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(54) RECLOSABLE BAGS HAVING SLIDER WITH FINGER THAT STOPS SLIDER AT SIDE SEAL

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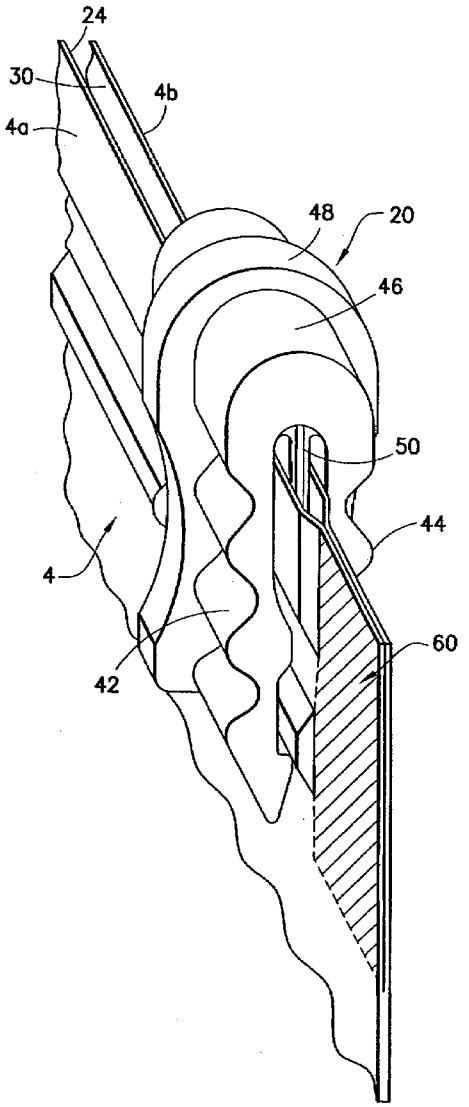
(57) **ABSTRACT**

A reclosable bag comprising a receptacle having a mouth, a flexible closure located near the mouth, and a slider mounted over the mouth. The receptacle comprises first and second panels and first and second seals at respective ends of the mouth. The closure comprises first and second closure profiles. The slider comprises a finger that extends into the mouth, but not between the first and second closure profiles. The slider may be of a type that causes disengaged portions of the first and second closure profiles to mutually engage during travel in either direction. The finger prevents the slider from being pulled off either end of the closure by abutting the corresponding seal. The receptacle and closure may form an airtight boundary for an interior volume.



