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Parker

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(54) **BANDAGE/DIAPER AERATION DEVICE**

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F26B 25/18 (2006.01)
A47K 10/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A47K 10/00*** (2013.01)
USPC **34/92**; 604/317; 604/320

(58) **Field of Classification Search**
CPC F26B 25/18; F26B 25/185
USPC 34/92, 239; 604/317, 320, 327
See application file for complete search history.

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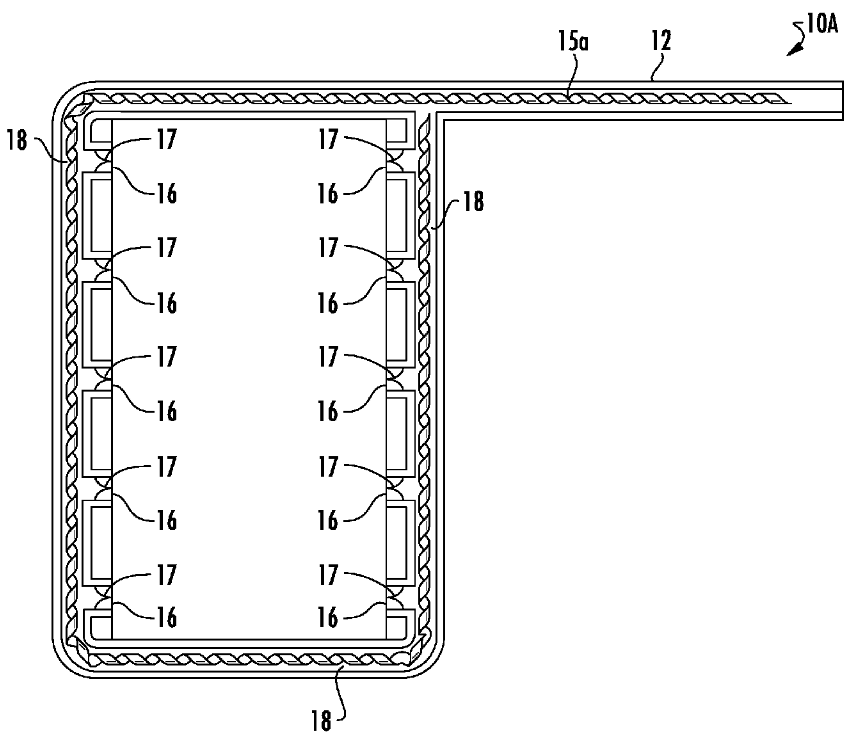
(57) **ABSTRACT**

A bandage/diaper drying device includes a gas inlet and channels formed between two layers of a very thin material (e.g. plastic). A spiral tube is positioned between the two layers to reduce occlusion of the layers and maintain flow of gas from the inlet to vents that are directed to a potential source of moisture. The vents are formed on a peripheral distribution channel that is in fluid communication with the gas inlet. In a preferred embodiment, each vent has a one-way duckbill valve allowing for the flow of gas from the peripheral distribution channel to dry a diaper/bandage in which the bandage/diaper drying system is mounted. The one-way duckbill valves reduce backflow of foreign matter into the peripheral distribution channel.

