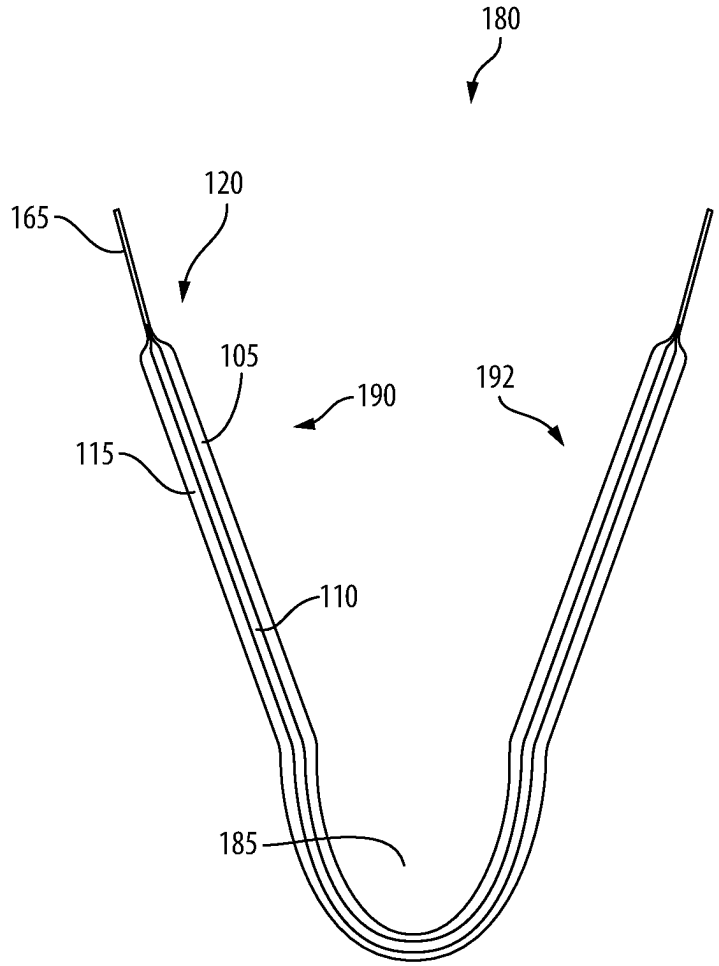


Fig. 1E

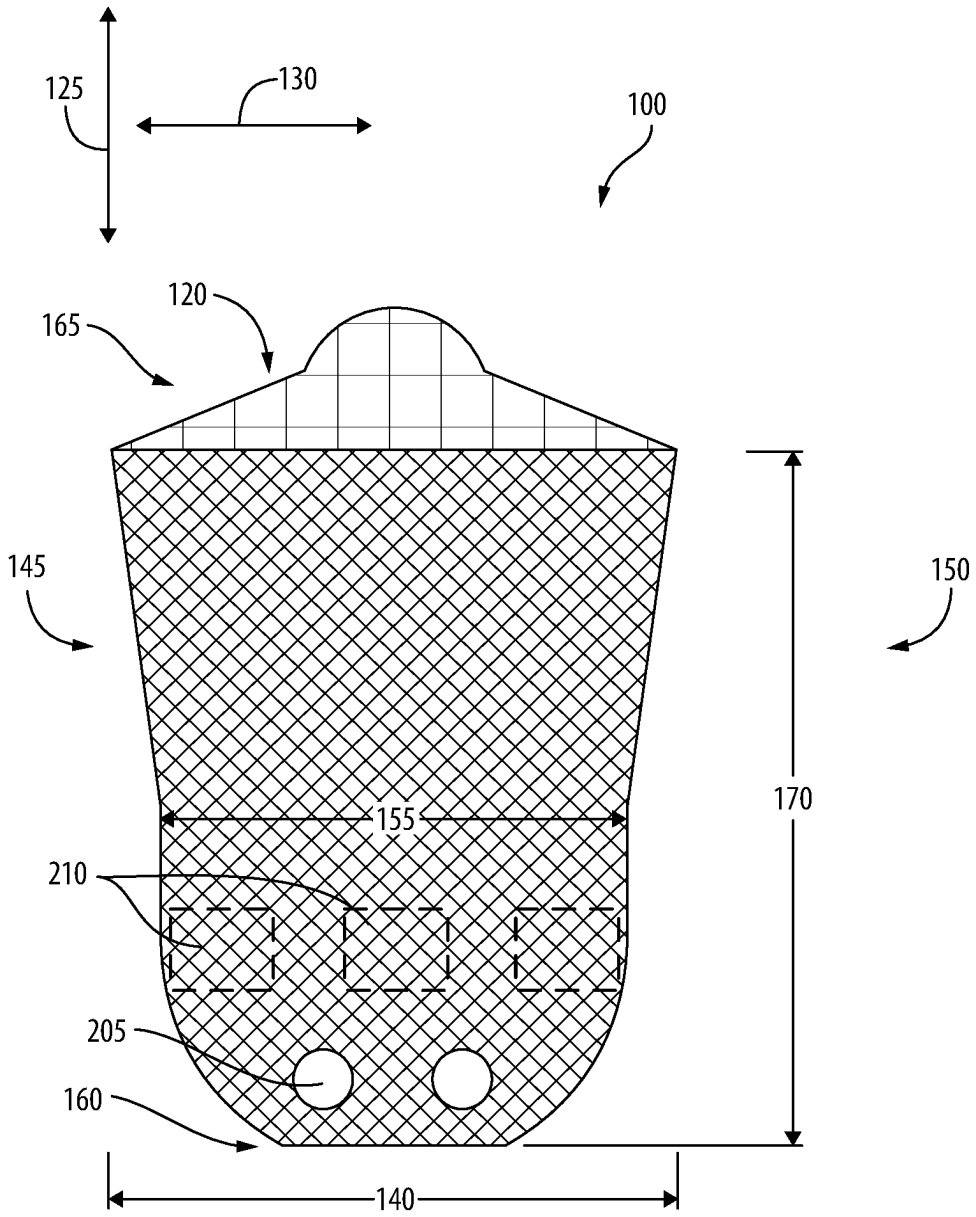


Fig. 2A

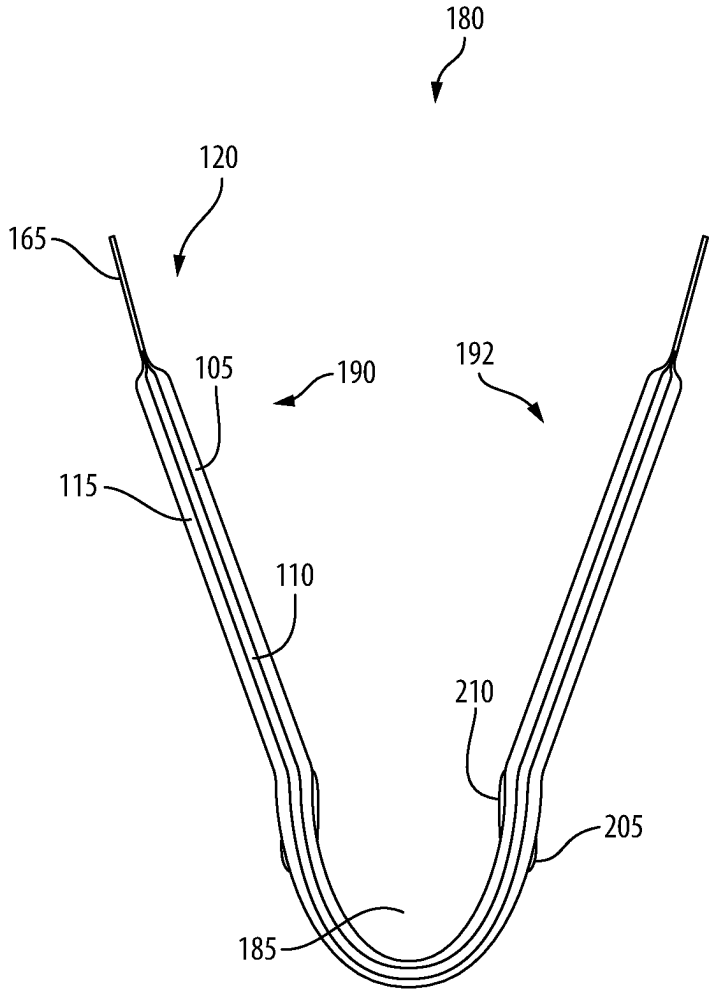


Fig. 2B

MINOR URINARY DISCHARGE CAPTURE (INCONTINENCE) DEVICE

RELATED APPLICATIONS

This application is a continuation of U.S. patent application Ser. No. 18/108,331, filed Feb. 10, 2023, the entire content of which is incorporated herein by reference.

FIELD

The embodiments disclosed herein relate to methods and products for addressing minor male incontinence (e.g., post-urination discharge) in men.

BACKGROUND

Post-urination discharge becomes an issue for men as they age. This problem is acute among men with prostate and bladder-sensitivity conditions, which are becoming more prevalent as each generation lives longer. Additionally, post-coital discharge and post-medical-procedure discharge in men can lead to unsightly marks on clothing.

SUMMARY

This document discloses several products configured to address problems like post-coital discharge, post-medical-procedure discharge, and minor male incontinence like post-urinary discharge in men. In an embodiment, a sleeve-like pouch is made of absorbent, non-woven material configured to be slipped onto the male appendage. The pouch may be disposable, and may include