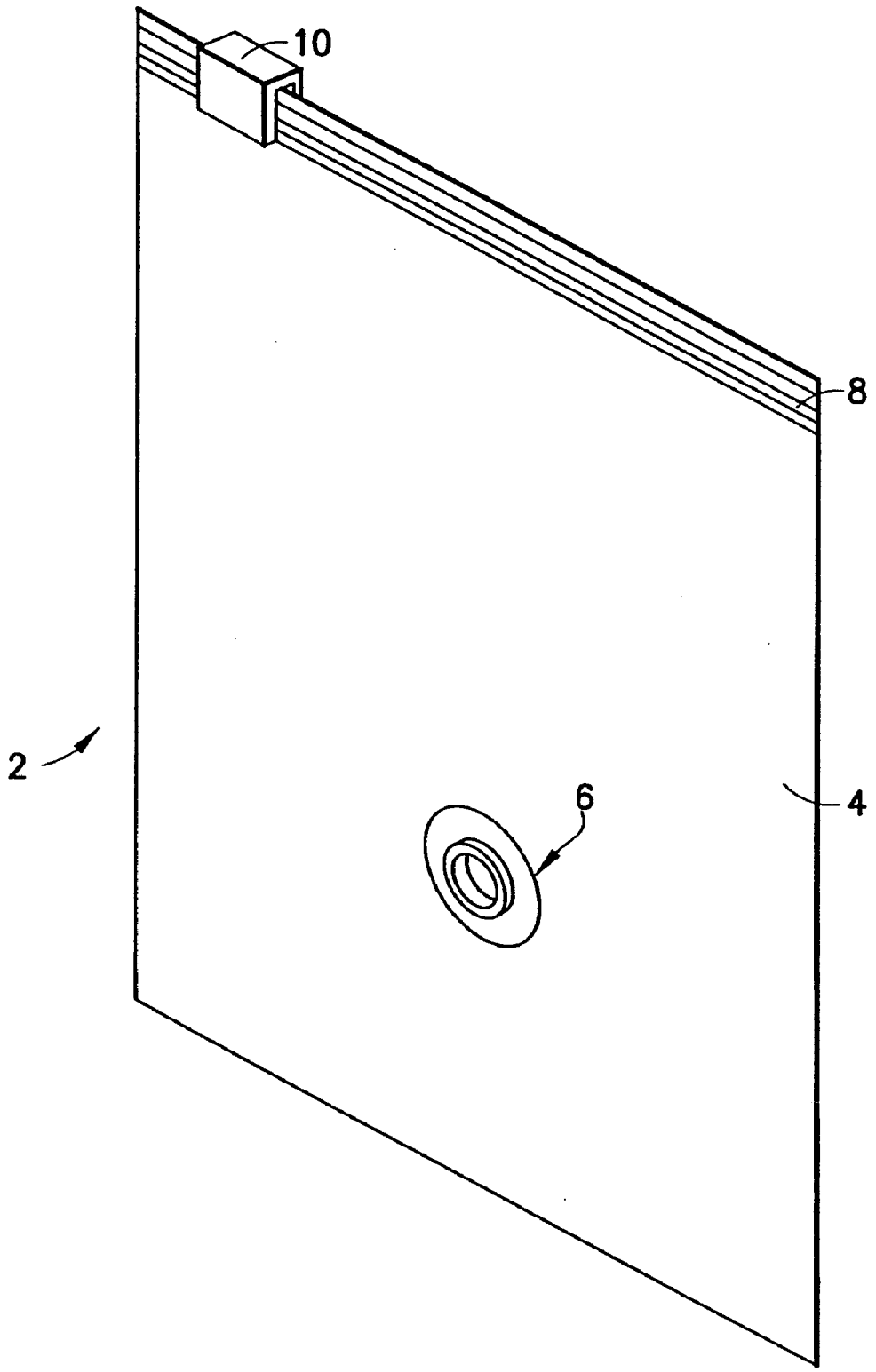


FIG. 1
PRIOR ART

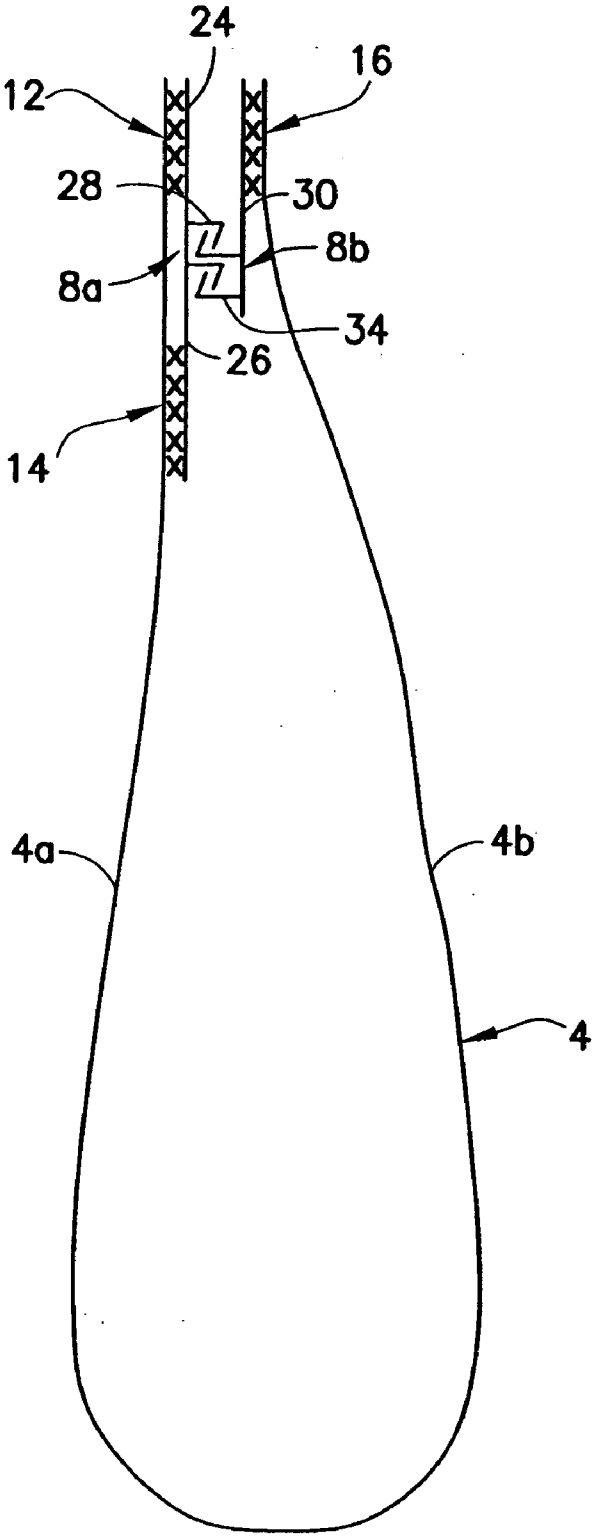


FIG.2

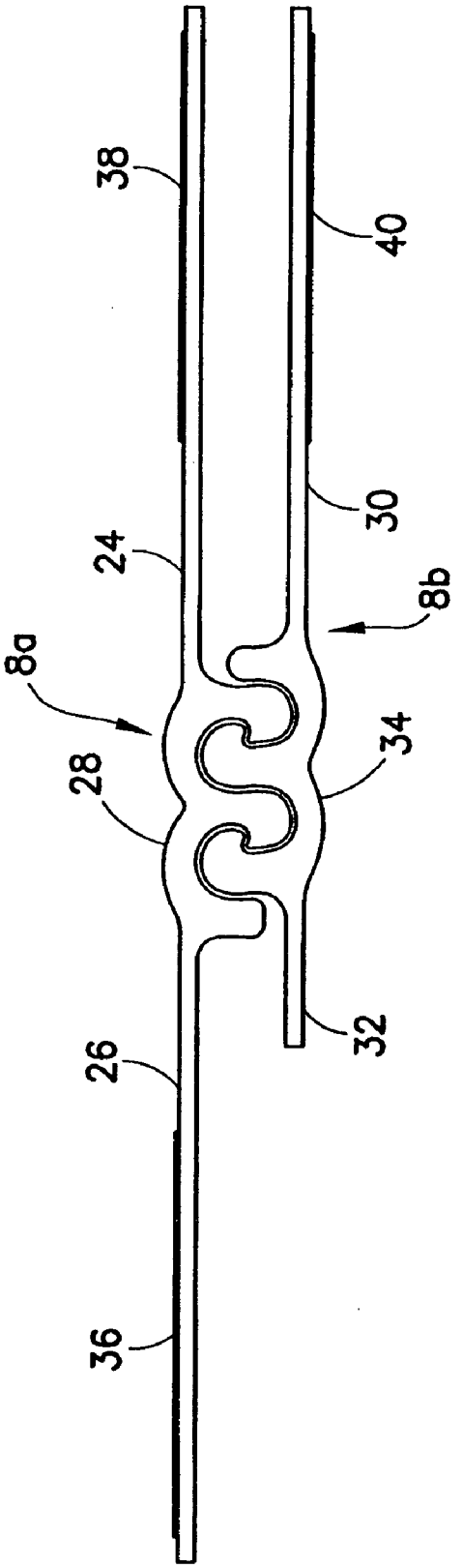


FIG.3

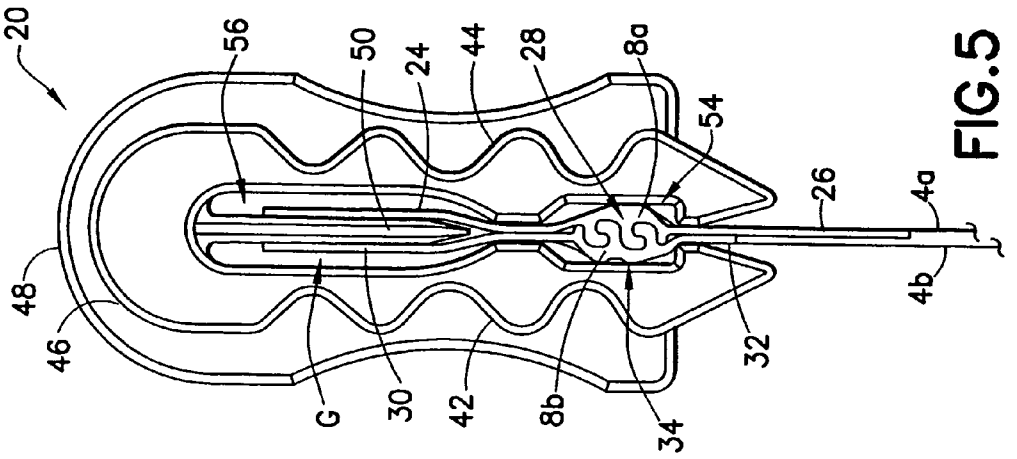

20
56
50
24
44
28
8a
54
26
4a
4b
48
46
G
30
42
8b
34
32

FIG.5

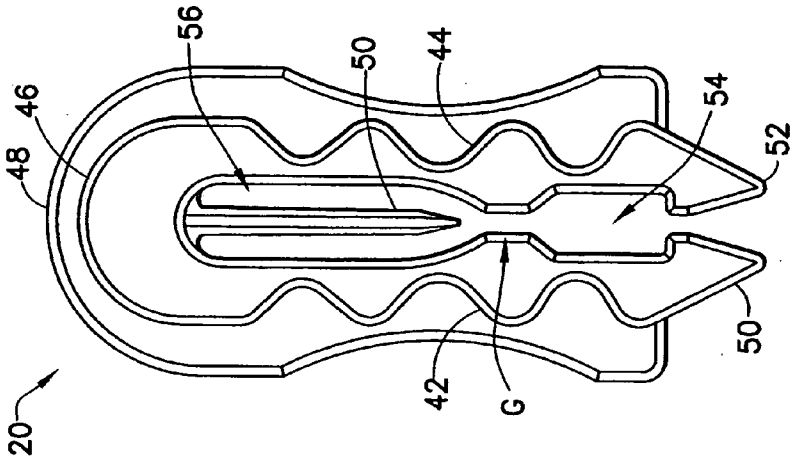

56
50
44
46
48
54
52
42
G
50
20

FIG.4

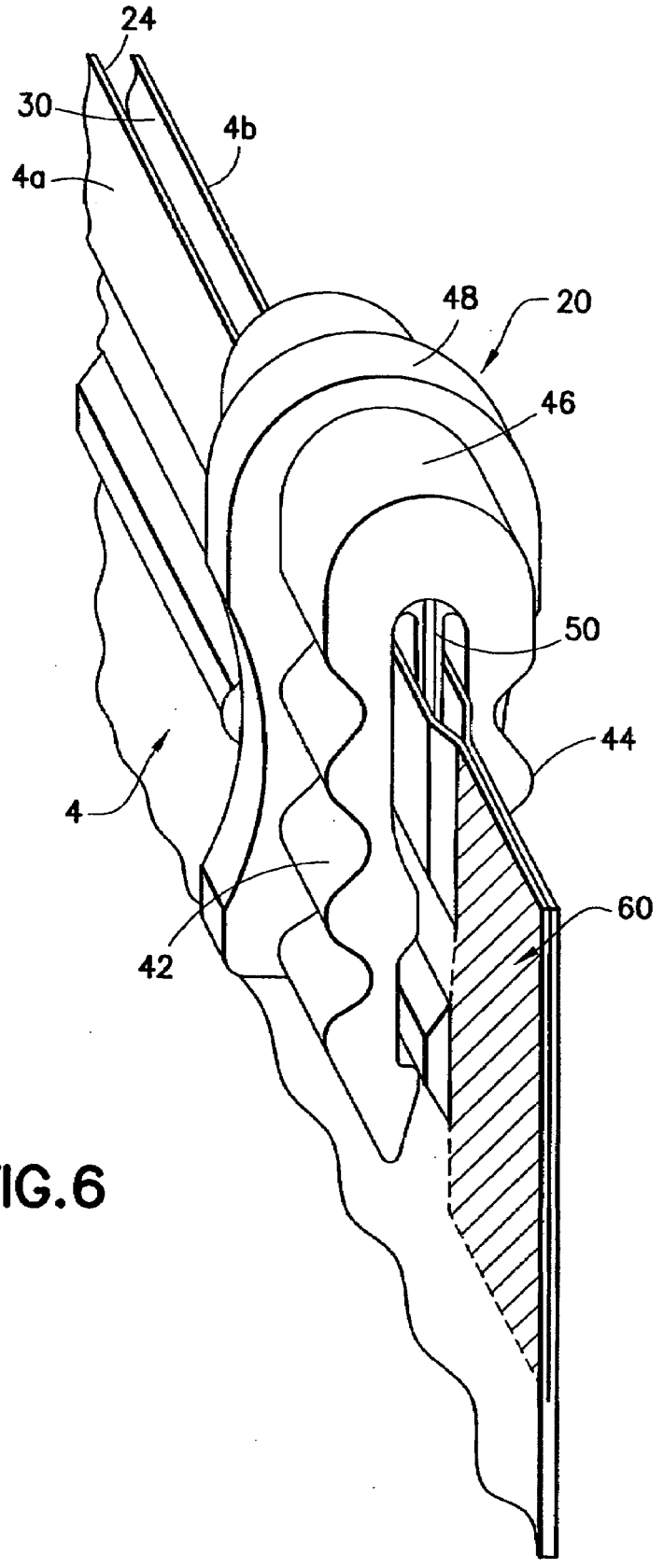


FIG.6

RECLOSABLE BAGS HAVING SLIDER WITH FINGER THAT STOPS SLIDER AT SIDE SEAL

TECHNICAL FIELD

[0001] This disclosure generally relates to flexible reclosable containers, such as pouches, bags or other packages, having a flexible closure. In particular, this disclosure relates to reclosable bags, pouches or other packages for containing vacuum, pressure or liquid.

BACKGROUND

[0002] In many different applications, it is desirable to provide a reclosable container that, under normal or expected conditions of usage, will not leak fluid when the closure, e.g., a zipper, is closed. Such a container should maintain a leakproof condition even when there is a large differential in pressure between the interior and exterior of the container.

[0003] In the case of known collapsible, evacuable, zippered storage bags, the zipper is opened; an article is placed inside the bag; the zipper is closed; and then the bag is evacuated using a fixture that penetrates a bag wall. With the bag thus evacuated, a compressible article contained therein may be significantly compressed so that it is easier to transport and requires substantially less storage space. It is highly desirable that ambient air not leak into the evacuated interior space of the bag. Such leakage would cause a loss of vacuum. Also it is highly desirable that the zipper not open unintentionally due to mechanical forces that occur during bag manipulation.