18 Claims, 5 Drawing Sheets



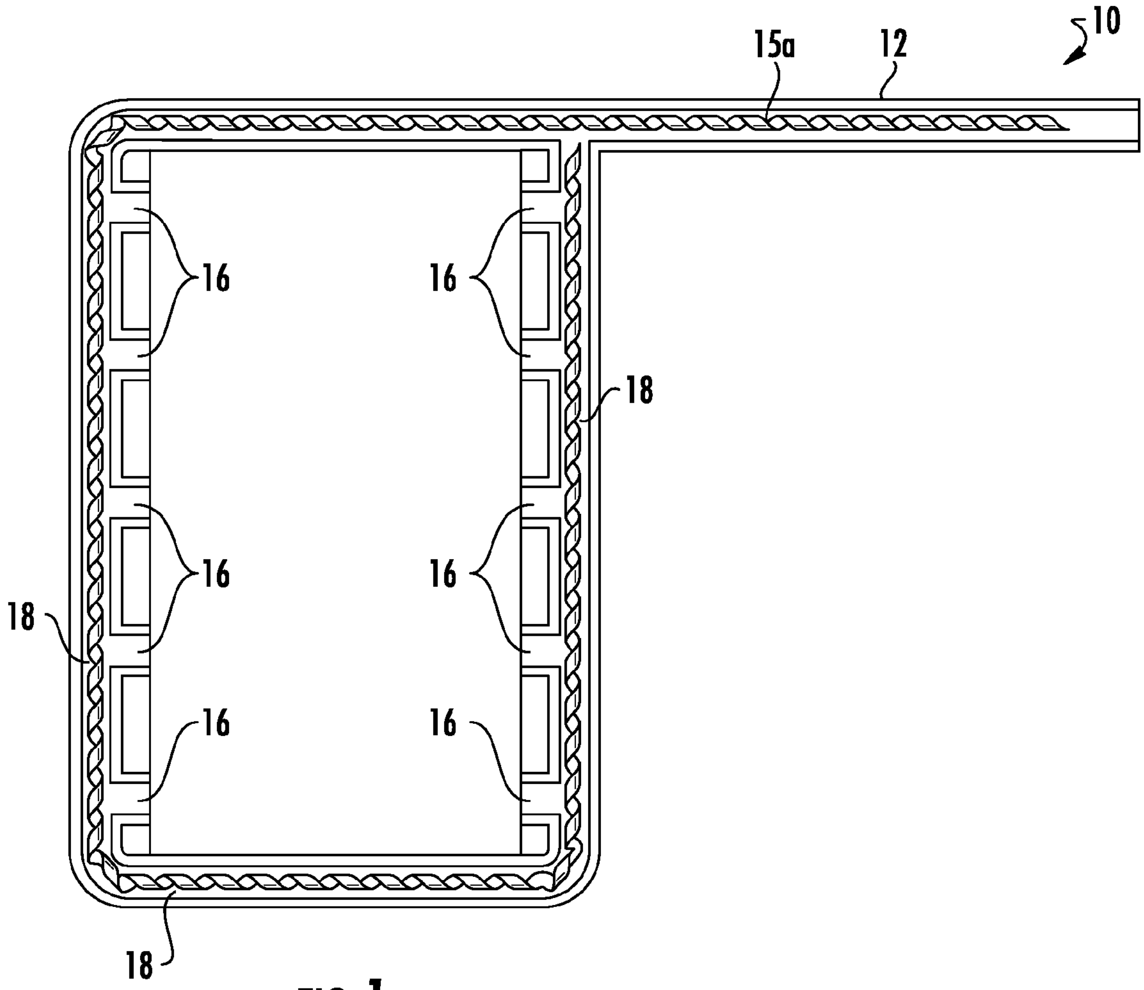


FIG. 1

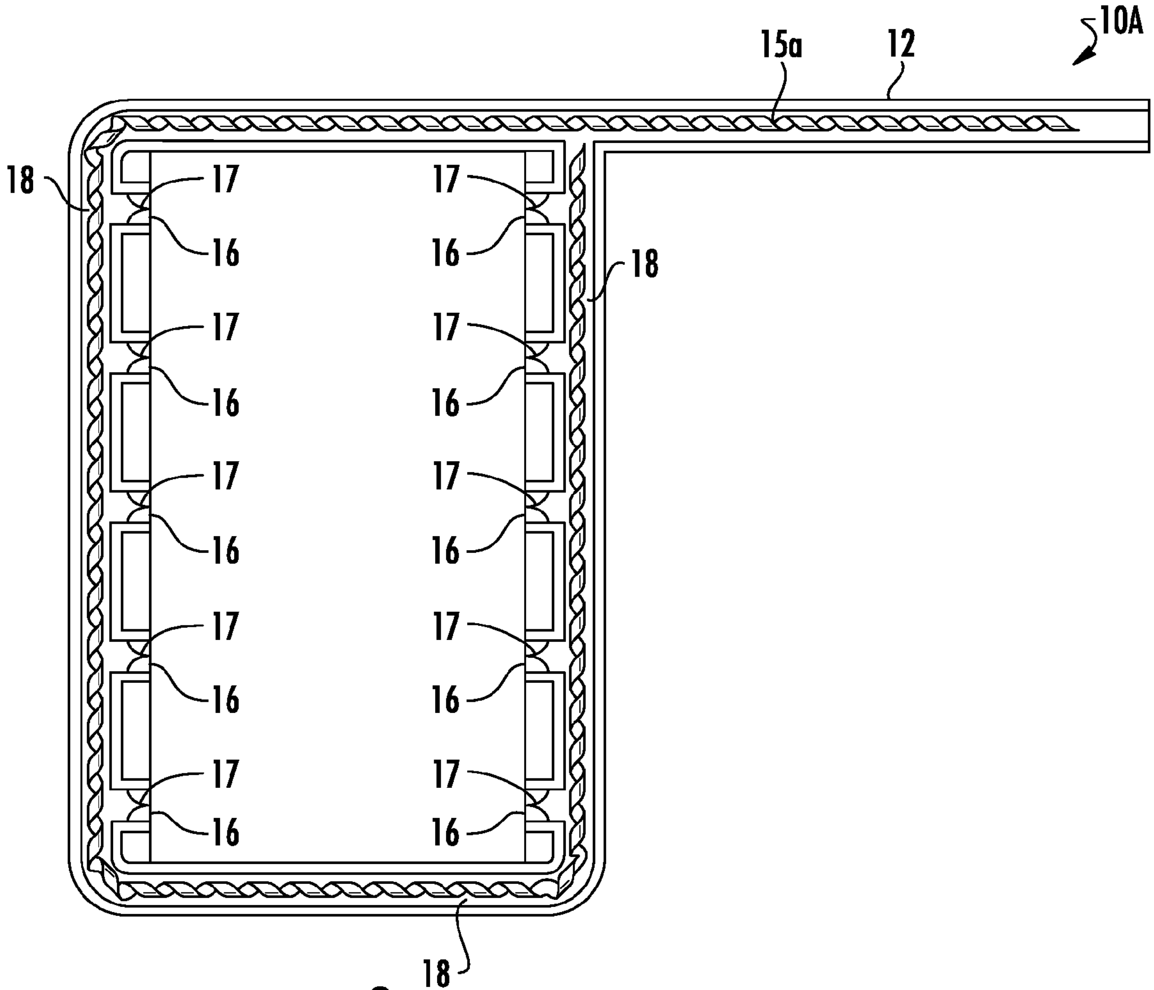


FIG. 2

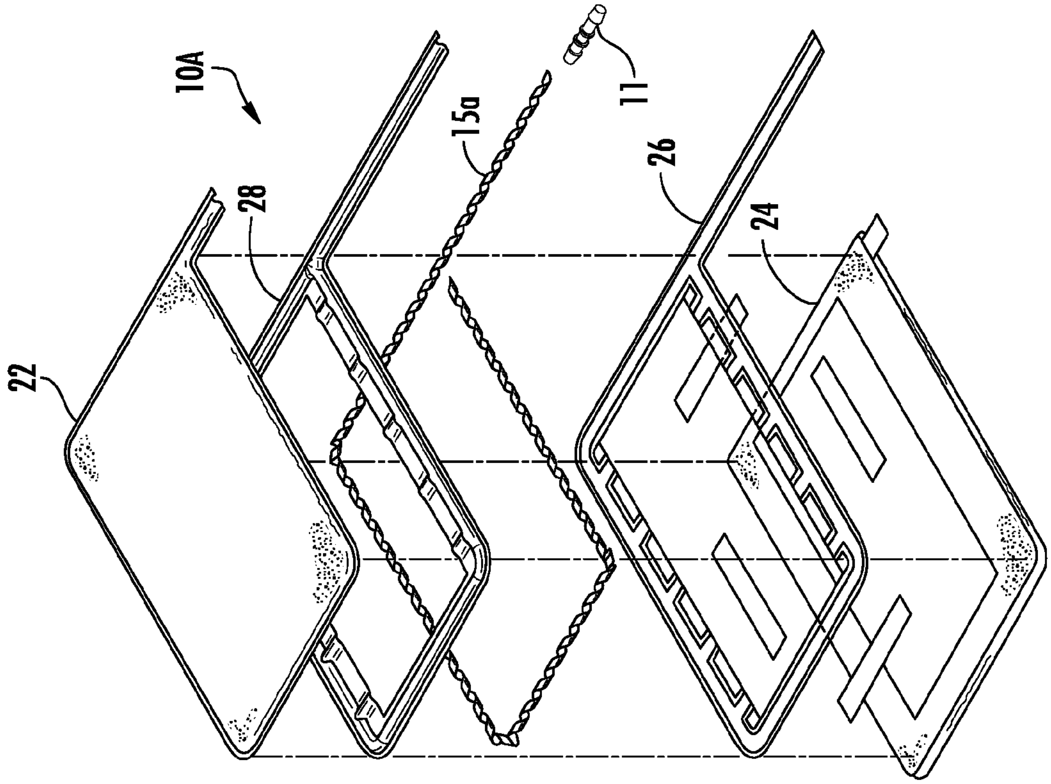


FIG. 4

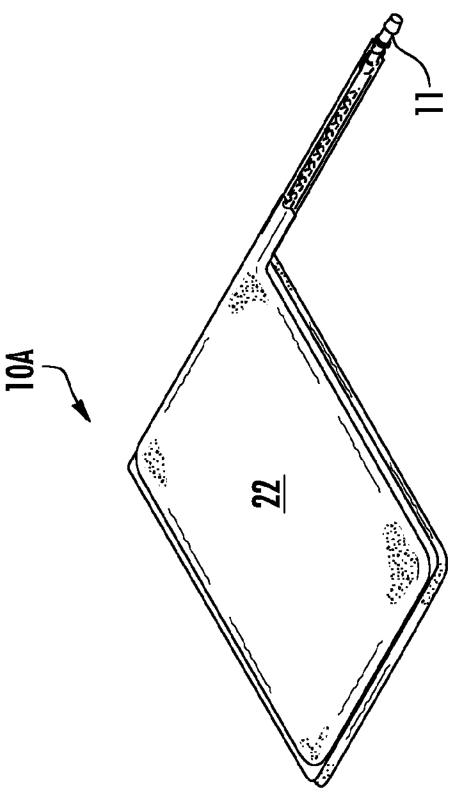


FIG. 3

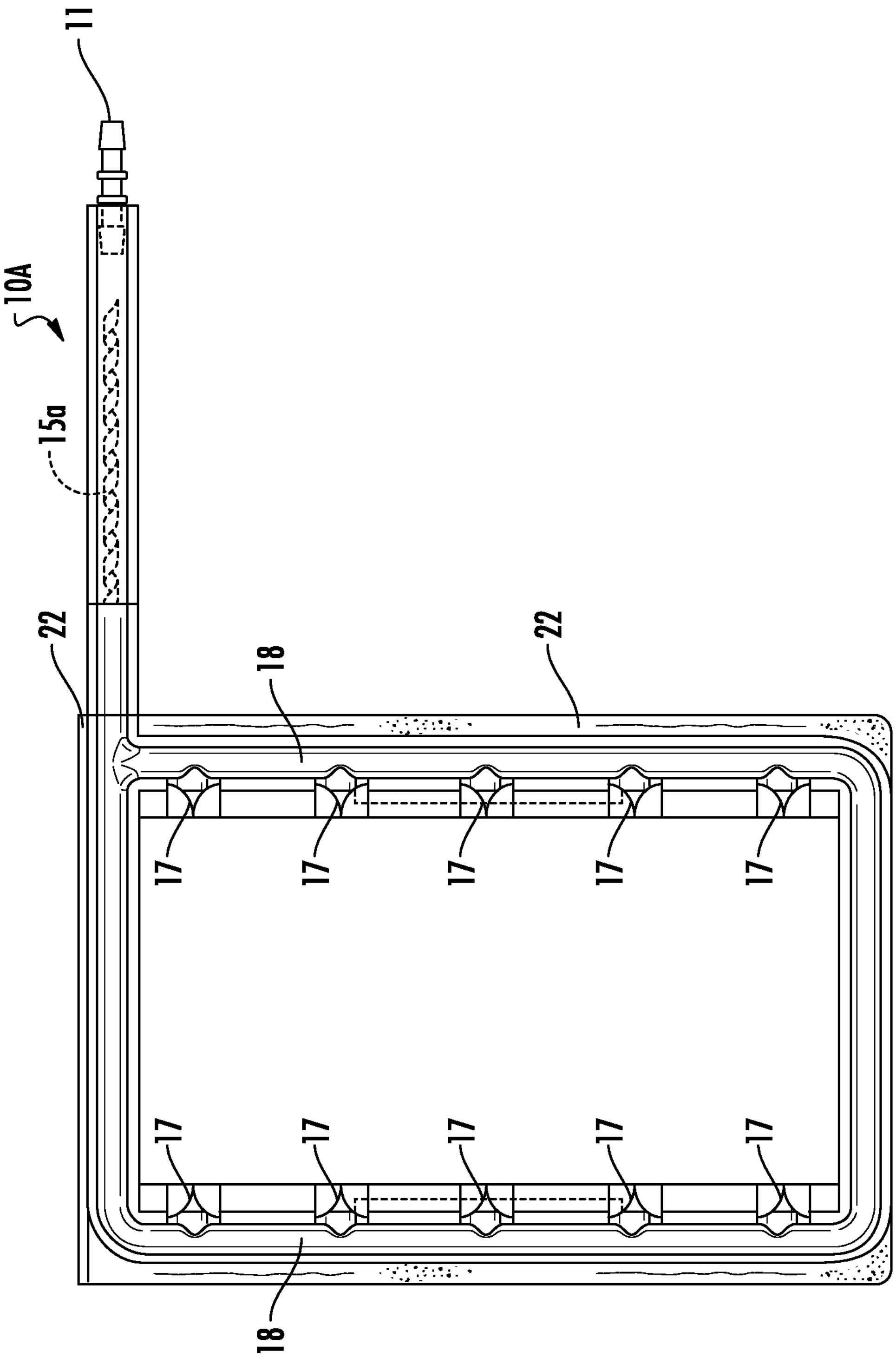


FIG. 5

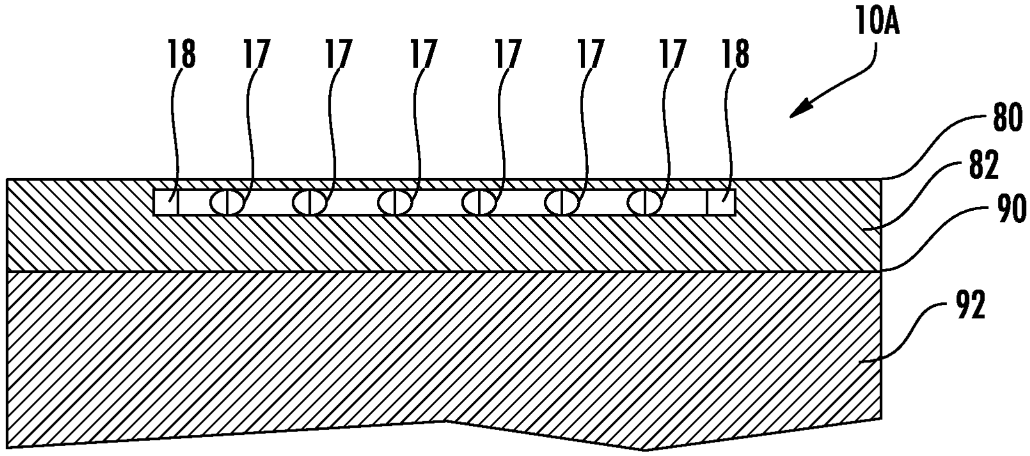


FIG. 6

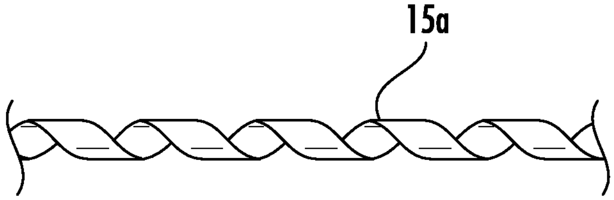


FIG. 7

BANDAGE/DIAPER AERATION DEVICE

FIELD

This invention relates to the field of maintaining or improving skin health in wearers of absorbent articles such as diapers, bandages, training pants, adult incontinence devices, feminine hygiene products, and the like and more particularly to a system for reducing wetness and moisture in closed environments such as incontinence-garments, diapers, wound covers of any kind, and the like.

BACKGROUND

Several problems occur when an area of skin is left in contact with moisture, heat, urine, and fecal irritants for extended periods of time. Such exposure occurs in diapers and other incontinence garments where bodily excretion provides moisture and irritants. The same exposure occurs beneath bandages and coverings where bodily heat and lack of air circulation increases the moisture and temperature in the vicinity of the wound. The presence of moisture, combined with heat from the body and irritants from excretions, creates