a liquid-proof outer barrier configured prevent any delayed/unwanted/minor post-urination discharge from passing through an absorbent layer of the pouch into a garment of a user. After use, the user may remove and dispose of the absorbent pouch at their convenience. The pouch may be packaged in a flat, folded, closed configuration but is configured to unfold into an opened configuration for use. The dimensions of the pouch may be small enough so that, in the closed configuration, multiple pouches can be carried in a pocket or wallet of a user for convenient use throughout the day. In this way, the disposable pouch may be carried discretely, used conveniently as a receptacle for post urination discharge to address minor male incontinence, and disposed of discretely.

In an embodiment, a sleeve-like pouch includes an inside and an outside. The sleeve-like pouch also includes a top layer disposed on the inside of the sleeve-like pouch and a bottom layer disposed on the outside of the sleeve-like pouch. An absorbent layer disposed between the top layer and bottom layer. The sleeve-like pouch is configured to be slid onto and securely surround a male appendage.

In another embodiment, an absorbent pad includes a top layer, a bottom layer sealed against the top layer, and one or more tabs disposed at one or more longitudinal ends of the absorbent pad. The absorbent pad also includes a first lateral side, a second lateral side, and a folding portion, wherein the absorbent pad is configured to be folded back onto itself at the folding portion to form a sleeve-like pouch when the first lateral side is sealed against itself, and the second lateral side is sealed against itself.

In another embodiment, a method of producing a sleeve-like pouch out of an absorbent pad includes selecting an absorbent pad sized an shaped to be slid onto an end of a human appendage after being folded folding the absorbent pad upon itself such that a first lateral side of the absorbent pad overlays itself and a second lateral side of the absorbent pad overlays itself, adhering the first lateral side to itself; and adhering the second lateral side to itself to form the sleeve-like pouch.

Other aspects of the technology will become apparent by consideration of the detailed description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1**A depicts several layers of an absorbent pad.

FIG. **1**B depicts a front view of a sleeve-like pouch, constructed from the absorbent pad and arranged in a pre-folded configuration according to an embodiment.

