

[54] RESEALABLE CLOSURE FOR ILEOSTOMY BAG

[75] Inventor: Leonard Fenton, Beachwood, Ohio

[73] Assignee: Marlen Manufacturing and Development Co., Bedford, Ohio

[22] Filed: Feb. 26, 1973

[21] Appl. No.: 335,949

[52] U.S. Cl. 128/283

[51] Int. Cl. A61f 5/44

[58] Field of Search 128/283, 286, 287, 294, 128/295

[56] References Cited

UNITED STATES PATENTS

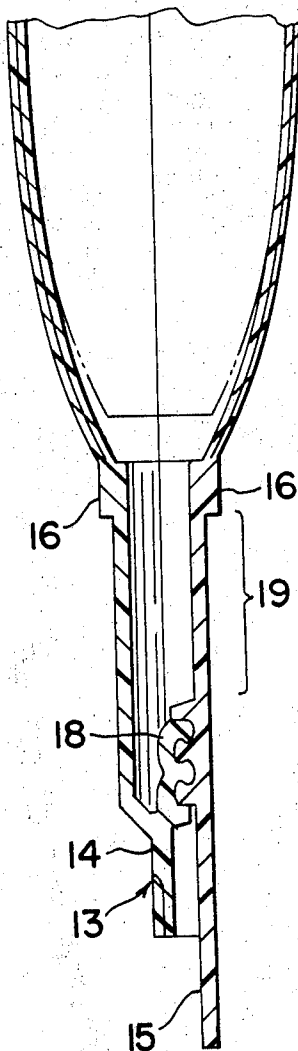
| | | | |
|-----------|---------|-------------------|---------|
| 2,973,759 | 3/1961 | Plymale, Jr. | 128/283 |
| 3,089,493 | 5/1963 | Galindo | 128/283 |
| 3,618,606 | 11/1971 | Brown et al. | 128/283 |
| 3,690,320 | 9/1972 | Riely | 128/283 |

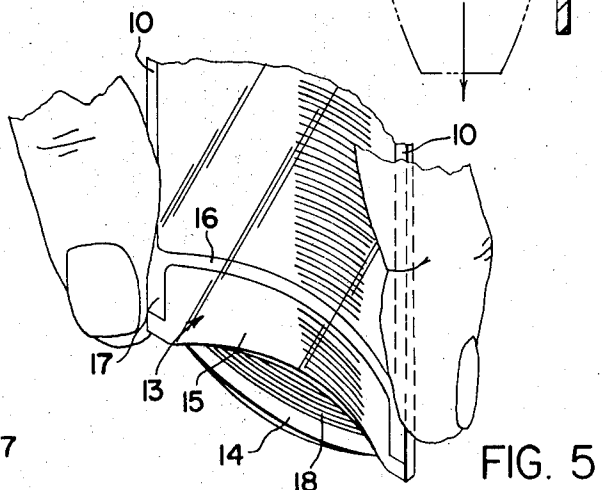
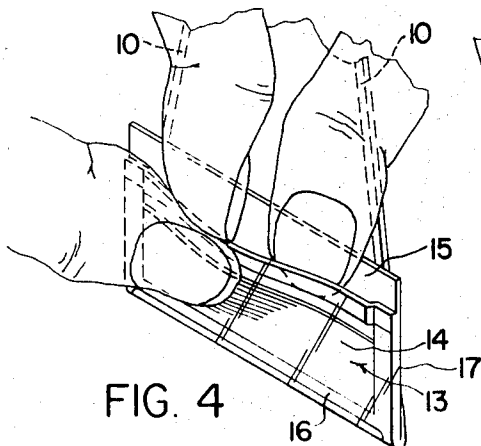
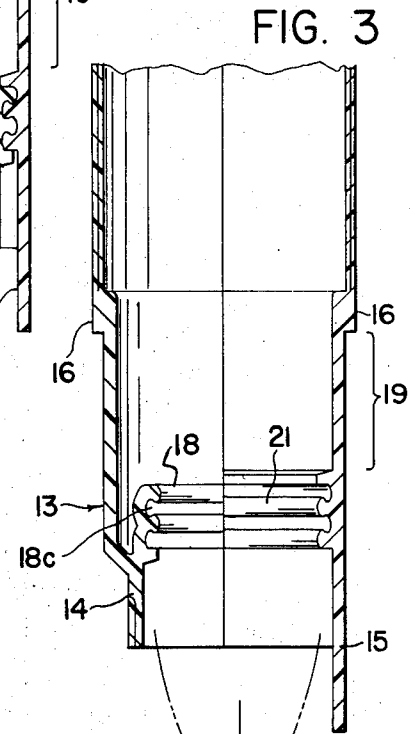
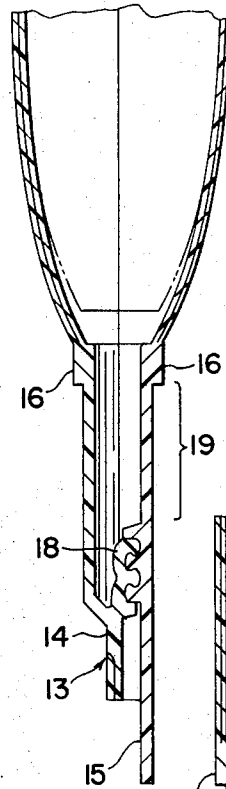
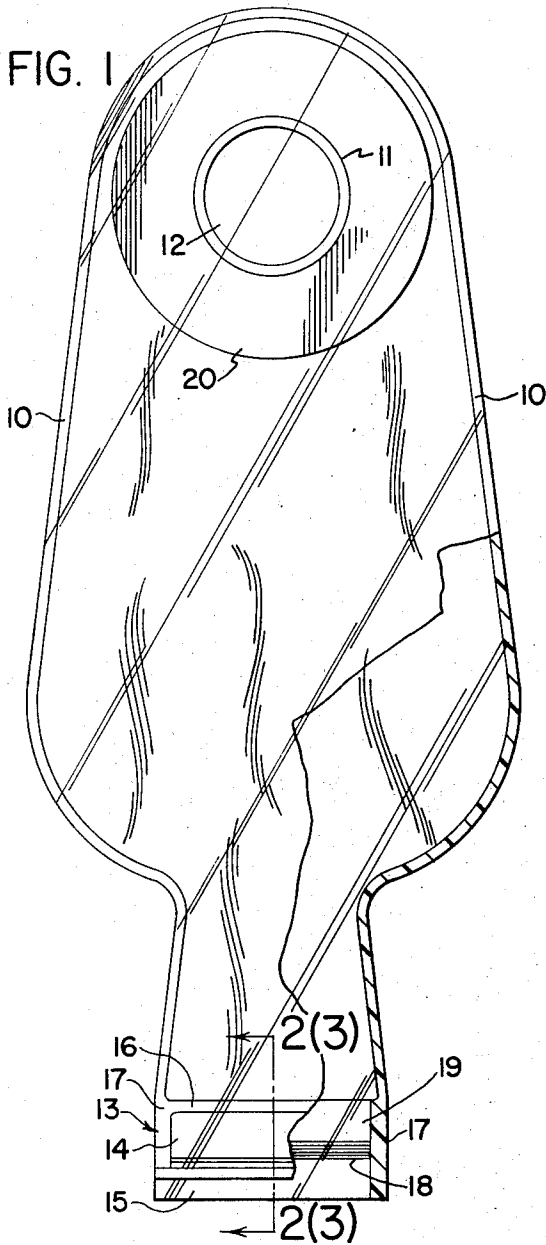
Primary Examiner—Charles F. Rosenbaum
Attorney, Agent, or Firm—McNenny, Farrington, Pearne & Gordon