a virtual Petri dish for infections which leads to compromise of the epidermis (skin), diaper dermatitis, ulcers, and other diseases, with a variety of secondary and tertiary problems resulting in the deterioration of the quality of patient care.

To capture moisture, diapers and feminine hygiene products are often made using super-absorbent polymers that absorb moisture without drying the patient's skin. Thus, diapers and incontinence garments, once exposed to patients' excretions remain moist, and provide a source of irritant diaper dermatitis for millions of patients each year in the United States alone.

The ability of the above-mentioned products to fully dissipate body-generated moisture is limited by the passive nature of the absorbency technology underlying all diaper and incontinence garments. There is sometimes a separate layer next to the skin, but this layer will never dry until the entire diapers or incontinence garment dries, which will not happen because a low-permeability outer layer keeps moisture from evaporating to protect clothing, etc., from the liquid materials.

What is needed is a device that will accelerate evaporation and drying of the skin in enclosed environments or covered-wound environments, while simultaneously allowing for the application of gaseous oxygen to repaired compromised skin.

SUMMARY

In one embodiment, a bandage/diaper drying system is disclosed including a gas inlet and a gas distribution channel that is in fluid communications with the gas inlet. Within the gas distribution channel is a spiral tube that helps keep the gas distribution channel from occluding from forces of external pressure. A plurality of vents is interfaced to the gas distribution channel. The vents are in fluid communication with the gas distribution channel and communicate gas from the gas distribution channel towards an area of potential moisture, thereby improving drying of the moisture when present.

In another embodiment, a bandage/diaper drying system is disclosed including a gas inlet and a gas distribution channel. The gas distribution channel is in fluid communications with the gas inlet and the gas distribution channel is formed around a spiral tube that helps keep the gas distribution channel from becoming occluded. A plurality of vents are interfaced to the gas distribution channel; each vent is in fluid communication with the gas distribution channel and each vent has a check valve for allowing the flow of gas out of the gas distribution channel and reducing a flow of contaminates into the gas distribution channel. The vents direct the gas towards an area of potential moisture to improve drying of that moisture when present.