FIG. **1**C depicts a front view of the sleeve-like pouch in a folded, closed configuration according to an embodiment.

FIG. **1**D depicts a sectional lateral view of the sleeve-like pouch in a folded, closed configuration according to an embodiment.

FIG. **1**E depicts a sectional lateral view of the sleeve-like pouch in an unfolded, opened configuration according to an embodiment.

FIG. **2**A depicts a front view of a sleeve-like pouch in a folded, closed configuration according to an embodiment.

FIG. **2**B depicts a sectional lateral view of the sleeve-like pouch in an unfolded, opened configuration according to an embodiment.

DETAILED DESCRIPTION

Before any embodiments of the application are explained in detail, it is to be understood that the application is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the following drawings. The application is capable of other embodiments and of being practiced or of being carried out in various ways.

Also, it is to be understood that the phraseology and terminology used herein are for the purpose of description and should not be regarded as limiting. The use of "including," "comprising," or "having" and variations thereof are meant to encompass the items listed thereafter and equivalents thereof as well as additional items. Unless specified or limited otherwise, the terms "mounted," "connected," "supported," and "coupled" and variations thereof are used broadly and encompass both direct and indirect mountings, connections, supports, and couplings. As used within this document, the word "or" may mean inclusive or. As a non-limiting example, if it we stated in this document that "item Z may comprise element A or B," this may be interpreted to disclose an item Z comprising only element A, an item Z comprising only element B, as well as an item Z comprising elements A and B.

FIGS. **1**A and **1**B illustrate an absorbent pad **100** configured to absorb fluid (e.g., water, bodily fluid, etc.). FIG. **1**A shows that the absorbent pad **100** includes a top layer **105**, an absorbent layer **110**, and a bottom layer **115**. In the embodiment shown, the top layer **105** is constructed from a fluid permeable material that allows fluid to pass through to the absorbent layer **110** to be absorbed. For example, the top layer **105** may be constructed of a porous material, or pores or perforations may be made in a non-porous material to produce the top layer **105**. The top layer **105** may be configured to retain very little fluid as compared to the absorbent layer **110**. The top layer **105** may also be constructed of a non-irritative material or configured to avoid or prevent irritation to human skin.

The absorbent layer **110** is disposed between the top layer **105** and the bottom layer **115**. In some embodiments, the absorbent layer is sealed against the top layer **105** and/or bottom layer **115** by using an adhesive, a heat sealing process, or some other bonding method. In some embodiments, the top layer **105** is sealed against the back sheet **110** such that the top layer **105** and the bottom layer **115** encapsulate the absorbent layer **110**. For example, the top layer **105** and bottom layer **115** may be larger in width and height than the bottom layer **115**, and sealed against one another, directly or indirectly, at one or more edges of the bottom layer **115**. Further, the absorbent layer **110** may be configured to absorb any fluids (e.g., bodily fluids) that pass through the top layer **105**. The absorbent layer **110** may include an anti-odor or odor-capturing agent configured to mitigate any odors from the absorbed fluid emanating back out from the absorbent layer **110**. The absorbent layer **110** may include one or more layers of absorbent material and may include a plurality of fluid absorbing elements. The absorbent layer **110** may be constructed of organic or synthetic hydrophilic or superabsorbent material. For example, the absorbent layer **110** may include plant material (e.g., cellulose, cotton, wood pulp fibers), polymers (e.g., hydrogel forming polymers), or other non-synthetic or synthetic hydrophilic or superabsorbent materials. In some embodiments, the absorbent layer **110** includes a combination of distinct absorbent materials (e.g., an absorbent layer including a sublayer of cotton, a sublayer of cellulose, and a sublayer of hydrogel forming polymer).

