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COLOSTOMY DEVICE

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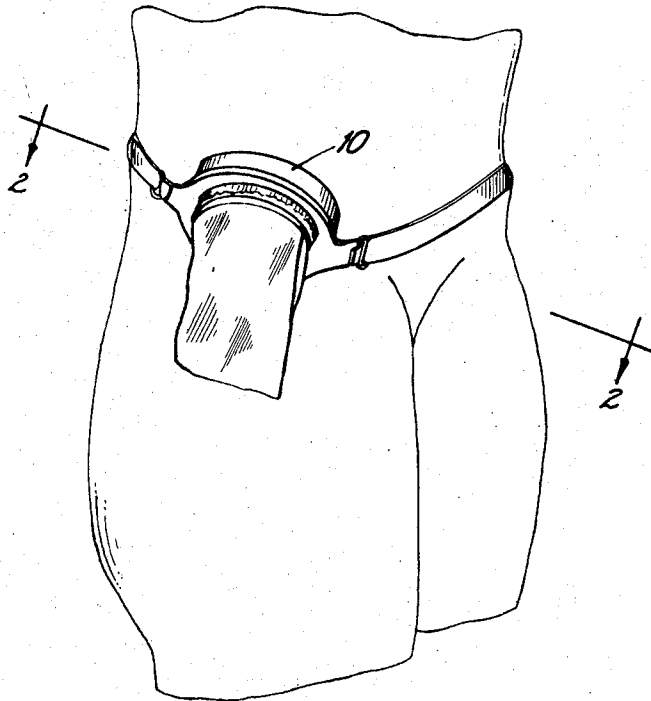


FIG. 1

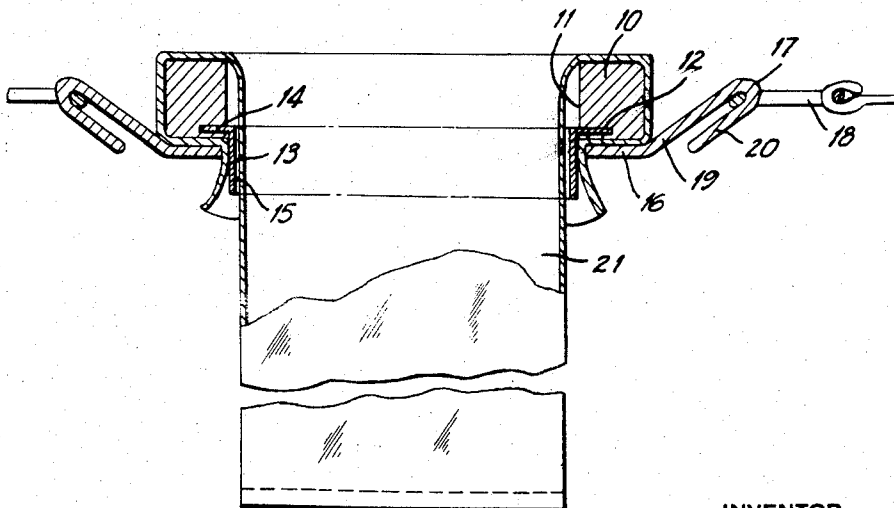


FIG. 2

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COLOSTOMY DEVICE

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6 Claims. (Cl. 128—283)

The present invention relates in general to a colostomy device, and more particularly to such a device which is inexpensive, comfortable and which provides a completely fluid-tight seal about the body opening. This application is a continuation of my earlier application, Serial No. 546,126, filed November 10, 1955, now abandoned.

Heretofore, colostomy devices in commercial use have generally been bulky, costly and uncomfortable to wear. The prior art has suggested the use of cushioning rings but the same have not come into extensive use due to the difficulty of maintaining a snug, fluid-tight seal about the body opening.

Accordingly, it is the principal object of the present invention to provide a device which overcomes the above disadvantages of the prior art.

An additional object of the invention is to provide a colostomy device which provides such a seal about the body opening as to permit the wearer to carry out normal day-to-day duties without danger of leakage of body fluids through such seal.