In another embodiment, a bandage/diaper drying system is disclosed including a gas inlet having a gas connector for connecting to a supply of gas. A gas distribution channel is in fluid communications with the gas inlet and is formed around a spiral tube. The gas distribution channel has a plurality of vents. Each vent is in fluid communication with the gas distribution channel and each of the vents has a duckbill check valve, allowing the flow of gas out of the gas distribution channel and reducing a flow of contaminates into the gas distribution channel. Gas, under pressure, is connected to the gas connector and flows into the gas distribution channel, through which the gas is distributed to each of the vents and directed towards a source of moisture.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention can be best understood by those having ordinary skill in the art by reference to the following detailed description when considered in conjunction with the accompanying drawings in which:

FIG. **1** illustrates a schematic view of a first example of a bandage/diaper drying system.

FIG. **2** illustrates a schematic view of a second example of the bandage/diaper drying system.

FIG. **3** illustrates a plan view of one exemplary embodiment of the bandage/diaper drying system.

FIG. **4** illustrates an exploded view of the exemplary embodiment of the bandage/diaper drying system.

FIG. **5** illustrates a plan view of the exemplary embodiment of the bandage/diaper drying system.

FIG. **6** illustrates a cross-sectional view of the exemplary bandage/diaper drying system inserted/installed in, for example, a diaper.

FIG. **7** illustrates a pictorial view of a spiral tube as used in embodiments of the bandage/diaper drying system.

DETAILED DESCRIPTION

Reference will now be made in detail to the presently preferred embodiments of the invention, examples of which are illustrated in the accompanying drawings. Throughout the following detailed description, the same reference numerals refer to the same elements in all figures.

Throughout the description, as examples of uses of the bandage/diaper drying system, a diaper example will be used. This in no way is limiting and the drying system as described is anticipated for use in many different applications such as diapers, bandages, feminine hygiene products, etc. The exemplary components shown enable one skilled in the art to fabricate the bandage/diaper drying system and it is fully anticipated that other arrangements and types of components be used to produce similar bandage/diaper drying systems.

In some uses of the disclosed system, the supply of oxygen provides localized hyperbaric therapeutic effects. Likewise, the disclosed system is also anticipated for use concurrently as a skin drying device and an oxygen delivery device for specialized non-hyperbaric oxygen therapies. Although oxygen is one gas that is delivered to an area within the, for example, diaper or bandage, any gas is anticipated such as air, nitrogen, etc.

Referring to FIG. **1**, a schematic view of the bandage/diaper drying system **10** is shown without any cover to understand the routing and flow of the gas. In this exemplary bandage/diaper drying system **10**, gas such as air, oxygen, etc., is provided at the inlet channel **12**, for example, from a hospital oxygen supply port. The gas flows through a gas distribution channel **12**/**18**, from the inlet channel **12** and into the peripheral distribution channel **18**, and exits through vents **16**, which are positioned and aimed towards a central area, the area in which moisture exposure is expected. Although the central area is shown as being substantially rectangular, any shape is anticipated meeting the needs of a particular application. For example, triangular, circular, or fork-like shapes (e.g. vents on both sides of the fork tines) are equally anticipated.

The exemplary bandage/diaper drying system **10** is installed in or on a bandage/diaper encircling the areas in which moisture is expected. As the gas exits the vents **16**, the gas flows through the absorbent material of the bandage/diaper, thereby promoting evaporation of any moisture present in the bandage/diaper.

It is anticipated that, in some embodiments, the exemplary bandage/diaper drying system **10** be integrated into a bandage/diaper or, in other embodiments, as a liner device which adheres to the surface of a bandage/diaper, and is disposed along with replaced diapers/bandage. In the former, the exemplary bandage/diaper drying system **10** is integrated into the bandage/diaper and disposed with the bandage/diaper. In the latter, it is anticipated that the exemplary bandage/diaper drying system **10** may be reusable where clinically allowed, inserted into one bandage/diaper, then removed and inserted into a subsequent bandage/diaper during changing. In such, it is anticipated that a cleaning step be performed.

As an example, the gas distribution channel **12**/**18** is formed of two substantially planar sheets of material **26**/**28** (see FIG. **4** for an exemplary construction), with a section of spiral tubing **15***a* running internally through the gas distribution channel **12**/**18**. One desired attribute of the bandage/diaper drying system **10** is minimal thickness. Therefore, the layers **26**/**28** are preferably made of a very thin sheet of a flexible, non-porous material such as plastic. As one would expect, without a spacing member such as the spiral tubing **15***a*, pressure forces from a user sitting or the wrapping of a bandage will compress the layers **26**/**28** and prevent flow of gas. Therefore, a spacing member **15***a* (the spiral tube **15***a* as shown in FIG. **7** is preferred but other spacing members are anticipated) maintains air flow while providing a low profile and flexibility. In embodiments using the spiral tube **15***a*, it is anticipated that the spiral tube **15***a* be made of any shape-holding, but flexible material such as plastic or thin metal. In embodiments using the spiral tube **15***a*, the gas flows through the center bore of the spiral tube **15***a* and exits through the gaps between wrappings of the spiral tube **15***a*.

As the gas escapes through the gaps between wrappings of the spiral tube **15***a*, the gas is directed out exit ports or vents **16** and towards the area to be dried (e.g. wet are of a diaper or a wound).

For example, when used in a diaper, moisture is concentrated near the center of the diaper where the source of excretion is located. Having a small distance between the vents **16** and the source of excretion improves delivery of the gas to the moisture to improve drying. The gases are delivered by, for example, turbulent flow to the entire skin covered by the bandage/diaper, from the vents **16** around the source of moisture. The flow of gases such as oxygen expedites drying, enabling effective non-invasive, non-chemical, natural skin drying and dynamic oxygen therapies.