[0004] Collapsible, evacuable storage bags are beneficial for reasons in addition to those associated with compression of the stored article. For example, removal of the air from the storage bag inhibits the growth of destructive organisms, such as moths, silverfish, and bacteria, which require oxygen to survive and propagate. Moreover, such bags, if properly sealed, are impervious to moisture, as a consequence of which the growth of mildew is inhibited.

[0005] Not only large, compressible items such as clothing may be stored in a collapsible, evacuable and reclosable storage bag. For example, it may be desirable to store bulk items made of small particles, such as powders or granulated resins, in an evacuated reclosable bag. The stored material may be of a type that, when exposed to air during storage, is rendered unsuitable for its intended purpose. If the reclosable bag were made leakproof, then the bulk contents inside the bag would not be exposed to air.

[0006] In accordance with another application, a reclosable storage bag may be filled at ambient atmosphere instead of being evacuated. If such a bag were placed under extremely low pressure, e.g., while being air-lifted via a cargo plane having a depressurized cargo bay, then a large differential in pressure would exist between the interior and exterior of the bag. In this situation, the internal pressure may be about 15 psi, while the external pressure is negligible. It is desirable that the bag not develop a leak and that the zipper not pop open under such conditions.

[0007] Another use for evacuable reclosable packages is in the field of food product packaging. After a package of food has been opened and a portion of the food product removed, the remaining food product can be stored by closing the reclosable feature and then evacuating the interior space of the package via a fixture that penetrates a package wall. It is highly desirable that such packages, containing perishable food product in a vacuum, be leakproof, i.e., hermetic. By preventing exposure to air, the life span of the perishable food product can be extended.

[0008] In other situations, it is desirable to provide a reclosable package capable of holding liquid without leaking during normal usage when the zipper is reclosed. Preferably such a package would be able to withstand a predetermined pressure differential (interior/exterior) without liquid leaking out of the package.

[0009] In a typical construction, a reclosable pouch, bag or other package has a plastic closure comprising two extruded closure strips, the ends of the closure strips extending into the side seals of a flexible receptacle. Frequently, each closure strip comprises a closure profile and a flange or fin portion (hereinafter "flange"). The closure strips are joined to the web material by heat sealing the web to the flanges of the closure strips. In order to facilitate the formation of a tight side seal, typically the ends of the closure strips are crushed. During the crushing operation, heat and pressure are applied in sufficient amounts (e.g., by means of mutually opposing heated sealing bars) that the ends of the closure strips soften or melt and then deform. The flattened ends of the closure strips then fuse during cooling.