A further object of the invention is to provide such a device which utilizes inexpensive, easily disposable, flexible containers which may be readily and easily replaced by the user.

Another object of the invention is to provide a simple, light-weight construction for such a device so that the same may be produced in quantity and sold for a relatively low price.

Additional objects, if not specifically set forth herein will be readily apparent to one skilled in the art from the following detailed description of the invention:

In the drawings:

Figure 1 is a perspective view of the device of the present invention showing the various elements thereof in assembled position, including the disposable, waste-receiving container.

Figure 2 is a cross-sectional view taken on line 2—2 of Figure 1, illustrating the structure of the present device in detail.

Structure

Generally, the present invention comprises the provision of a soft, resilient and deformable body-engaging member having disposed in the outer portion thereof a stiffening, shape-retaining member. A disposable container is adapted to be so inserted through the central opening of the body-contacting member as to coincide with said opening and to extend completely between the body of the wearer and the body-engaging member. A retaining and compression member is then adapted to be placed over the external stiffened portion of the body-contacting member so as to firmly retain the disposable container in place and to engage a belt or other similar tightening means whereby sufficient pressure may be exerted on the body-contacting member to deform the same to the exact body contours of the wearer, thus producing a fluid-tight seal between the wearer's body and the body-contacting member.

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More specifically, and referring to the drawings, Figure 1 shows the device as assembled for use. Reference numeral 10 refers to the annular body-contacting member. As may be seen from Figure 1, this member is a cylindrical ring, the inner diameter of which may be varied as desired to accommodate various sized body openings. It is critical to the successful operation of the present device that the body-engaging member 10 be composed of a soft, resilient and deformable material. The preferred material for the construction of this member is a good grade of sponge rubber. However, other materials such as plastics, synthetic rubber, foam rubber or the like may be substituted if desired so long as the member made therefrom is soft, easily deformable and resilient in nature. The thickness of wall 11 of annular member 10 should be about one-quarter inch, and preferably is of the order of one-half inch or more.

As may more clearly be seen in Figure 2, annular member 10 has an annular groove or slot 12 milled, molded, or otherwise formed within the wall 11 thereof, extending outwardly from the inner surface of the member 10, preferably about half-way through the thickness of member 10. A relatively rigid insert ring 13 is provided with an annular flange 14 extending outwardly about the base thereof for engagement in groove 12 of member 10. The outer diameter of insert ring 13 is such as to permit an intimate fit of such ring within member 10. It will be noted that the groove 12 in wall 11 of member 10 is sufficiently far down wall 11 as to permit a substantial portion of such wall to extend above the groove and the associated, relatively rigid, insert 13. Both the wall 15 of insert ring 13 and flange 14 thereof are relatively narrow as compared with the thickness of wall 11 of member 10 and, in fact, may be as narrow as is consistent with the structural requirements of the material from which they are made, although they should not be narrow enough to present a knife-like edge. Wall 15 of insert ring 13 extends above the outer surface of member 10 to form a circular abutment when the insert ring is positioned within member 10 with the flange 14 of ring 13 engaging the groove 12 of member 10. When the insert ring 13 is in position, flange 14 acts to stiffen the outer surface 23 of member 10 and to make surface 23 relatively rigid and non-deformable, while the inner surface 22 of member 10 remains soft, deformable and resilient. The distance which the wall 15 extends above member 10 is not critical, except that preferably it is at least equal to the thickness of the retaining and compression member 16 which is adapted to be disposed over member 10 and to extend around the abutment formed by wall 15 of ring 13 as shown in Figure 1 of the drawings. Member 16, in essence, is a flat ring having an inner diameter substantially equal to that of member 10. Means 17 are provided on the external surface of member 16 to engage a belt, strap or the like 18 adapted to be passed around the body of the wearer and tightened to compress the deformable body-contacting member 10 about the body opening to which it is applied. As shown in the drawings, it is preferred that the means for engaging the straps 18 be a pair of members 19 formed integrally with member 16 and extending beyond the outer periphery of member 10 at a slight angle inwardly towards member 10. Members 19 are integrally formed, in the preferred embodiment, with strap-engaging ends 20 by bending the ends of members 19 back toward the main portion of the members 19 and away from member 10. The inclination given to members 19 provides a more positive seating of body-contacting member 10 when the straps 18 are tightened than would be the case if the strap-engaging means were positioned on the same plane as the outer surface of member 10. However, the strap-engaging means may be positioned directly on member