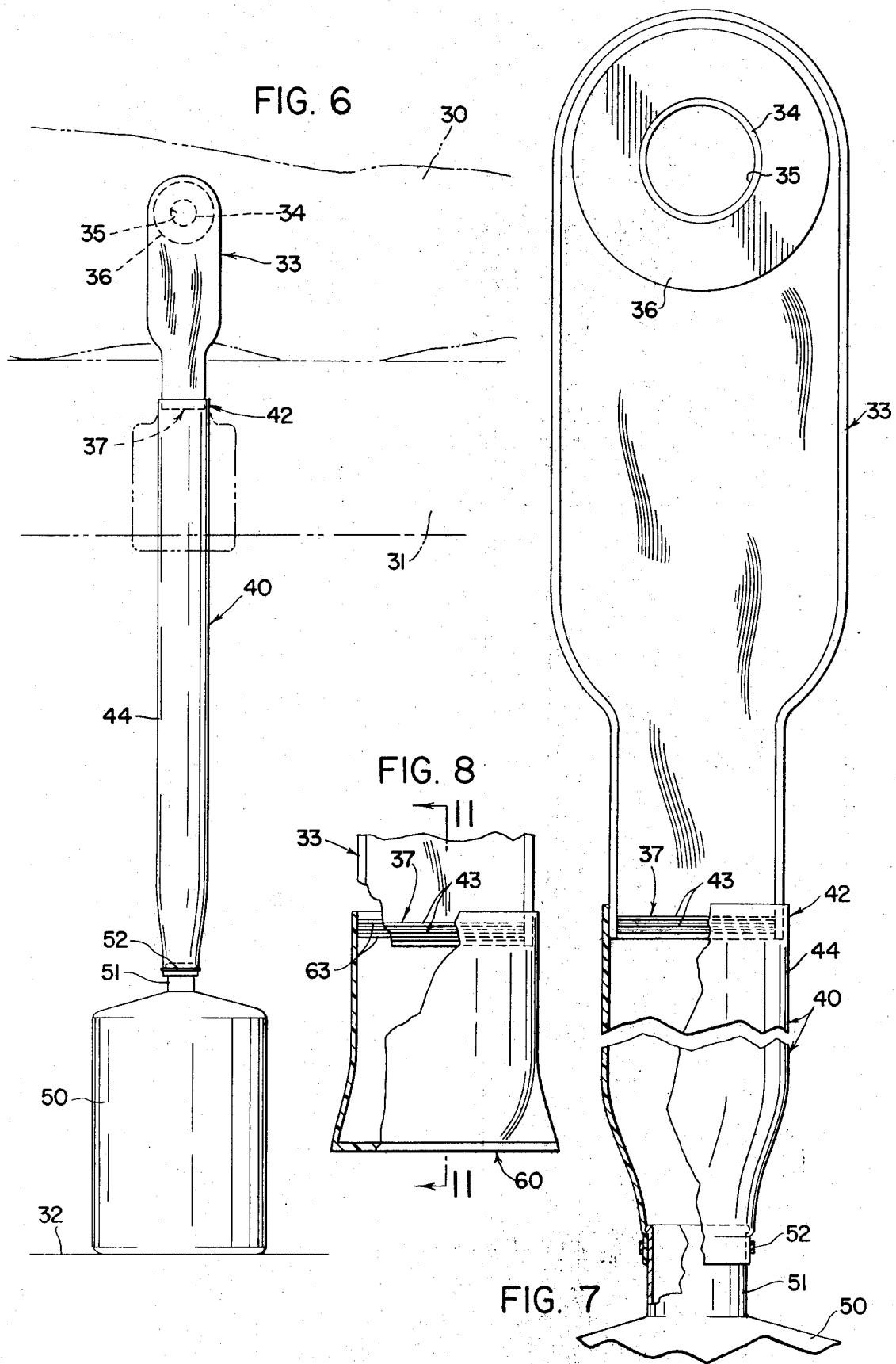
[57] ABSTRACT

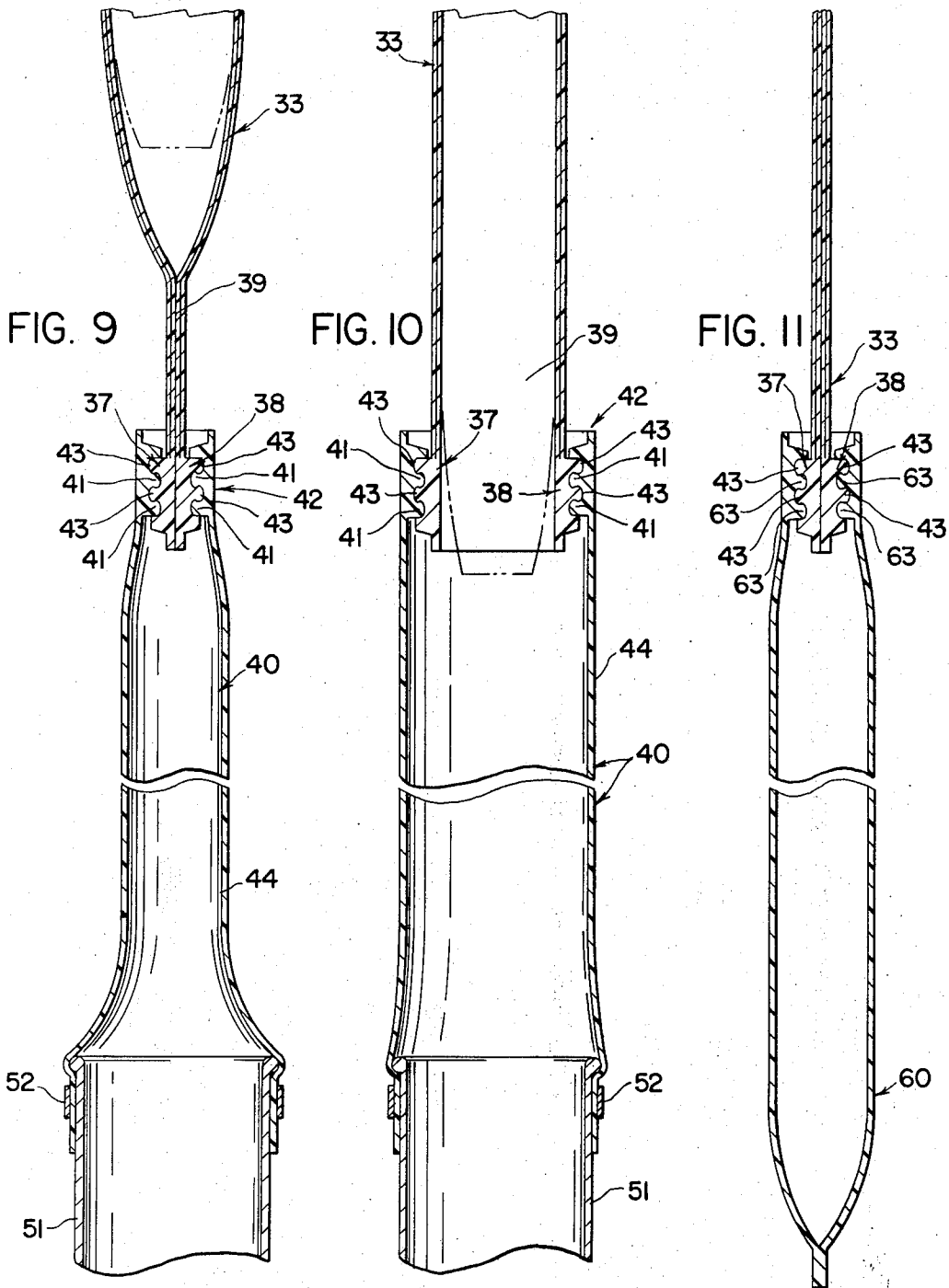
A reusable, resealable, ileostomy or colostomy bag which may be emptied without removing the bag from the stoma of the user. Overlapping flexible panels of plastic material, which are sealingly connected at their sides, are sealed to the walls of the bag or pouch. Ribs integral with one panel are adapted to sealingly fit into channels formed by ribs on the other panel to provide a gas-impermeable and fluid-tight seal. The resilience of the panels permits them to be bent together along the line of sealing at the bottom of the bag. Finger pressure, oppositely directed along the