[0010] It is known to provide a reclosable vacuum storage bag with a slider or clip that, when moved along the closure in either direction, causes incoming portions of the closure profiles to engage. The slider can be pulled from one end of the closure to another in order to close completely the closure. Typically the slider is not used to open the closure. In such cases, the slider does not need a finger (sometimes called a plow or tongue) for separating the closure profiles. In many such bags, the ends of the closure are without means for preventing the slider from being pulled off.

[0011] There is a continuing need for improvements in the construction of reclosable containers having a hermetic interior volume when the zipper is reclosed. In particular, there is a need for an improved reclosable container wherein means are provided for preventing the slider or clip from being pulled off either end of the closure.

SUMMARY

[0012] This disclosure relates to a reclosable bag comprising a receptacle having a mouth, a flexible closure located near the mouth, and a slider mounted over the mouth. The receptacle comprises first and second panels and first and second seals at respective ends of the mouth. The closure comprises first and second closure profiles. The slider comprises a finger that extends into the mouth, but not between the first and second closure profiles. The slider may be of a type that causes disengaged portions of the first and second closure profiles to mutually engage during travel in either direction. The finger prevents the slider from being pulled off either end of the closure by abutting the corresponding seal. The receptacle and closure may form an airtight boundary for an interior volume.

[0013] One aspect is a reclosable bag comprising a receptacle having a mouth and comprising first and second panels, a flexible closure located near the mouth and comprising first and second closure profiles, and a slider mounted over the mouth and comprising a finger that extends into the mouth, but not between the first and second closure profiles.

[0014] Another aspect is a reclosable bag comprising: a receptacle comprising first and second panels and having a mouth, an interior volume being accessible from an exterior

volume when the mouth is in an open state; a flexible closure located near the mouth and comprising first and second closure strips respectively joined or connected to the first and second panels, the first and second closure strips comprising respective closure profiles that are mutual engageable; and a generally U-shaped slider slidably mounted over the mouth and designed to guide disengaged portions of the first and second closure profiles of the first and second closure strips into engagement during slider travel in either direction along the closure, the slider comprising mutually opposing first and second sidewalls separated by a gap, a bridge connecting the first and second sidewalls and overlying the gap, and a finger that extends into the gap but does not reach the closure profiles.

[0015] A further aspect is a reclosable bag comprising: a receptacle having a mouth comprising first and second mouth walls joined to each other or to intervening material at first and second end seals; a flexible closure located inside the receptacle near the mouth and comprising first and second closure profiles that are mutually engageable, the closure being substantially airtight when the first and second closure profiles are mutually engaged along their entire length; a slider mounted over the mouth and comprising a finger that extends into the mouth; and a one-way valve assembly installed in an aperture of the receptacle, whereby an interior volume bounded by the receptacle and the closure can be evacuated when the closure is closed.

[0016] Other aspects of the invention are disclosed and claimed below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. **1** is a drawing showing an isometric view of one conventional type of collapsible, evacuable storage bag.

[0018] FIG. **2** is a schematic representation of the cross section of a reclosable bag for vacuum, pressure or liquid containment in accordance with one embodiment.

[0019] FIG. **3** is a drawing showing a cross-sectional view of a zipper that is suitable for use as a containment zipper in bags of the type schematically depicted in FIG. **2**.

[0020] FIG. **4** is a drawing showing an end view of a slider in accordance with one embodiment.

[0021] FIG. **5** is a drawing showing a cross-sectional view of a portion of a reclosable bag, with the slider of FIG. **4** (shown in an end view) mounted thereon.

[0022] FIG. **6** is a drawing showing an isometric view of a corner portion of a reclosable bag, with the slider of FIG. **4** mounted thereon.

[0023] Reference will now be made to the drawings in which similar elements in different drawings bear the same reference numerals.

DETAILED DESCRIPTION

[0024] FIG. **1** shows a conventional collapsible, evacuable storage bag **2** comprising a receptacle **4**, a valve assembly **6**, and a zipper **8** comprising a pair of mutually interlockable extruded plastic strips that are joined to each other at opposing ends thereof. The one-way valve assembly can be used to evacuate an interior volume bounded by the receptacle **4** and the zipper **8** when the latter is closed. Although not shown in FIG. **1**, the conventional valve assembly **6** also typically comprises a cap that can be snapped onto a portion of the valve assembly that is disposed external to receptacle **4**. The cap must be removed before the receptacle can be evacuated, and then is replaced after the receptacle has been evacuated. The cap is intended to seal the valve assembly to prevent air from entering the evacuated receptacle.

[0025] The receptacle **4** typically comprises front and rear walls or panels (typically made of thermoplastic film material) that are joined together at the bottom and two sides by conduction heat sealing to form a receptacle having an interior volume and a mouth near which the zipper **8** is installed. Alternatively, the receptacle **4** may be made from a web of film that is folded, the fold forming the bottom of the receptacle, or the receptacle may have a bottom panel or gusset. One wall of receptacle **4** has an aperture (not shown in FIG. **1**) in which to install the valve assembly **6**. The receptacle may be constructed of a blended extrusion layer of polyethylene sandwiched between a nylon layer and a layer of polyethylene sheeting. However, the materials comprising the receptacle may be altered so as to prevent interaction with the contents stored therein.

[0026] During use, one or more discrete articles or a bulk material (not shown) may be placed inside the receptacle **4** while the zipper **8** is open, i.e., while the closure profiles of the interlockable zipper strips are disengaged from each other. After the article or material to be stored has been placed inside the receptacle, the mouth of the receptacle **4** can be sealed by pressing the closure strips together to cause their respective closure profiles to interlock with each other. Although the closure profiles may have many different designs, the design must be one that ensures that an airtight seal can be formed at the mouth of the receptacle.