Referring to FIG. **2**, a schematic view of the bandage/diaper drying system **10**A is shown, again without any cover to understand the routing and flow of the gas. In this exemplary bandage/diaper drying system **10**A, gas such as air, oxygen, etc., is provided at the inlet channel **12**, for example, from a hospital oxygen supply port. The gas flows from the inlet channel **12** through the peripheral distribution channel **18** and exits through vents **16** equipped with check valves **17**, which are positioned and aimed towards a central area, the area in which moisture exposure is expected. Again, although the central area is shown as being substantially rectangular, any shape is anticipated meeting the needs of a particular application. For example, triangular, circular, or fork-like shapes (e.g. vents on both sides of the fork tines) are equally anticipated.

As the gas exits the vents **16** and the check valves **17** prevent back-flow of liquids or solids into the channel. Therefore, the gas flows into/through the absorbent material of the bandage/diaper, thereby promoting evaporation of any moisture present in the bandage/diaper, but matter from the bandage/diaper is impeded from entering the vents **16** and/or peripheral distribution channel **18** where such materials are not desired. As an example of operation of the check valves **17**, if the patient has excreted fecal matter and leans to one side, possibly blocking some air flow out some of the ports **16**, the check valves **17** will prevent or at least reduce flow of fecal matter into the vents **16** and/or peripheral distribution channel **18**, thereby keeping the vents **16** and peripheral distribution channel **18** free and clear to transport the gases. The preferred check valves are duck-bill valves, as shown, but there is no limitation as to the type of check valve.

It is anticipated that, in some embodiments, the exemplary bandage/diaper drying system **10**A be integrated into a bandage/diaper or, in other embodiments, as a liner device which adheres to the surface of a bandage/diaper, and is disposed along with replaced diapers/bandage. In the former, the exemplary bandage/diaper drying system **10**A is integrated into the bandage/diaper and disposed with the bandage/diaper. In the latter, it is anticipated that the exemplary bandage/diaper drying system **10**A may be reusable where clinically allowed, inserted into one bandage/diaper, then removed and inserted into a subsequent bandage/diaper during changing. In such, it is anticipated that a cleaning step be performed.

As an example, the gas distribution channel **12**/**18** is formed of two substantially planar sheets of material **26**/**28** (see FIG. **4** for an exemplary construction), with a section of spiral tubing **15***a* running internally through the gas distribution channel **12**/**18**. One desired attribute of the bandage/diaper drying system **10** is minimal thickness. Therefore, the layers **26**/**28** are preferably made of a very thin sheet of a flexible, non-porous material such as plastic. As one would expect, without a spacing member such as the spiral tubing **15***a*, pressure forces from a user sitting or the wrapping of a bandage will compress the layers **26**/**28** and prevent flow of gas. Therefore, a spacing member **15***a* (the spiral tube **15***a* as shown in FIG. **7** is preferred but other spacing members are anticipated) maintains air flow while providing a low profile and flexibility. In embodiments using the spiral tube **15***a*, it is anticipated that the spiral tube **15***a* be made of any shape-holding, but flexible material such as plastic or thin metal. In embodiments using the spiral tube **15***a*, the gas flows through the center bore of the spiral tube **15***a* and exits through the gaps between wrappings of the spiral tube **15***a*.

As the gas escapes through the gaps between wrappings of the spiral tube **15***a*, the gas exits out exit ports or vents **16** having check valves **17** on each, and the gas is directed towards the area to be dried (e.g. wet are of a diaper or a wound).

For example, when used in a diaper, moisture is concentrated near the center of the diaper where the source of excretion is located. Having a small distance between the vents **16** and the source of excretion helps reduce the likelihood of the vents **16** and valves **17** becoming clogged by certain excretions. The gases are delivered by, for example, turbulent flow to the entire skin covered by the bandage/diaper, from the vents **16** and valves **17** around the source of moisture. The flow of gases such as oxygen expedites drying, enabling effective non-invasive, non-chemical, natural skin drying and dynamic oxygen therapies.

The check valves **17** allow a flow of the gas out from the gas peripheral channel **18** while preventing back-flow of any foreign substances back into the gas distribution channel **16/18**. Such back flow is often of a liquid, or soft, pliable solid materials present in the bandage and/or diaper **80/82** (see FIG. **6**). It is desirable to prevent contamination of the internal channels (e.g. peripheral distribution channel **18**) for various reasons, including: to maintain a clear passage for low-pressure gases from the inlet channel **12**, to provide even distribution of the gases to all vents **16** and one-way valves **17**, and to reduce contamination from urine, blood, fecal matter, other bodily fluids and solids, etc., to improve reuse of the device and improve cleaning.

Although any one-way valve **17** is anticipated, it is preferred that the one-way valve **17** be a duckbill valve **17**. A duckbill valve **17** is a normally-closed, flow-activated valve, made from, for example, rubber or other elastomeric material, and with elastomeric lips shaped similarly to the beak of a duck. The duckbill valves prevent contamination due to back-flow, acting as a low pressure check valves.

The duckbill valves of the exemplary bandage/diaper drying system **10**A are, for example, designed to open at a pressure of between two and three psig (pounds per square inch, gauge pressure).

It is anticipated that, in some embodiments, the exemplary bandage/diaper drying system **10**A be integrated into a bandage/diaper (e.g. diaper **80/82** in FIG. **6**) or, in other embodiments, inserted into a pouch or pocket of a bandage/diaper. In the former, the exemplary bandage/diaper drying system **10**A is integrated into the bandage/diaper and disposed with the bandage/diaper. In the latter, it is anticipated that the exemplary bandage/diaper drying system **10**A is reusable in some applications inserted into one bandage/diaper, then removed and inserted into a subsequent bandage/diaper during changing.

Referring to FIGS. **3-5**, views of one exemplary embodiment of the bandage/diaper drying system **10/10**A are shown. In the exemplary bandage/diaper drying system **10/10**A, a flow of a gas such as air, oxygen, nitrogen, etc., is provided at the inlet **12** through a connector.