closure, permits distension of the closure to its full opening, permitting fecal matter in the pouch to be dumped without contacting the same. To more securely seal the bottom of such a bag, a secondary sealing device is provided. Such a sealing device comprises mating sealing members on either side of a fold line at the bottom of the bag. The secondary seal is effected by folding the bottom of the bag one or more times and then fastening the mating sealing members.

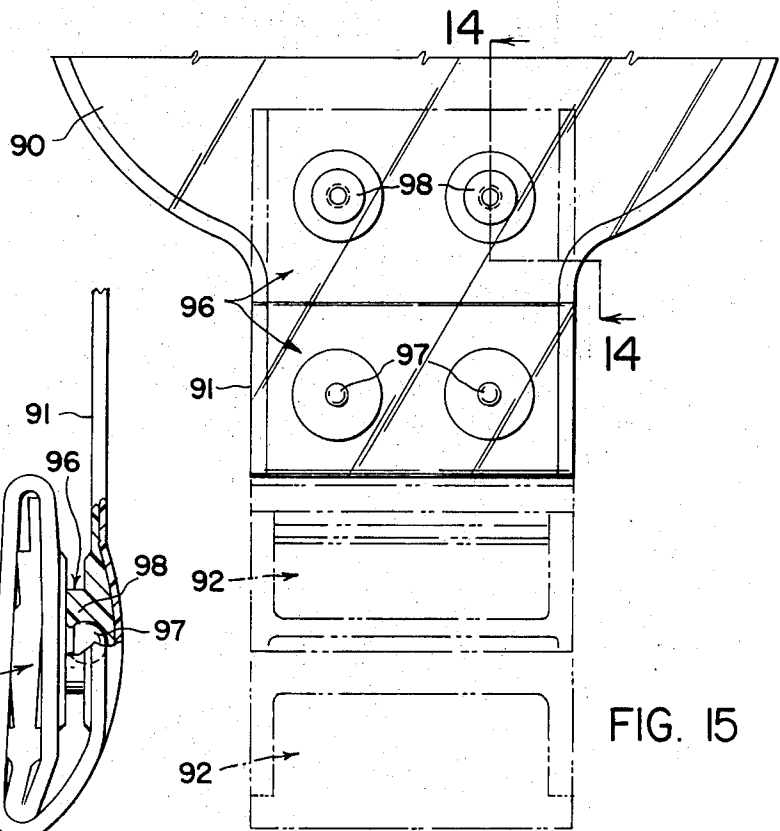
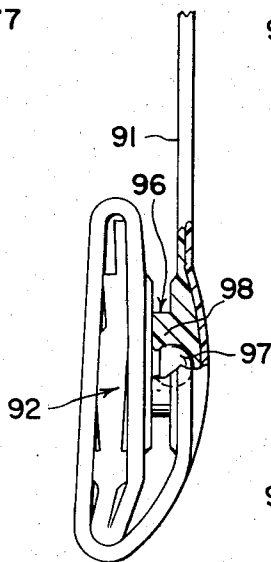
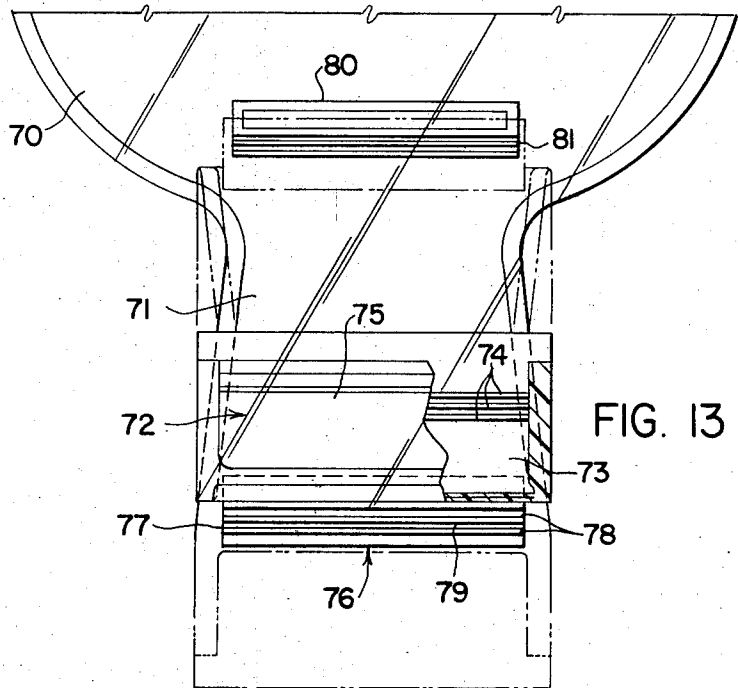
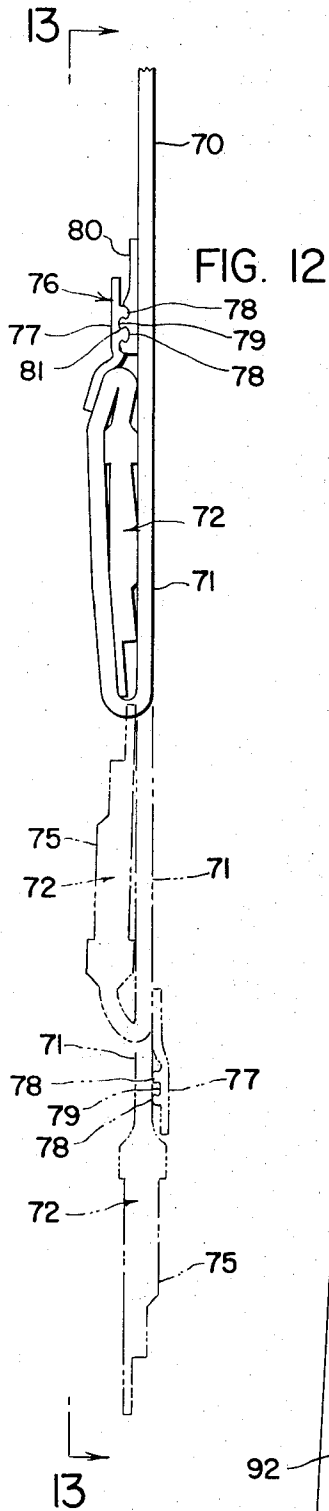
12 Claims, 17 Drawing Figures