16 above member 10 if desired (i.e. members 19 omitted) and generally satisfactory results be obtained. Also, while shown as integrally formed with member 16, it is obvious that members 19 may be separately formed and then rigidly affixed to member 16 if desired. Likewise, separate hooks may be substituted for the curved ends 20 if desired. It is preferred that both insert ring 13 and retaining member 16 be made from a plastic material, but metal, hard rubber or the like may be used if desired.

One additional element is required for association with the structure described above in order for the same to be operative when used by an individual. This element, which is in itself not new, is a disposable, flexible container or bag made from a material such as polyethylene film, rubber hydrochloride film, or the like. As illustrated by reference numeral 21 in the drawings, this bag is preferably rectangular in shape, being closed completely around three sides and open at one of the narrow ends thereof. The bag should be of such size as to have an opening at least as wide as the diameter of the inner surface of ring member 10. However, the size of the bag or container is not critical in that bags having considerably larger openings than the inner diameter of member 10 may be used.

Operation

As is well-known, colostomy devices are necessary in cases where for any of various reasons an artificial opening has been made in the abdominal wall of an individual to connect with the colon above the rectum.

The present device is designed to be disposed about such an artificial opening and to receive excreta discharged therethrough. In operation, the insert ring 13 is slipped into body-contacting member 10 with the flange 14 of ring 13 disposed within the groove 12 of member 10. The open end of disposable container 21 is then inserted through insert ring 13 and member 10 and the mouth of such container folded around the base 22 of member 10 and back upon the opposite surface 23 of said member 10 towards the body of the container, so that the mouth of the container extends preferably as far as the abutment formed by that portion of the wall 15 of ring 13 which extends beyond the outer surface of member 10. Retaining member 16 is then slipped over the abutment formed by upstanding wall 15 of insert ring 13, and is placed in firm engagement with the outer surface of member 10. The mouth of the container is thus firmly engaged between the outer surface 23 of member 10, which is relatively rigid and non-deformable due to the presence of flange 14 within groove 12 of member 10, and the inner surface of retaining member 16. This insures a positive anchorage and positioning of the disposable container 21 and eliminates any danger of the container slipping off while in use. Where the fit between retaining member 16 and abutment 15 is snug, the flexible material of which the container is formed is then firmly held against two adjacent surfaces which are substantially normal to one another giving still further anchorage to the material of container 21. The material of the disposable container forms a cover for member 10 and ring 13, thus preventing any soiling of these elements by body fluids.

Once assembled in the above manner, which assembly is very simple and rapid, the device is placed over the body opening with the inner surface of body-engaging member 10 towards the body, and the opening in such member positioned immediately over the body opening. As stated above, the flexible material forming the disposable container passes between the body-engaging member and the body of the wearer.

A suitable strap having tightening means such as a buckle or the like (not shown in the drawings) is then affixed to each of the strap-engaging members on the retaining member 16 and passed around the body of the

wearer. As this strap is tightened, member 10 is compressed and deformed along the entire inner surface thereof so as to conform intimately to the contours of the wearer's body immediately surrounding the artificial opening in such body. This, in effect, provides a wide gasket about such opening which in turn effectively seals the area under the edges of the body-engaging member against the passage of body fluids except into the disposable container. When fastened in this tightened manner by the strap or belt, the present device effectively and comfortably protects the wearer against the escape of body fluids or odors and permits the wearer to carry out all normal activities. As it becomes necessary, the device may be removed, the used container discarded and a fresh container substituted therefor.