The bottom layer **115** is generally liquid impermeable. For example, the bottom layer **115** may include a liquid impermeable sublayer or coating configured to prevent fluid not absorbed by the absorbent layer **110** from leaking through the absorbent pad **100** and onto something beyond the absorbent pad **100** (e.g., a user's undergarments). In this way, the bottom layer **115** may be configured to act as a barrier for liquids. The bottom layer **115** may be made of a liquid impermeable synthetic material (e.g., a non-woven polymer) or a non-synthetic material treated with a sealing agent or a hydrophobic agent (e.g., a cotton layer coated in wax).

Although the absorbent pad **100** is often illustrated herein as including a top layer **105**, an absorbent layer **110**, and a bottom layer **115**, it is contemplated that the absorbent may include fewer or additional layers. For example, in some embodiments, the absorbent pad **100** includes only a top layer **105** and a bottom layer **115**. Additionally, it is contemplated that top layer **105**, absorbent layer **110**, and bottom layer **115**, may each perform mixed functions, as desired. For example, in an embodiment wherein the absorbent pad includes only a top layer **105** and a bottom layer **115**, the top layer **105** may be configured to have properties similar to those of both the top layer and the absorbent layer as described above (e.g., comfort, superabsorbancy, and odor capture). It is also contemplated that one or more of the top layer **105**, absorbent layer **110**, or bottom layer **115** may be sealed against one another.

FIG. **1**B illustrates a front view of an absorbent pad **100** is sized and shaped for folding into a sleeve-like pouch for a male appendage. The measurements described in reference to FIG. **1**B are merely intended to be illustrative and not limiting. It is contemplated that the absorbent pad **100** may have different measurements and a different shape in other embodiments to produce a variety of desirable traits (e.g., discreteness, fit, etc.). In the embodiment shown, the absorbent pad **100** includes a longitudinal direction **125** and a lateral direction **130**. The absorbent pad **100** also includes a pad length **135** and a pad width **140**, a first lateral side **145** and a second lateral side **150**. The pad width **140** may change along the pad length **135**. In the embodiment shown, the pad width **140** is 3 inches and the pad length **135** is 7.5 inches. The pad width **140** tapers down along the first 1.85 inches of the absorbent pad **100** until a reduced pad width **155** of 2.45 inches is reached. Also, in the embodiment shown, the pad width **140** further reduces until a width of 1.2 inches is reached at a folding portion **160**. The folding portion **160** is therefore located generally at a halfway point along the pad length **135**.

The absorbent pad is configured to be folded at the folding portion **160** and adhered upon itself along the first lateral side **145** and the second lateral side **150** to form a receptacle in the form of sleeve-like pouch. The sleeve-like pouch may be configured to be slid onto and securely retained on a male appendage to act as a receptacle for post-urination discharge. One or more tabs **165** may be disposed at the longitudinal ends of the absorbent pad **100** and configured to facilitate a user grabbing and pulling on the tabs **165** to manipulate the absorbent pad for easier placement and adjustment on the male appendage.

Although the sleeve-like pouch is illustrated in the figures as being an absorbent pad **100** folded on itself in a particular manner and adhered along its first lateral side **145** and second lateral side **150**, it is contemplated that a sleeve-like pouch could be formed by other means. For example, a sleeve-like pouch could be formed by adhering two appropriately sized and shaped absorbent pads together along their edges to form an absorbent pouch.

FIG. **1**C illustrates an embodiment wherein the absorbent pad **100** is folded into a sleeve-like pouch **120**. The absorbent pad is folded at folding portion **160** and onto itself. The absorbent pad **100**, being folded generally in half, has pouch length **170**. In the embodiment shown, the pouch length **170** is 3.75 inches, but the pouch may have a different length. The first lateral side **145** is folded back on itself and sealed against itself along its edge forming a first side seam (not shown). Likewise, the second lateral side **150** is folded back on itself and adhered along its edge forming a second side seam (not shown). In the embodiment shown, the folding portion **160** of the absorbent pad **100** acts as the bottom of the sleeve-like pouch **120**, and when the absorbent pad **100** is folded, the one or more tabs **165** are disposed at the top of the sleeve-like pouch **120**.