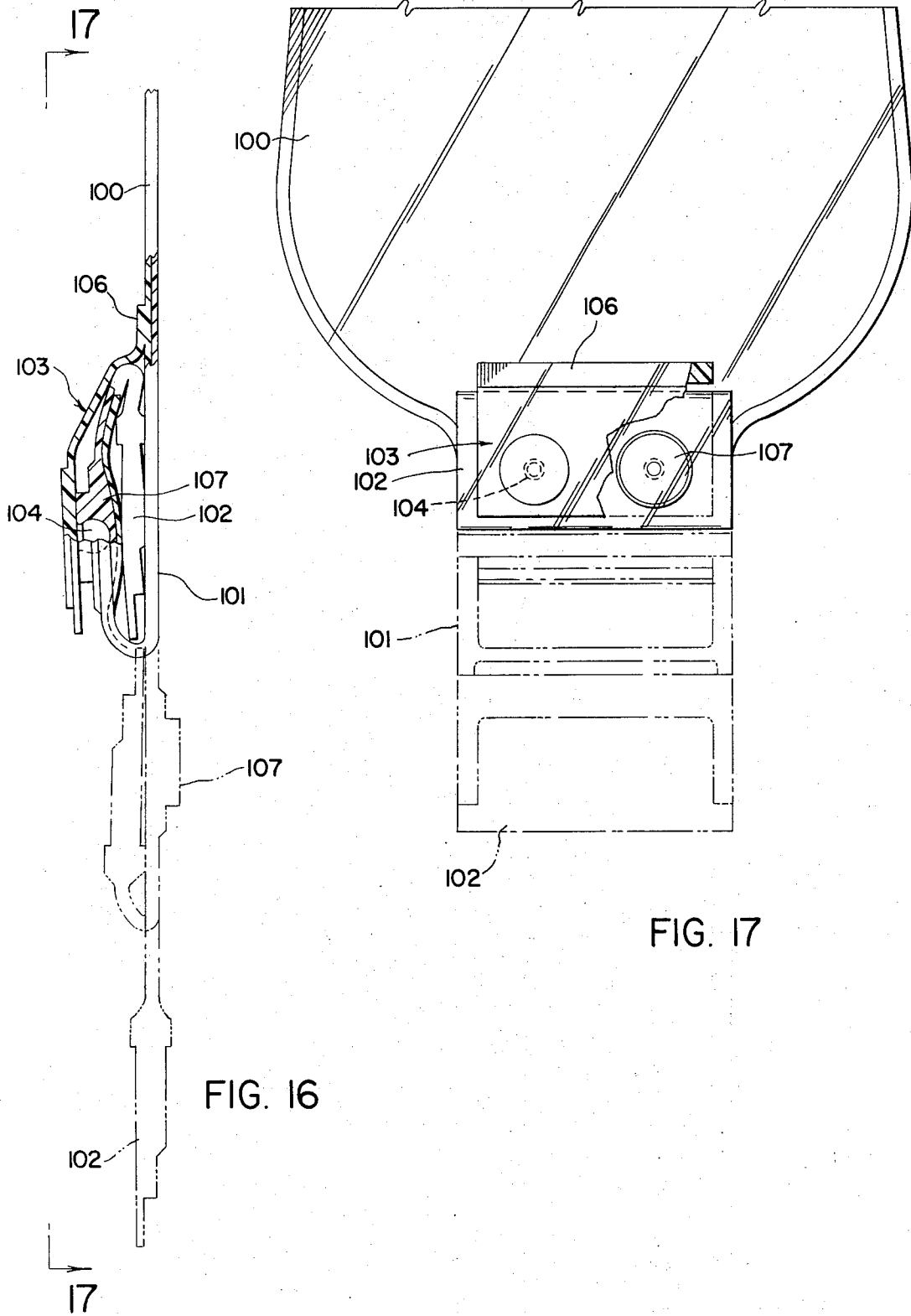


FIG. 16

FIG. 17

RESEALABLE CLOSURE FOR ILEOSTOMY BAG

In another embodiment particularly adapted to a bedridden patient, a post-operative pouch is provided with overlapping, easily distensible, flexible panels of plastic material which are sealingly connected at their sides. The panels are sealed, each to an opposite wall of the discharge end of the pouch. Horizontal ribs are provided exteriorly of each panel and are adapted to sealingly fit into channels formed by horizontal ribs interiorly disposed on easily distensible panels at one end of an elongated sleeve or coupling member in fluid communication with an accumulator or receptacle for fecal matter, upon which the other end is removably secured. Easily distensible panels with matching sealable ribs provide a simple locking mechanism for the sleeve and discharge end of the post-operative pouch. When the coupling member and the receptacle are temporarily disconnected for emptying and cleansing, a cap which is provided with a similar locking mechanism as the upper end of the sleeve is quickly pressed into service.