Obviously, many modifications and variations of the invention as hereinbefore set forth may be made without departing from the spirit and scope thereof, and therefore only such limitations should be imposed as are indicated in the appended claims.

I claim:

1. A colostomy device which comprises in combination: a soft, deformable and resilient body-engaging member having a central opening therein adapted to be placed over and to surround an opening in a human body; an insert member having a central opening therein fixedly positioned within the central opening of said body-engaging member and substantially concentric therewith, said insert member extending outwardly beyond said body-engaging member to form an abutment extending centrally outward from said body-engaging member; a container of flexible material having an opening at one end thereof extending through the central openings of said insert member and said body-engaging member with the edges of said container opening being folded about said body-engaging member and extending back along the container at least as far as said abutment; and a retaining member positioned around said central abutment and in engagement with the outer surface of said body-engaging member, said retaining member having mounted thereon means to engage a strap adapted to be fastened about the human body, said retaining member being separated from said abutment and the outer surface of said body-engaging member by the said flexible container material.

2. A colostomy device which comprises: an annular ring of soft, deformable and resilient material having an outer surface and an inner body-engaging surface; a relatively rigid insert ring positioned within said annular ring and extending beyond the outer surface thereof to form an abutment; a retaining member positioned adjacent said outer surface of said annular ring and in intimate relationship with said abutment, said retaining member having a strap-engaging means on the outer surface thereof; and a container of flexible material extending through said annular ring and said insert ring, the open end of said container being folded back to cover the inner and outer surface of said annular ring, and the flexible material of said container being removably engaged between said retaining member and the outer surface of said annular ring and between said retaining member and said abutment.

3. A colostomy device which comprises: a soft deformable and elastic ring member having a body-engaging surface adapted to be compressed to conform to the contour of the wearer's body; an insert member having an outwardly extending abutment positioned within said ring member; a disposable waste container made of flexible material and having an open mouth at one end only thereof, said container extending through said ring member and said insert member and over said body-engaging surface; and a retaining member adapted to engage between itself and said ring member and between itself and said abutment the flexible material forming said mouth of said container.

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4. In a colostomy device adapted to be used with a disposable waste container made of flexible material, the combination which comprises: a ring-shaped member having a soft, deformable and resilient surface at one end thereof; means associated therewith to provide a relatively rigid and non-deformable surface at the other end thereof; and a retaining member having mounted thereon means to engage a strap adapted to be fastened about the human body, said retaining member being adapted to engage between itself and said relatively rigid surface a portion of the flexible material of said container and to uniformly transmit pressure to said deformable surface of said ring-shaped member to cause the same to deform when applied to the surface of a body.

5. In a colostomy device adapted to be used with a disposable waste container made of flexible material, the combination which comprises: a ring-shaped member having a soft, deformable and resilient surface at one end thereof; a stiffening member associated with said ring-shaped member and rendering relatively rigid and non-deformable the other end of said ring-shaped member; and a retaining member adapted to engage between itself and said relatively rigid surface a portion of the flexible material of said container and to uniformly transmit pressure to said deformable surface of said ring-shaped member to cause the same to deform when applied to the surface of a body.

6. A colostomy device comprising: a ring-shaped

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member having a soft, deformable and resilient surface at one end thereof; an annular groove within said ring-shaped member adjacent the other end thereof; an annular insert member having a flange adapted to engage within said groove positioned within said ring-shaped member, said flange being adapted to stiffen the end of said ring-shaped member to which it is adjacent and to provide said ring-shaped member with a relatively rigid and non-deformable surface at said end; a container of flexible material having an opening at one end thereof extending through the ring-shaped member and the insert member with the edges of said container opening being folded back upon the relatively rigid surface of said ring-shaped member; and means, including a retaining member adapted to engage between itself and said relatively rigid surface the portion of the flexible material of said container, extending over said relatively rigid surface, to uniformly transmit pressure to said deformable surface of said ring-shaped member to cause the same to deform when applied to the surface of a body.

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