In FIG. **4**, an exploded view of the layers of an exemplary embodiment is shown. The spiral tube **15***a* is typically constructing from a long length of flat and narrow material such as plastic that is shaped in a spiral or helix. In a preferred embodiment, the spiral tube **15***a* is made of a soft polyethylene plastic that will maintain flow of gas through the gas distribution channel **16/18** around the entire perimeter of the bandage/diaper drying system **10/10**A, preventing crushing of the gas distribution channels **12/18** by, for example, the weight of a user. Adjacent spirals of the spiral tube **15***a* maintain separation, allowing the gas to pass through the core of the spiral tube **15***a* and between adjacent spiral sections of the spiral tube **15***a*. It is preferred that the spiral tubing **15***a* is difficult to kink and is flexible. The combination of flexibility and crush-resistance makes the spiral tube **15***a* ideal for use in a bandage/diaper drying system **10/10**A, where patient motion is expected as well as compressive loads.

In a preferred embodiment, the inlet channel **12** connects to a connector **11** for fluid connection to a source of gas (not shown). Some examples of sources of gas are: a hospital gas supply port (e.g. O_2 port), an oxygen concentrator, a compressed gas tank (e.g. compressed air), etc. In some embodiments, a small battery operated air pump (not shown) is connected to the bandage/diaper drying system **10/10**A, making the bandage/diaper drying system **10/10**A portable since the battery operated air pump is easily transportable by the wearer/user. Although one particular connector **11** is shown, there is no limitation on the type or size of connector **11**.

Gas enters the bandage/diaper drying system **10/10**A through the connector **11** then flows within/around the spiral tube **15***a* through the inlet channel **12** and then through the peripheral distribution channel **18**. As the user of the bandage/diaper drying system **10/10**A shifts weight, the spiral tube **15***a* resists kinking and crushing, thereby maintaining flow of gases from the connector **11** through the peripheral distribution channel **18** and out the vents **16** and check valves **17**.

The spiral tube **15***a* resists kinking while being able to bend as the user moves or pressure is applied to the spiral tube **15***a*. The construction of the spiral tube **15***a* provides flow of gases without the need for stiffer tubing that would resist bending and would kink under certain circumstances. The gas flows through and around spiral tube **15***a* within the inlet channel and the peripheral distribution channel **18** and exits through the vents **16** and one-way valves **17** that are positioned and aimed towards a central area, the area in which moisture exposure is expected. The bandage/diaper drying system **10/10**A is installed in or on a bandage/diaper at an area in which moisture is expected. As the gas exits the vents **16** and one-way valves **17**, the gas flows by, for example, turbulent flow throughout the diaper covered environment, thereby promoting evaporation of any moisture present on the skin or on the surface of the bandage/diaper.

By distributing the gases from the coupling **11** through the gas distribution channels **12/18** held open by way of a spiral tube **15***a*, greater resistance to bending, compression, twisting, etc., is achieved, thereby delivering the gases even when under pressure from, for example, the weight of the user sitting upon the bandage/diaper drying system **10/10**A.

An exemplary embodiment of the bandage/diaper drying system **10/10**A is shown in FIG. **4**. The top layer **22** is in direct contact with the skin, and is thus made of a material that is comfortable to the touch. For example, cotton gauze.

Gas distribution is between two thin channel layers **26/28** that are air and water tight, preferably formed from a thin, pliable plastic material, such as polyethylene. One method of manufacturing these channel layers **26/28** is by thermoforming two sheets of polyethylene to create the specific shape required (substantially rectangular is shown). By forming the channel layers **26/28** with air and water tight material, the gas entering from the input connector **11** does not permeate out through the layers **26/28**, and liquids do not seep in. Furthermore, channel layers **26/28** do not absorb and hold liquids or moisture.

A spiral tube **15***a* is positioned between the channel layers **26/28**, preferably before the layers are bonded/affixed to each other, for example, by heat, ultrasonic welding, an adhesive, etc.

In some embodiments, a bottom, comfort layer of material **24** is included to insulate the user from the material of the channel layers **26/28**. In such embodiments, the bottom layer of material **24** is affixed to the bottom channel layer **26** by any way known such as by adhesive, adhesive tape, etc. Although there is no limitation on the material used for the bottom comfort layer **24**, a soft cotton layer is anticipated to insulate the user's skin from the material of the bottom channel layer **26**.

In some embodiments, the bandage/diaper drying system **10**/**10**A is supported by a top layer **22** that is preferably a flexible, planar sheet of material **22** that provides additional structure to the bandage/diaper drying systems **10**/**10**A, helping to maintain the overall shape of the bandage/diaper drying system **10**/**10**A (rectangular shown in FIG. **4**). In some embodiments, a portion or the entire top layer **22** includes an adhesive for holding the bandage/diaper drying system **10**/**10**A to a surface of the target product (e.g. bandage, diaper). Although there is no restriction on the type of material used for the top layer **22**, again, one possible material is cotton.

In FIG. **5**, the bandage/diaper drying system **10**/**10**A is shown assembled. The spiral tube **15***a* is visible in the inlet channel **12** because the top layer **22**, in this example, does not cover the entire inlet channel **12**.

Referring to FIG. **6**, a cross section view of the second exemplary bandage/diaper drying system **10**/**10**A is shown inserted (e.g., affixed) or installed in a diaper **80**/**82**. In this, the bandage/diaper drying system **10**/**10**A is installed in a diaper **80**/**82** between the outer protective liner **80** and the absorbent core **82** (e.g. super absorbent polymers, cotton, etc.). Although shown in a pocket between the outer protective liner **80** and the absorbent core **82**, there is no restriction as to where or how the bandage/diaper drying system **10**A is installed/placed within the target object (e.g. diaper). For example, in some installations, the bandage/diaper drying system **10**A is installed within the absorbent core **82**, or, in the case of a bandage, between wrappings of a bandage, etc. For completeness, part of the epidermis **90** and tissue **92** of a user is shown.