BACKGROUND OF THE INVENTION

A colostomy is a surgical operation in which the patient's colon protrudes from the side of the abdomen as a short, stubby protrusion, referred to as the "stoma," through which the contents of the colon are discharged, more or less involuntarily, and means must be provided to collect the fecal material thus discharge in an as sanitary and inoffensive manner as possible. A patient who has undergone an ileostomy has no internal control over his discharge. To this end, the patient usually employs a disposable ileostomy or colostomy bag, also referred to as a stoma bag or fecal pouch. The pouch is ordinarily formed of a flexible sheet material that is impervious to fluids, such as sheet rubber, self-supporting films of thermoplastic synthetic resinous material, and the like, a conventional bag comprising two side wall panels joined together along the top, both sides and along the bottom edges of the side walls. One of the side walls is formed with an opening defined by a peripheral seal adapted to receive the stoma, the bag being demountably disposed on a mounting means secured to the person, or the bag being adhesively secured to the skin surrounding the stoma. When properly applied to the person, the colostomy bag provides a gas-tight and fluid-tight receptacle for material discharged through the stoma.

Stoma bags which must be peeled from the skin of the user are waning in popularity because the skin tends to blister or become raw and tender. More preferred are bags which are mounted on a mounting means secured around the abdomen as described in my U.S. Pat. No. 2,818,069. Bags so mounted on a mounting means are preferably not demounted for disposal of the contents of the bag, simply because sealing of the opening of the bag around the mounting means after it has been demounted is always problematical, if not impossible. It is preferred to discharge the contents of the bag through an opening at the bottom, as described in the aforementioned U.S. patent or in U.S. Pat. Nos. 2,638,898; 2,778,362; or 3,507,282. Whatever the means for sealing the bottom of a fecal pouch, it is imperative that the closure be maintained at least fluid-tight, despite the normal twisting, turning, and twitching motions of an average person going about his daily

tasks, without the person's being prey to the fear of a possible acutely embarrassing accident. To this end, the aforementioned U.S. patents have provided various fluid-tight closures, each of which has its peculiar disadvantages whether it be difficulty in effecting the closure, inconvenience in emptying the bag, or an inability to empty the bag without contacting the fecal matter within the pouch.

Chiefly because of the last-mentioned reason, a popular colostomy bag has a disposable liner, as described in U.S. Pat. No. 3,089,493. The liner, which contains the fecal matter, is removed through a hinged opening at the top of the bag and is disposed of. A fresh liner is then inserted and the opening resealed. The opening is not subjected to any differential pressure, whether it be fluid or gas, and there is no danger of fecal matter's interfering with the resealability of the closure. The instant invention overcomes the disadvantages of the prior art bags with respect to physical contact of the contents of the pouch, and permits a more economical bag in that a disposable liner is unnecessary.

At the present time, there is no convenient apparatus for collecting the fecal discharge of a bedridden patient in a manner other than that customarily used for an ambulatory person who has undergone an ileostomy or colostomy. It is desirable to have a convenient and clean method for disposing of the fecal discharge of such bedridden patients while in the prone position. The post-operative pouch, in combination with an easily distensible sleeve coupling it to an accumulator, provides such a convenient and clean method.

SUMMARY OF THE INVENTION

I have devised a reusable, resealable ileostomy or colostomy bag which may be emptied without being detached from the abdomen of the user by finger pressure directed along the closure at the bottom of the bag. The closure comprises two overlapping, resilient panels of plastic material sealingly connected at their side edges which are also sealingly connected along their upper edges, along bottom sealing lines, to the bottoms of opposite inner walls of a dual-walled bag. Each panel has preferably at least two ribs integral therewith disposed in a direction orthogonal to the longitudinal axis of the bag, so that the ribs define at least one channel, enabling a rib of one panel to fit into an oppositely juxtapositioned channel of the other panel to form a fluid-tight, gas-impermeable, linear closure at the bottom of the panels. The overlapping upper portions of the panels form a constricting zone, which is selectively fluid-permeable. The overlapping panels forming the constricting zone are so close together as to screen out globs of solid or semisolid matter, which, if permitted to be lodged in the channels of the panel, would interfere with the sealability of the pouch. To more securely seal the bottom of such a bag, a secondary sealing device is provided. Such a sealing device comprises mating sealing members on either side of a fold line at the bottom of the bag. The secondary seal is effected by folding the bottom of the bag one or more times and then fastening the mating sealing members.

Particularly for the use of a bedridden patient, I have devised a post-operative pouch which may continuously discharge into a ground-supported accumulator for fecal matter through an elongated distensible coupling sleeve. The post-operative pouch is disposed on a prone, bedridden patient to drain downwardly into

the upper end of the coupling sleeve which is provided with internal ribs adapted to fit into opposingly juxtapositioned channels formed by external ribs on the discharge end of the ileostomy bag. The lower end of the coupling sleeve is adapted to be removably disposed in fluid-tight engagement upon the inlet of the accumulator which may be periodically emptied.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front view, partly broken away, of a preferred embodiment of the colostomy bag of my invention;

FIG. 2 is a sectional side view of the bottom portion of the bag with the bottom closure means in its closed condition;

FIG. 3 is a sectional side view along line 3—3 showing the bottom closure means in its open position as it is emptied;

FIG. 4 is a perspective view of the lower portion of the bag in the initial opening stage;

FIG. 5 is a perspective view of the lower portion of the bag in the final opening stage;

FIG. 6 is a front elevation diagrammatically illustrating a post-operative pouch in which it is coupled to a ground-supported accumulator through a coupling sleeve;

FIG. 7 is a broken section, front elevation, on an enlarged scale, of the assembly shown in FIG. 6, rotated 180°;

FIG. 8 is a broken section, front elevation of the discharge end of the post-operative pouch temporarily capped;

FIG. 9 is a side sectional view, on an enlarged scale, showing details of fluid-tight interlocks at each end of the coupling sleeve in a non-distended condition;

FIG. 10 is an enlarged section view of the coupling member of FIG. 9 in a distended condition;

FIG. 11 is a side elevational view on an enlarged scale, showing details of a fluid-tight cap which temporarily replaces the coupling sleeve;

FIG. 12 is a fragmentary, side elevational view of a colostomy bag having a secondary sealing device according to a further aspect of this invention, showing progressive bag folding operations in phantom outline;

FIG. 13 is an elevational view of the bag shown in FIG. 12, showing in phantom outline the condition of the bag before and after the first folding operation, the plane of the view being indicated by the line 13—13 in FIG. 12;

FIG. 14 is a fragmentary, side elevational view, partly in section, of a colostomy bag having a secondary sealing device according to a still further aspect of this invention;

FIG. 15 is an elevational view of the bag shown in FIG. 14 showing in phantom outline the condition of the bag before the first, after the first, and after the third folding operations;

FIG. 16 is a fragmentary, side elevational view, partly in section, of a colostomy bag having a secondary sealing device according to a further aspect of this invention, showing progressive bag folding operations in phantom outline; and

FIG. 17 is a fragmentary, elevational view, partly in section, of the bag shown in FIG. 16, the plane of the view being indicated by the line 17—17 in FIG. 16.