[0027] The zipper strips can be pressed together using a device (not shown in FIG. **1**) commonly referred to as a "slider" or "clip", which straddles the zipper. The typical slider has a generally U-shaped profile, with respective walls or disposed on opposing sides of the zipper. A gap between the slider sidewalls is small enough that the zipper can pass through that gap only if the zipper is in a closed state. Thus when the slider is moved along an open zipper, this has the effect of pressing the incoming sections of the zipper strips together. The zipper is opened by pulling apart the zipper upper flanges, as explained in more detail below. The slider can be made using any desired method, such as injection molding. The slider can be molded from any suitable plastic, such as nylon, polypropylene, polystyrene, acetal, polyketone, polybutylene terephthalate, high-density polyethylene, polycarbonate, or ABS.

[0028] The zipper **8** is designed to form a hermetic seal at the mouth of the receptacle **4** when the zipper **8** closed. After the zipper has been closed, the interior volume of the receptacle can be evacuated by sucking air out via the one-way valve assembly **6**. Air can be drawn out of receptacle **4** through valve assembly **6** using a conventional vacuum source (not shown in FIG. **1**), such as a household or industrial vacuum cleaner. The valve assembly **6** (e.g., when capped) and the zipper **8** maintain the vacuum inside receptacle **4** after the vacuum source is removed.

[0029] The front and rear panels of the receptacle **4** are respectively sealed to the zipper strips by lengthwise conduction heat sealing in conventional manner. Alternatively, the interlockable zipper strips can be attached to the front and rear panels by adhesive or bonding strips or the closure profiles can be extruded integrally with the web material. The walls of the receptacle may be formed of various types of gas-impermeable thermoplastic web material. The preferred gas-imper-

meable thermoplastics are nylon, polyester, polyvinyl dichloride and ethylene vinyl alcohol. The web material may be either transparent or opaque.

[0030] In many reclosable bags, the zipper comprises a pair of mutually interlockable zipper strips, each zipper strip having a respective generally constant profile along the interlockable portion of the zipper. Each zipper strip further comprises upper and lower flanges that extend from the respective closure profile in opposite directions. Each flange is a thin web of the same material used to make the closure profiles. The upper flanges serve as pull flanges that can be gripped and pulled apart to open the zipper. Typically, the ends of the zipper strips are joined together (e.g., by thermal crushing or ultrasonic welding) at the sides of the bag.

[0031] Many different types of zippers are suitable for use in reclosable pouches or bags for vacuum, pressure and/or liquid containment. Preferably, the containment zipper is incorporated into a pouch or bag in such a way that the pouch or bag is able to withstand a large pressure differential between the interior and the exterior of the pouch or bag without leaking or popping open. Alternatively, the pouch or bag is suitable for containing liquid without leaking or popping open under the expected conditions of normal usage.

[0032] A reclosable pouch or bag in accordance with one embodiment is schematically represented in cross section in FIG. **2**. The reclosable bag comprises a receptacle **4** with a three-flange containment zipper installed in the receptacle mouth at a top of the bag. One strip **8***a* of the containment zipper comprises a closure profile **28** and upper and lower flanges **24** and **26** extending in opposite directions from closure profile **28**. The upper and lower flanges **24** and **26** are heat sealed to one wall or panel **4***a* of the receptacle in respective band-shaped zones **12** and **14** indicated by Xs in FIG. **2**. Each band-shaped zone **12**, **14** extends the length of the flanges. The other zipper strip **8***b* comprises a closure profile **34** and an upper flange **30** that confronts the upper flange **24**. The upper flange **30** is heat sealed to the other wall or panel **4***b* of the receptacle **4** in a band-shaped zone **16** extending the length of the flange. By sealing zipper strip **8***b* to the receptacle **4** only at a flange **30** located above the closure profiles, a positive leverage effect is created, whereby pressure in the interior of the receptacle or mechanical forces exerted on the receptacle will, at least at the lower levels, tend to pull the receptacle wall or panel **4***b* away from the closure profile **34**, rather than pulling closure profile **34** away from closure profile **28**. In contrast, if both closure strips had upper and lower flanges and all four flanges were sealed to the sides of the receptacle, the sufficiently high internal pressure could produce enough stress that the closure profiles would be pulled apart, thereby opening the zipper and breaking the containment.

[0033] The upper flanges **24** and **30** can be gripped by the user and pulled apart to open the closed zipper. The opened zipper can be reclosed by traversing a slider (not shown in FIG. **2**) across the length of the zipper, the slider having a gap (as previously described) that guides incoming portions of the zipper strips into engagement. Typically, such a slider takes the form of a U-shaped clip that fits over the zipper with clearance for the upper flanges, while the sidewalls of the slider cam the closure profiles of the incoming zipper section into engagement when the slider is moved along the zipper in either direction.