The bandage/diaper drying system **10**/**10**A is anticipated to be used to augment chemical therapies, as a non-medical drying device, for embedded portable localized hyperbaric oxygen (HBO) therapies, for "natural" homeopathic delivery system, embedded in an autonomous therapeutic diaper configured either with embedded DOST layer or removable/ replaceable diaper liner device, as an adjunct to medical and other current care modalities. The bandage/diaper drying system **10**/**10**A provides continuous flow of gas from the inlet connector **11** through a bendable, twistable, channel that is difficult to occlude. Drying occurs within the closed environment of the diaper/incontinence garment. Any form factor such as rectangular (shown in figures), triangular, circular, and tuning fork is anticipated.

Referring to FIG. **7**, a pictorial view of a spiral tube **15***a* as used in embodiments of the bandage/diaper drying system is shown. Although other type of spacing members are anticipated, the spiral tube **15***a* is preferred to maintain air flow within the gas distribution channels **12**/**18** while providing a low profile and flexibility. It is anticipated that the spiral tube **15***a* be made of any shape-holding, but flexible material such as plastic or thin metal. The gases flow through the center bore of the spiral tube **15***a* and exit through the gaps between wrappings of the spiral tube **15***a*. As the gas escapes through the gaps between wrappings of the spiral tube **15***a*, the gas is directed out exit ports or vents **16** (and, in some embodiments, check valves **17**) and is directed towards the area to be dried (e.g. wet are of a diaper or a wound).

Equivalent elements can be substituted for the ones set forth above such that they perform in substantially the same manner in substantially the same way for achieving substantially the same result.

It is believed that the system and method as described and many of its attendant advantages will be understood by the foregoing description. It is also believed that it will be apparent that various changes may be made in the form, construction and arrangement of the components thereof without departing from the scope and spirit of the invention or without sacrificing all of its material advantages. The form herein before described being merely exemplary and explanatory embodiment thereof. It is the intention of the following claims to encompass and include such changes.

What is claimed is:

1. A bandage/diaper drying system comprising:

a gas inlet;

a gas distribution channel, the gas distribution channel in fluid communication with the gas inlet;

a crush-resistant spacing member within the gas distribution channel; and

a plurality of vents interfaced to the gas distribution channel, each vent in fluid communication with the gas distribution channel;

wherein the gas distribution channel is formed from two sheets of planar material affixed to each other on opposing edges of the gas distribution channel, and the crush-resistant spacing member is a spiral tube traversing an inside length of the gas distribution channel, the spiral tube for holding the gas distribution channel open.

2. The bandage/diaper drying system of claim **1**, wherein each of the vents includes a check valve, each of the check valves allows flow of gas from the gas distribution channel out of a corresponding vent and each of the check valves blocks flow of contamination into the corresponding vent and gas distribution channel.

3. The bandage/diaper drying system of claim **2**, wherein the check valves are duckbill valves.

4. The bandage/diaper drying system of claim **1**, wherein the gas distribution channel is substantially rectangular and the vents are interfaced to the gas distribution channel such that the vents aim inwardly.

5. The bandage/diaper drying system of claim **1**, wherein each of the two sheets of planar material is a thin sheet of polyethylene.

6. The bandage/diaper drying system of claim **1**, wherein the two sheets of planar material are affixed to each other by ultrasonic welding.

7. The bandage/diaper drying system of claim **1**, further comprising a cloth outer layer covering the gas distribution channel.

8. The bandage/diaper drying system of claim **1**, further comprising a cloth bottom layer hold a shape of the gas distribution channel.

9. The bandage/diaper drying system of claim **1**, wherein the cloth bottom layer includes an adhesive for holding the cloth bottom layer to the bandage/diaper.

10. The bandage/diaper drying system of claim **1**, further comprising a gas connector, the gas connector in fluid connection with the gas distribution channel and the gas connector for connecting to a source of gas.

11. A bandage/diaper drying system comprising:

a gas inlet;

a spiral tube;

a gas distribution channel, the gas distribution channel in fluid communications with the gas inlet, the gas distribution channel formed around the spiral tube; and a plurality of vents interfaced to the gas distribution channel, each vent in fluid communication with the gas distribution channel and each of the vents having a check valve, each check valve allowing the flow of gas out of the a corresponding vent and reducing a flow of contaminates into the corresponding vent and the gas distribution channel.

12. The bandage/diaper drying system of claim **11**, wherein the check valves are duckbill valves.

13. The bandage/diaper drying system of claim **11**, wherein the gas distribution channel is formed from two sheets of planar material affixed to each other on opposing edges of the gas distribution channel, the spiral tube holding the gas distribution channel open.

14. The bandage/diaper drying system of claim **13**, wherein each of the two sheets of planar material is a thin sheet of polyethylene.

15. The bandage/diaper drying system of claim **13**, wherein the two sheets of planar material are affixed to each other by ultrasonic welding.

16. A bandage/diaper drying system comprising:

a gas inlet having a gas connector for connecting to a supply of gas,

an occlusion-resistant spacing member;

a gas distribution channel, the gas distribution channel in fluid communications with the gas inlet, the gas distribution channel formed around the occlusion-resistant spacing member; and

a plurality of vents interfaced to the gas distribution channel, each vent in fluid communication with the gas distribution channel and each of the vents having a duckbill check valve, each duckbill check valve allowing the flow of gas out of the gas distribution channel and reducing a flow of contaminates into the gas distribution channel;

wherein the gas distribution channel is formed from two sheets of planar material affixed to each other on opposing edges of the gas distribution channel, and the occlusion-resistant spacing member is a spiral tube holding the gas distribution channel open.

17. The bandage/diaper drying system of claim **16**, wherein each of the two sheets of planar material is a thin sheet of polyethylene.

18. The bandage/diaper drying system of claim **16**, wherein the two sheets of planar material are affixed to each other by ultrasonic welding.

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