PREFERRED EMBODIMENT OF THE INVENTION

A fecal pouch may be made of any suitable selfsupporting, fluid-impervious material, such as a thin sheet of film or thermoplastic synthetic resin or rubber-like material. The pouch may be made from a single sheet forming a singlewalled pouch or from multiple sheets forming a dual-walled pouch, such as described in my U.S. Pat. No. 3,385,298. Such a pouch is adapted to be supported by a mounting device which receives the peripherally sealed opening in the pouch and secures it thereon. Such a mounting device is described in my U.S. Pat. No. 2,818,069. When the pouch has become weakened through long use, it may be easily removed and replaced with a new one. Alternately, a pouch may be adhesively secured to the body of the user so as to form a fluid-tight seal around the stoma, which is inserted into the opening of the pouch within the adhesively sealed-off area. It is immaterial for the purposes of the invention how the instant colostomy bag is mounted to receive the stoma, as is the construction with respect to the number of walls, since colostomy bags of the type contemplated are old in the art. Suffice it to say that once the pouch has been mounted for use on the body of the user, it need not be displaced for emptying.

FIG. 1 is a frontal elevation of a dual-walled bag, shown generally at 10, adapted to be mounted on a mounting device (not shown) secured to the body of the user. It is of dual-walled construction, and is heat-sealed along the top and along its sidewalls. A peripheral seal 11 defines a circular stomareceiving opening 12 which has a single-thickness plastic circular flange 20 around the circular opening 12. Two panels 14 and 15 of relatively stiff but flexible plastic material, such as polyethylene, polyvinyl chloride, or the like, which may be about 10 mils thick, form a closure, referred to generally at 13, at the bottom or discharge end of the bag. The panels 14 and 15 are each sealingly connected at least to opposite inner walls of the dual-walled pouch, and preferably heat-sealed to both walls along bottom sealing lines 16. The panels are sealingly connected at their sides at 17. A particular bag having one panel about three-fourths inch high and the other panel about 1 inch high has been found to be conveniently usable. The panels are in overlapping relationship with each other across the bottom portion at the discharge end of the bag. A typical bag has an opening at the discharge end about 2.5 inches wide, across which opening the closure is to be effected. This dimension of the opening at the discharge end which defines the closure is important, since a bigger closure is subject to forces during normal movements and motions of the user which are liable to disrupt the seal, and much smaller enclosures may be too small to distend easily and effectively when the bag is to be emptied. As is seen in FIGS. 2 and 3, the closure 13 is formed by one panel having at least two ribs or linear parallel protuberances 18 defining at least one channel 18c integral with the panel. The channel 18c formed by the ribs 18 is disposed in a direction orthogonal to the longitudinal axis of the bag, i.e., transversely along the closure at the bottom of the bag. The other panel in overlapping relationship with said one panel has at least one rib or linear protuberance 21 adapted to fit into the channel 18c of said one panel to form a fluid-tight, gas-impermeable linear

closure for the bottom of the bag. It is preferred that each panel have at least two linear ribs defining at least one channel, and more preferably three linear ribs defining two channels, all disposed in a direction orthogonal to the longitudinal axis of the bag and extending from one sealingly connected side of the panels to the other. Thus, each panel has at least one rib adapted to fit into a juxtapositioned channel of the opposite panel, and preferably at least two ribs to fit into two parallel, juxtapositioned channels of the opposite panel to form a fluid-tight, gas-impermeable, linear closure, as illustrated diagrammatically in FIG. 2. In such a preferred embodiment, upper portions of the panels above the interlocking ribs and channels are sufficiently close together and sufficiently stiff so as to define a selectively fluidpermeable but glob-tight constrictive zone 19 which effectively screens out globs of fecal matter from being entrapped in the channels of the panels and interfering with the fluid-tight sealability of the closure.

As diagrammatically illustrated in FIG. 3, an opened, cross sectional view of the closure shows the panels 14 and 15 with integral channels and juxtapositioned ribs 18 and 21. The constrictive zone 19 lies between the bottom sealing line 16 and the uppermost rib. The exaggerated drawings of FIGS. 2 and 3 are illustrative and do not show, in proper scale, the degree of constriction between the channels in the upper portion of the closure 13.

The stiffness of the panels 14 and 15 permits both panels together to be bent against the body of the user, along the bottom sealing lines 16, so as to permit the closure to be folded upwards on itself, forcing fluid out of the constrictive zone and temporarily sealing the bottom of the bag along the bottom sealing lines 16. In this position, the seal is conveniently parted at about the center by exerting pressure on either side of the panels in a direction perpendicular to the linear closure, as shown in FIG. 4. As soon as the seal is broken, digital pressure exerted along the line of said linear closure by squeezing the ends thereof between a finger and the thumb will distend the closure to its full opening as shown in FIG. 5. When the closure 13 is turned downwardly, the bag is emptied in a convenient manner without contacting any of the fecal matter.

After the bag 10 is drained, the closure 13 may be sealed by simply pressing the panels 14 and 15 against the body of the user, causing the ribs 18 and 21 on each panel to be interdigitated with the integral channels of each panel into fluid-impermeable, resealably interlocking relationship. If desired, the pouch 10 may be rinsed with water, after it has been emptied, by turning the bottom of the bag upwardly and distending the closure 13 into an open position by digital pressure exerted along the ribs 18 and 21 with one hand, while in the other hand rinsing water may be poured from a vessel into the opening. After the bag is rinsed, it is pressingly sealed, as described hereinbefore.

In another embodiment of the invention, a post-operative fecal pouch is made of any suitable self-supporting, fluidimpervious material such as is used for an ileostomy bag used by an ambulatory user. The post-operative pouch may be adapted to be supported by any convenient mounting means so as to be comfortably, securely disposed on a prone patient. The pouch is flow communicatively coupled through a coupling sleeve with a floorsupported accumulator for fecal discharge.