[0034] The structure of the containment zipper is only schematically represented in FIG. **2**. The structure of an exemplary containment zipper, suitable for incorporation in the bag seen in FIG. **2**, is shown in detail in FIG. **3**. One closure strip **8***a* comprises a closure profile **28** and upper and lower flanges **24** and **26** extending in opposite directions therefrom. The closure profile **28** comprises a pair of monohook elements and a guide post or backup element devoid of a hook. A portion of the outer surface of upper flange **24** is coated with a layer **38** of low-melting thermoplastic material (hereinafter "sealant layer") to facilitate heat sealing of the upper flange **38** to one receptacle wall. The lower flange **26** has a similar sealant layer **36** thereon. The other closure strip **8***b* comprises a closure profile **34**, an upper flange **30** that confronts the upper flange **24**, and a short extension **32** that confronts a minor portion of the lower flange **26**. The closure profile **34** also comprises a pair of monohook elements and a post or backup element devoid of a hook. A portion of the outer surface of upper flange **30** is coated with a sealant layer **40** to facilitate heat sealing of the upper flange **38** to the other receptacle wall.

[0035] To ensure that a reclosable bag of the type shown in FIG. **2**, having a containment zipper of the type shown in FIG. **3**, has the capability to seal against liquids, vacuum and air under pressure, the zipper ends must be hermetically sealed. To achieve this goal, the method disclosed in U.S. patent application Ser. No. 11/257,849, filed on Oct. 25, 2006 and entitled "Reclosable Packages for Vacuum, Pressure and/or Liquid Containment," could be utilized.

[0036] In the absence of slider end stops formed on or attached to the opposing ends of the zipper, a slider of the type previously described could slide off either end of the zipper. Disclosed herein is a slider that carries means for stopping the slider from sliding off either end of the zipper. More specifically, the slider stopping means comprise a finger which, if the slider were continuously moved in one direction, would eventually abut a side seal at one end of the bag mouth, thereby stopping the slider from falling off that end, and which if the slider were continuously moved in the opposite direction, would eventually abut a side seal at the opposite end of the bag mouth, thereby stopping the slider from falling off the opposite end.

[0037] FIG. **4** shows an end view of a slider in accordance with one embodiment. The slider **20** is generally U-shaped and comprises mutually opposing sidewalls **42** and **44**, a bridge **46** connecting the sidewalls **42** and **44**, and a generally U-shaped stiffening rib **49** projecting outward from the sidewalls **42** and **44** and the bridge **46**. The sidewalls **42**, **44** are separated by a gap G of varying width. The slider further comprises mirror-image angled projections **50** and **52** projecting from respective distal portions of sidewalls **42** and **44**. These hook-shaped angled projections (hereinafter "hooks") retain the slider on the zipper. The retaining hooks **50** and **52** have mutually opposing angled surfaces that form an included angle at an entry point into the gap G. The small (less than 45 degrees) entry point angle reduces the amount of force needed to insert the slider onto the zipper and minimizes any potential damage to the slider profile. Preferably the slider is made by injection molding, so that the stiffening rib is integral with the sidewalls and bridge. On each side of the stiffening rib **48**, the sidewalls and bridge form a generally clip-shaped structure having undulating external surfaces. The undulations in the sidewalls facilitate manufacture by injection molding. The stiffening rib does not have an undulating surface, but has ergonomically designed curved depressions on opposite sides thereof. The curvature is designed to generally match the shape of a finger or thumb tip,

making it more comfortable for the bag user and also improving the bag user's grasp of the slider.

[0038] Now referring to FIG. **5**, the slider gap narrows in width at confronting generally parallel planar surfaces of respective opposing plateaus. Below the plateaus, opposing grooves define a lower chamber **54** having a generally rectangular profile. During slider insertion, the zipper and upper marginal portions of the bag panels **4***a* and **4***b* enter the gap G, with the zipper closure profiles **28** and **34** residing in the lower chamber **54** of that gap. The lower flange **26** of zipper strip **8***a* extend below the bottom of the slider, while the upper flanges **24** and **30** (of zipper strips **8***a* and **8***b*, respectively) extend through the narrow section of the gap (between the opposing plateaus) and into the upper chamber **56** of gap G.

[0039] The slider shown in FIGS. **4** and **5** has a finger **50** for stopping the slider from sliding off the ends of the zipper. The finger **50** projects vertically downward from the underside of the slider bridge **46** into the upper chamber **56** of the gap G. As shown in FIG. **5**, the finger **50** extends between the upper flanges **24** and **30** (and between the uppermost portions of panels **4***a* and **4***b* joined thereto that form the mouth of the bag), i.e., the finger **50** extends into the bag mouth (see also FIG. **6**), but not between the closure profiles **28** and **34**. The finger **50** may have the shape of a plate, one end of the plate-shaped finger coming into contact with a side seal **60** (see FIG. **6**) at one end of the mouth when the slider is moved continuously in one direction, and the other end of the plate-shaped finger coming into contact with a side seal (not shown in FIG. **6**) at the other end of the mouth when the slider is moved continuously in the opposite direction. In each case, a side seal poses an obstacle to forward travel of an abutting end of the plate-shaped finger **50**. The side seal **60** seen in FIG. **6** may be formed by thermal crushing (of the closure profiles) and/or ultrasonic welding. For example, the method disclosed in U.S. patent application Ser. No. 11/257,849, filed on Oct. 25, 2006 and entitled "Reclosable Packages for Vacuum, Pressure and/or Liquid Containment," could be utilized, in which case the hermetically sealed end of the zipper would extend beyond what is shown in FIG. **6** and into the side seal area **60**. Alternatively, the plate-shaped finger could be replaced by a pair of beam-shaped fingers. In the latter case, one finger would abut the side seal at one mouth end, and the other finger would abut the side seal at the other mouth end. The portion of the side seal in contact with the finger is formed by joinder of the upper zipper flanges and the adjoining portions of the bag panels.