FIG. **1**D illustrates a side sectional view of the sleeve-like pouch **120** of FIG. **1**C constructed from the absorbent pad **100** folded into a folded closed configuration **175**. Here, absorbent pad **100** is folded into a sleeve-like pouch **120** having 3-layers. However, as described previously, the absorbent pad may only include two layers (e.g., an absorbent layer **110** and a bottom layer **115**, a top layer **105** and a bottom layer **115**, etc.). The top layer **105** generally overlays and abuts itself **105** in the folded closed configuration **175**, while the bottom layer **115** surrounds both the top layer **105** and the absorbent layer. The first and second lateral sides (not shown) are adhered upon themselves as described above so as to prevent any fluid entering the sleeve-like pouch **120** from flowing out of the sleeve-like pouch **120** at the first and second lateral sides (not shown).

FIG. **1**E illustrates a side sectional view of the sleeve-like pouch **120** of FIG. **1**C in an unfolded opened configuration **180**. In this configuration, the first and second lateral sides (not shown) remain adhered upon themselves, and folding portion **160** is unfolded to a degree that causes a cavity **185** to form between a front **190** and a back **192** of the sleeve-like pouch. The cavity **185** is configured to accommodate a

portion of a human body part (e.g., a male appendage), to absorb fluid (e.g., bodily fluid, urine, etc.) from that body part, and to prevent the absorbed fluid from making its way out of the sleeve-like pouch **120**. For example, the sleeve-like pouch **120** in the unfolded opened configuration **180** may be slid onto the end of a male appendage after urination in order to collect post-urination discharge at least in the top layer **105** at the cavity **185**, the front **190** or back **192** of the sleeve-like pouch **120**, or in the first and second lateral sides (not shown).

FIG. **2**A illustrates a front view of another embodiment the sleeve-like pouch **120**. Outer retention elements **205** are disposed on the outside of the sleeve-like pouch **120**, and inner retention elements **210** disposed on the inside of the sleeve-like pouch **120**. In the embodiment shown, the inner retention elements **210** are configured to retain the sleeve-like pouch **120** on a human body part inserted into the sleeve-like pouch **120**. In this way, the sleeve-like pouch **120** may act as a receptacle for a human body part (e.g., the male appendage). The outer retention elements **205** or configured to prevent or mitigate the movement of the sleeve-like pouch **120** within a garment (e.g., undergarments) of a user of the sleeve-like pouch **120**. The outer retention elements **205** and the inner retention elements **210** may be constructed of any lightly tacky or lightly sticky material. For example, the outer retention elements **205** and inner retention elements **210** may be segments of light adhesive, tape, wax, silicone, etc.

FIG. **2**B illustrates a side sectional view of the sleeve-like pouch **120** of FIG. **2**A in a unfolded opened configuration **180**. In the embodiment shown, the inner retention elements **210** are disposed inside of the cavity **185**, and the outer retention elements **205** are disposed on the outside of the cavity **185**. The inner retention elements **210** may gently adhere to a body part placed into the sleeve-like pouch **120**, while the outer retention elements **205** stabilize the sleeve-like pouch **120** against a garment of a user, for example, to prevent friction between the user and the sleeve-like pouch. It is contemplated that elastic bands or other means may also be used for retention of a human body part within the sleeve-like pouch.

The absorbent pad **100** and sleeve-like pouch **120** herein are described to have a fairly particular shape for a specific human appendage. However, it is contemplated that the absorbent pad **100** and the sleeve-like pouch **120** may have different shapes and sizes for varying uses (e.g., post-surgical fluid collection) with other appendages (e.g., a finger). It is also contemplated that the absorbent pad may have more or less layers than shown and that distinct absorbent pads can be sealed against one another at their edges to form a sleeve-like pouch. For example, a 1-layer absorbent pad may be sealed against a three-layer absorbent pad to form a sleeve-like pouch for the uses described herein.