Referring now to FIG. 6, wherein a prone patient 30 is disposed on a bed 31 which is normally disposed some distance from the floor, shown generally at 32, a continually drainable, post-operative fecal pouch, shown generally at 33, is adapted to be mounted on a mounting device and secured to the body of the user. The pouch 33 is of dual-wall construction and is heat-sealed along the top and along its side walls. A peripheral seal 34 defines a circular, stoma-receiving opening 35 which has a singlethickness, circular, plastic flange 36 around the circular opening. The circular opening 35 is disposed around the protruding stoma and the pouch hangs downwardly from the body of the user. As is seen in FIGS. 9 and 10, two panels 37 and 38 of flexible, easily distensible, plastic material form an opening, referred to generally as 39, at the discharge end of the pouch. The interior of the panels 37 and 38 which form the discharge end of the pouch is smooth. The exterior of each panel is provided with at least one rib or linear protuberance 43, and more preferably, as is illustrated, two ribs 43 defining at least one channel in a direction orthogonal to the longitudinal axis of the pouch, i.e., transversely along the discharge end of the bag. The exteriorly disposed ribs 43 at the discharge end of the pouch 33 are adapted to engage the upper end of a coupling sleeve, referred to generally as 40, to form a fluid-tight seal as will be described hereinafter.

The sleeve 40 includes an upper coupling portion 42 and a conduit 44, the lower end of which is open. The inner wall of the conduit 44 is provided with at least two horizontally disposed ribs 41 adapted to be sealingly engaged in the channel defined by ribs 43 to form a coupling with a smooth interior surface to permit easy passage of fecal matter.

The conduit 44 is normally made from a thermoplastic sheet material which is easily distensible, such as a tubular extrudate of a polyolefin with a sufficiently small wall thickness so as to have essentially no rigidity. Alternately, the conduit may be formed from a flexible but non-rigid extrudate of plastic material or overlapping, dual-walled panels, the edges of which are heat sealed to form a relatively flat, easily distensible conduit. A preferred conduit is one formed of a flexible, easily deformable and non-rigid polyethylene tubular extrudate. It will be recognized that it is not essential that the conduit 44 be non-rigid; it will be found, however, that a rigid conduit to which the coupling portion 42 is connected, is not easily adapted to be pressingly coupled to the ribs 43 on the discharge end of the pouch.

The other end of the coupling sleeve 40, which is the open end of the conduit 44, is sealingly disposed upon the neck of an accumulator shown generally at 50 which rests on the floor 32, and is maintained in fluid-tight communication with the accumulator 50 so as to place the accumulator in fluid communication with the continually drainable pouch 33. The lower end of the sleeve 40 is distensibly, exteriorly, removably disposed on the neck 51 of the accumulator 50 and is preferably secured thereon by a releasable clamp 52. Thus, the accumulator 50 continually accepts discharge of fecal matter from a prone patient. Periodically, when the accumulator is to be emptied, the accumulator 50 and the coupling sleeve 40 are uncoupled from the pouch 33 and is replaced with a cap 60, as shown in FIG. 8.

As is seen in FIGS. 8 and 11, the cap 60 comprises an abbreviated sleeve, including a conduit section,

preferably made from the same extrudate as the conduit 44 of the sleeve 40, except that the lower end of the cap 60 is heat sealed to ensure it will be leak-proof. The open end of the cap 60 is provided with ribs interlocking couplable with the discharge end of the pouch.

As shown in FIGS. 7, 8, 9 and 10, both the sleeve 40 and the cap member 60 are provided with interiorly disposed, linear, horizontal protruding ribs 41 and 63, respectively, which define channels adapted to engage linear protuberances 43 horizontally disposed on the discharge end of the pouch 33. The ribs 43 and integrally defined channels of the pouch therebetween are adapted to be interdigitated with the ribs 41 or 63 and integrally defined channels therebetween of the sleeve 40 or the cap 60, respectively, in fluid-tight engagement. The cap 60, like the coupling portion 42 of the sleeve 40, is lockingly secured to the discharge end of the pouch 33 by pressing the ribs 43 into engagement with the corresponding oppositely juxtapositioned channels 63 in the cap 60.

In operation, the stoma-receiving opening 35 of the post-operative pouch is disposed around the stoma and preferably adhesively secured to the body of the patient with the discharge opening of the bag pointing downwards. The ribbed upper end of the sleeve 40 is pressingly interdigitated with the ribs 43 on the easily distensible panels 37 and 38 at the discharge end of the pouch 33 so as to form a fluid-conductive closure between the pouch and the sleeve. The other end of the sleeve is slipped around the outside of the neck of the accumulator 50 and secured thereto with a releasable spring clip 52. Fecal matter draining from the stoma is discharged into the pouch, distends the easily distensible panel portions of the bag and proceeds unobstructedly through the smooth discharge end of the bag into the sleeve, which distends to accommodate the fecal matter. The sleeve 40 accommodates and guides the passage of fecal matter until it reaches the inlet of the accumulator 50 and is discharged into it. After a period of time, when the accumulator is to be emptied, the sleeve 40 is uncoupled from the discharge end of the bag by digitally releasing the interlocked ribs of the closure. The cap section 60 is then distended and slipped upon the ribs 43 of the discharge end of the pouch. By pressing the panels 64 and 66 of the cap section onto the ribs, the ribs 43 are engaged in the channels defined by the interiorly disposed ribs in the panels on the cap section. When the accumulator 50 has been drained and the sleeve 40 cleaned, the cap section is removed and the sleeve section is then coupled to the discharge end of the pouch.

In some instances, it may be necessary to form a more secure seal at the bottom of the bag illustrated in FIGS. 1 through 5. Therefore, according to a further aspect of this invention, and as is illustrated in FIGS. 12 through 17, a secondary sealing device is provided.

One embodiment of such a secondary sealing device is illustrated in FIGS. 12 and 13. A bag 70 has a narrowed bottom neck portion 71 provided with a primary seal or closure 72. The closure 72 is the same closure as the closure 13 illustrated in FIGS. 1 through 5, and includes one panel 73 (FIG. 13) having at least two ribs or linear parallel protuberances 74 defining channels integral with the panel. Another panel 75 in overlapping relationship with the panel 73 has at least one rib

or linear protuberance (not shown) adapted to fit into the channels of the panel 73.