[0040] While the invention has been described with reference to various embodiments, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the scope of the invention. In addition, many modifications may be made to adapt a particular situation to the teachings of the invention without departing from the essential scope thereof. Therefore it is intended that the invention not be limited to the particular embodiment disclosed as the best mode contemplated for carrying out this invention, but that the invention will include all embodiments falling within the scope of the appended claims.

[0041] As used in the claims, the term "joined" means the attachment of distinct elements by fusing, welding, heat sealing, adhesive bonding, etc., whereas the term "connected" means that the recited elements are integrally formed.

1. A reclosable bag comprising a receptacle having a mouth and comprising first and second panels, a flexible closure located near said mouth and comprising first and second closure profiles, and a slider mounted over said mouth and comprising a finger that extends into said mouth, but not between said first and second closure profiles.

2. The bag as recited in claim **1**, wherein said slider causes incoming disengaged portions of said first and second closure profiles to mutually engage during travel in either direction.

3. The bag as recited in claim **1**, wherein said receptacle and said closure form an airtight boundary for an interior volume.

4. The bag as recited in claim **1**, wherein said slider is generally U-shaped and further comprises mutually opposing first and second sidewalls separated by a gap, and a bridge connecting said first and second sidewalls and overlying said gap, said finger projecting from said bridge into said gap.

5. The bag as recited in claim **4**, wherein a portion of said first panel passes between said first sidewall and said finger of said slider, and a portion of said second panel passes between said second sidewall and said finger of said slider.

6. The bag as recited in claim **4**, wherein each of said first and second closure strips comprises a respective upper flange, a portion of said upper flange of said first closure strip passing between said first sidewall and said finger of said slider, and a portion of said upper flange of said second closure strip passing between said second sidewall and said finger of said slider.

7. The bag as recited in claim **1**, wherein said receptacle comprises first and second seals located at opposite ends of said mouth, respective upper portions of said first and second panels spanning a space between said first and second seals, said slider finger extending between said upper portions of said first and second panels, and a first portion of said slider finger abutting said first seal when said slider reaches a first limit position at one end of said mouth.

8. The bag as recited in claim **7**, wherein a second portion of said slider finger abuts said second seal when said slider reaches a second limit position at another end of said mouth.

9. The bag as recited in claim **1**, further comprising a one-way valve assembly installed in an aperture of said first panel, wherein said closure is substantially airtight when closed along its entire length.

10. A reclosable bag comprising:

a receptacle comprising first and second panels and having a mouth, an interior volume being accessible from an exterior volume when said mouth is in an open state;

a flexible closure located near said mouth and comprising first and second closure strips respectively joined or connected to said first and second panels, said first and second closure strips comprising respective closure profiles that are mutual engageable; and

a generally U-shaped slider slidably mounted over said mouth and designed to guide disengaged portions of said first and second closure profiles of said first and second closure strips into engagement during slider travel in either direction along said closure, said slider comprising mutually opposing first and second sidewalls separated by a gap, a bridge connecting said first and second sidewalls and overlying said gap, and a finger that extends into said gap but does not reach said closure profiles.

11. The bag as recited in claim **10**, wherein a portion of said first panel passes between said first sidewall and said finger of said slider, and a portion of said second panel passes between said second sidewall and said finger of said slider.

12. The bag as recited in claim **10**, wherein each of said first and second closure strips comprises a respective upper flange, a portion of said upper flange of said first closure strip passing between said first sidewall and said finger of said slider, and a portion of said upper flange of said second closure strip passing between said second sidewall and said finger of said slider.

13. The bag as recited in claim **10**, wherein said receptacle comprises first and second seals located at opposite ends of said mouth, respective upper portions of said first and second panels spanning a space between said first and second seals, said slider finger extending between said upper portions of said first and second panels, and a first portion of said slider finger abutting said first seal when said slider reaches a first limit position at one end of said mouth.

14. The bag as recited in claim **13**, wherein a second portion of said finger abuts said second seal when said slider reaches a second limit position at another end of said mouth.

15. The bag as recited in claim **10**, further comprising a one-way valve assembly installed in an aperture of said first panel, wherein said closure is substantially airtight when closed along its entire length.

16. A reclosable bag comprising:

a receptacle having a mouth comprising first and second mouth walls joined to each other or to intervening material at first and second end seals;

a flexible closure located inside said receptacle near said mouth and comprising first and second closure profiles that are mutually engageable, said closure being substantially airtight when said first and second closure profiles are mutually engaged along their entire length;

a slider mounted over said mouth and comprising a finger that extends into said mouth; and

a one-way valve assembly installed in an aperture of said receptacle, whereby an interior volume bounded by said receptacle and said closure can be evacuated when said closure is closed.

17. The bag as recited in claim **16**, wherein said slider finger does not extend between said first and second closure profiles, and said slider finger abuts said first seal when said slider reaches a limit position.

18. The bag as recited in claim **16**, wherein said slider is generally U-shaped and further comprises mutually opposing first and second sidewalls separated by a gap, and a bridge connecting said first and second sidewalls and overlying said gap, said finger projecting from said bridge into said gap.

19. The bag as recited in claim **18**, wherein a portion of said first mouth wall passes between said first sidewall and said finger of said slider, and a portion of said second mouth wall passes between said second sidewall and said finger of said slider.

20. The bag as recited in claim **18**, wherein each of said first and second closure strips comprises a respective upper flange, a portion of said upper flange of said first closure strip passing between said first sidewall and said finger of said slider, and a portion of said upper flange of said second closure strip passing between said second sidewall and said finger of said slider.

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