Various features and advantages of the invention are set forth in the following claims.

What is claimed is:

1. A product comprising:

a sleeve-like pouch having an inside and an outside, and a top defining an opening, the sleeve-like pouch including

a top layer disposed on the inside of the sleeve-like pouch,

a bottom layer disposed on the outside of the sleeve-like pouch,

an absorbent layer disposed between the top layer and bottom layer,

wherein a width of the sleeve-like pouch at its narrowest point is 1.2 inches,

wherein the sleeve-like pouch is configured to be slid onto and securely surround a male appendage, and

wherein the sleeve-like pouch includes a first tapered portion at the top of the sleeve-like pouch that tapers along at least a portion of a length of the sleeve-like pouch until a non-tapered portion is reached.

2. The product of claim **1**, wherein the sleeve-like pouch includes a first side seam and a second side seam, and a folded bottom portion.

3. The product of claim **1**, wherein, at the non-tapered portion, the width of the sleeve-like pouch does not change along a length of the sleeve-like pouch.

4. The product of claim **3**, wherein a width of the sleeve-like pouch at its widest point is 3 inches.

5. The product of claim **1**, wherein the top layer is made of a non-woven material.

6. The product of claim **1**, wherein the bottom layer is made of a liquid impermeable material.

7. The product of claim **1**, wherein the top layer is made of a non-woven material.

8. The product of claim **1**, wherein the bottom layer is made of a liquid impermeable material.

9. A product comprising:

an absorbent pad including

a top layer,

a bottom layer sealed against the top layer,

a first lateral side,

a second lateral side,

a top defining an opening, and

a folding portion;

wherein the absorbent pad is configured to be folded back onto itself at the folding portion to form a sleeve-like pouch when

the first lateral side is sealed against itself, and

the second lateral side is sealed against itself,

wherein a width of the sleeve-like pouch at its narrowest point is 1.2 inches, and

wherein the sleeve-like pouch includes a first tapered portion at the top of the sleeve-like pouch that tapers along at least a portion of a length of the sleeve-like pouch until a non-tapered portion is reached.

10. The product of claim **9**, wherein the sleeve-like pouch includes a first side seam and a second side seam, and a folded bottom portion.

11. The product of claim **9**, wherein, at the non-tapered portion, the width of the sleeve-like pouch does not change along a length of the sleeve-like pouch.

12. The product of claim **11**, wherein a width of the sleeve-like pouch at its widest point is 3 inches.

13. A method of producing a sleeve-like pouch out of an absorbent pad comprising:

selecting an absorbent pad sized and shaped to be slid onto an end of a human appendage after being folded to produce the sleeve-like pouch;

folding the absorbent pad upon itself such that a first lateral side of the absorbent pad overlays itself and a second lateral side of the absorbent pad overlays itself;

adhering the first lateral side to itself; and,

adhering the second lateral side to itself,

wherein a width of the sleeve-like pouch at its narrowest point is 1.2 inches,

wherein the sleeve-like pouch includes a top layer disposed on an inside of the sleeve-like pouch, a bottom layer disposed on an outside of the sleeve-like pouch, and a top defining an opening, and

wherein the sleeve-like pouch includes a first tapered portion at the top of the sleeve-like pouch that tapers along at least a portion of a length of the sleeve-like pouch until a non-tapered portion is reached.

14. The method of claim **13**, wherein, at the non-tapered portion, the width of the sleeve-like pouch includes a portion in which the width of the sleeve-like pouch does not change along a length of the sleeve-like pouch.

15. The method of claim **14**, wherein a width of the sleeve-like pouch at its widest point is 3 inches.

16. The method of claim **13**, wherein the top layer is made of a non-woven material.

17. The method of claim **13**, wherein the bottom layer is made of a liquid impermeable material.

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