A secondary seal or closure 76 is provided. This seal comprises a first strip 77 heat sealed to one face of the neck portion 71 to provide a flap having at least two ribs or linear protuberances 78 defining at least one channel 79 integral with the strip. A second strip 80 is heat sealed to the other face of the neck portion 71 and has at least one rib or linear protuberance 81 adapted to fit into the channel 79. The secondary seal is formed by folding the area of the neck defined by the seal 72 twice, as is indicated in FIG. 12, so that the first strip 77 may be sealed to the second strip 80.

Another embodiment of such a secondary sealing device is illustrated in FIGS. 14 and 15. A bag 90 has a narrowed neck portion 91 provided with a primary seal or closure 92. The closure 92 is the same closure as the closure 13 illustrated in FIGS. 1 through 5.

A secondary seal or closure 96 is provided. This seal comprises a pair of male snap fastener elements 97 heat sealed to one face of the neck portion 91. A pair of female snap fastener elements 98 is heat sealed to the other face of the neck portion 91. The secondary seal is formed by folding the area of the neck defined by the seal 92 three times, as is indicated in FIG. 14, so that the snap fastener elements 97 and 98 may be engaged by finger pressure.

A still further embodiment of a secondary sealing device is illustrated in FIGS. 16 and 17. A bag 100 has a narrowed neck portion 101 provided with a primary seal or closure 102. The closure 102 is the same closure as the closure 13 illustrated in FIGS. 1 through 5.

A secondary seal or closure 103 is provided. The seal comprises a pair of male snap fastener elements 104 heat sealed to a flap 105, one edge 106 of which is in turn heat sealed to the bag 100. A pair of female snap fastener elements 107 is heat sealed to the neck portion 101. The secondary seal is formed by folding the area of the neck defined by the seal 102 two times, as is indicated in FIG. 16, so that the snap fastener elements 104 and 107 may be engaged by finger pressure.

The scope of the invention is not limited to the slavish imitation of all of the structural and operative details mentioned above. These have been given merely by way of an example of a presently preferred embodiment of the invention.

I claim:

1. A stoma bag adapted to be emptied without removing it from the user's stoma and reusable a plurality of times, comprising sidewalls defining a bag body having a side opening defined by a peripheral seal adapted to be demountably disposed on a mounting means and adapted to receive the user's stoma, and a resealable bottom closure sealingly connected to the bottom of said sidewalls, said closure comprising two relatively stiff but flexible panels of thermoplastic synthetic resinous material in overlapping contacting relationship with each other sealingly connected at their side edges and sealingly connected to the sidewalls of said bag, one panel having at least two ribs defining at least one channel integral with said one panel and disposed in a direction orthogonal to the longitudinal axis of said bag, the other panel having at least one rib adapted to fit into a juxtapositioned channel of said one panel to form a fluid-tight, gas-impermeable linear closure for the bottom of said bag.

2. The article of claim 1 wherein said bag is a dual-walled bag having inner and outer layers and said panels are sealingly connected to fecal discharge-retaining sidewalls of said bag.

3. A stoma bag adapted to be emptied without removing it from the user's stoma and reusable a plurality of times, comprising sidewalls defining a bag body having a side opening defined by a peripheral seal adapted to be demountably disposed on a mounting means and adapted to receive the user's stoma, and a resealable bottom closure sealingly connected to the bottom of said sidewalls along a bottom sealing line, said closure comprising two relatively stiff but flexible panels of thermoplastic synthetic resinous material in overlapping contacting relationship with each other sealingly connected at their sides, each panel having at least two ribs defining at least one channel integral with each panel disposed in a direction orthogonal to the longitudinal axis of said bag, at least one rib of one panel being adapted to fit into a juxtapositioned channel of the other panel to form a fluid-tight, gas-impermeable linear closure at the lower portion of said panels, the upper portion of said relatively stiff panels defining a selectively fluid-permeable but glob-tight constrictive zone, said panels being stiffly bendable together along said bottom sealing line while maintaining said linear closure without distorting it and thereafter being digitally openable without any portion of the opening hand contacting fecal matter within said bag, and distensible to the full extent of said linear closure by oppositely directed digital pressure along the longitudinal axis of said linear closure, to permit emptying of all the fecal matter in said bag without allowing globs to be entrapped within said constrictive zone or said channel.

4. The article of claim 3 wherein said bag is a dual-walled bag having inner and outer layers and said panels are sealingly connected to the discharge retaining sidewalls of said bag.

5. A gravity-drainable, post-operative pouch adapted to be used by a bedridden patient, said pouch having an open discharge end selectively couplable with (a) a coupling sleeve adapted to drain fecal discharge continually into an accumulator or (b) a cap section when said sleeve is uncoupled, said discharge end comprising flexible panels formed from a thermoplastic, synthetic, resinous material in overlapping relationship with each other sealingly connected at their side edges to provide an easily distensible opening having smooth inner walls, said panels including integral fastening means to couplingly engage said pouch in fecal communication with

(a) or (b).

6. The device of claim 5 wherein said panels are coupled to upper coupling portions of said (a) or (b) by pressingly engaging at least one rib into a channel adapted to engage said rib to form a fluid-conductive seal.

7. The device of claim 5 wherein said panels have at least one exterior rib or at least one channel defined by two exterior ribs integral with each panel, said rib or ribs being disposed in a direction orthogonal to the longitudinal axis of said pouch whereby said pouch is couplingly engageable in fecal communication with (a) or (b).

8. A stoma bag adapted to be emptied without removing it from the user's stoma and reusable a plurality of times, comprising sidewalls defining a bag body having a side opening defined by a peripheral seal adapted to receive the user's stoma, a primary resealable bottom closure sealingly connected to the bottom of said sidewalls, said primary closure comprising two relatively stiff but flexible panels of thermoplastic synthetic resinous material in overlapping contacting relationship with each other sealingly connected at their side edges and sealingly connected to the sidewalls of said bag, one panel having at least two ribs defining at least one channel integral with said one panel and disposed in a direction orthogonal to the longitudinal axis of said bag, the other panel having at least one rib adapted to fit into a juxtapositioned channel of said one panel to form a fluid-tight, gas-impermeable primary linear closure for the bottom of said bag, and a secondary resealable bottom closure, said secondary closure comprising first and second sealing elements at the bottom of the bag and vertically spaced with respect to each other so that the bag may be folded at least once to mate with said sealing elements.

9. A stoma bag according to claim 8, wherein said sealing elements are snap fasteners comprising male and female mating elements.

10. A stoma bag according to claim 9, wherein a mating element is provided on a flap fixed to said bag.

11. A stoma bag according to claim 10, wherein said mating element is a male mating element.

12. A stoma bag according to claim 8, wherein said sealing elements comprise a first strip having at least two ribs defining at least one channel, and a second strip having at least one rib adapted to fit into a channel of said first strip.

* * * * *

55

60

65