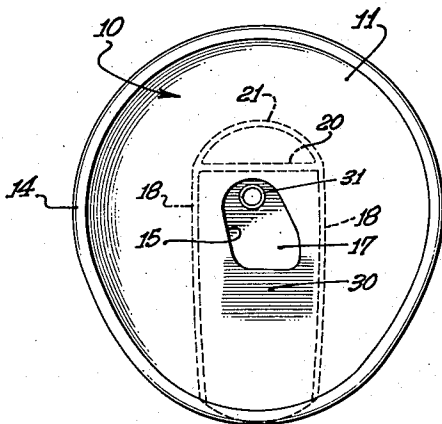
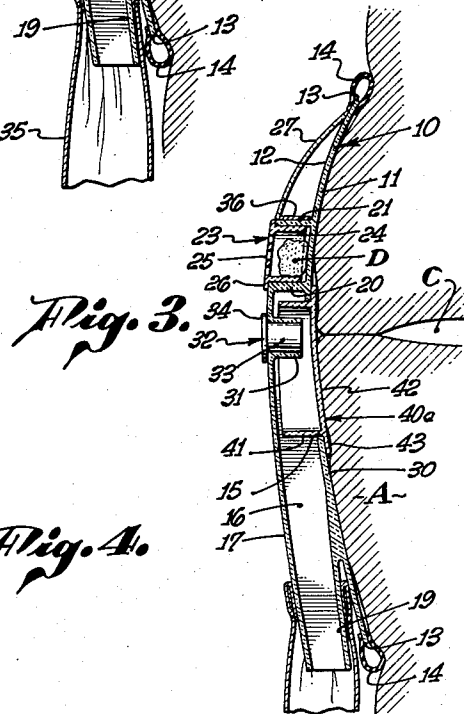
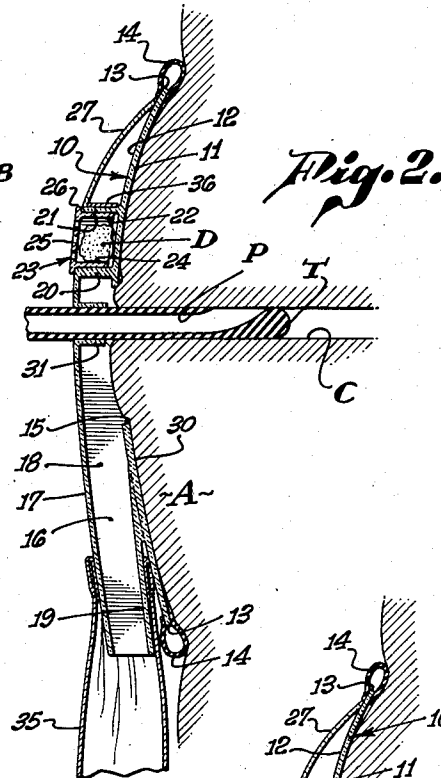
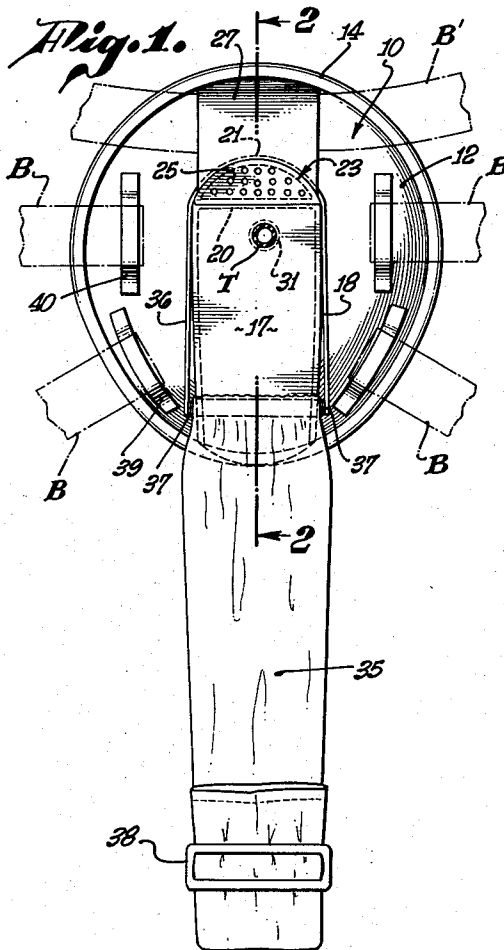


Feb. 16, 1954

H. C. BURTON
COLOSTOMY APPARATUS
Filed Oct. 28, 1950

2,669,235



INVENTOR.
HAZEL C. BURTON,
BY

Bernard Krieger
ATTORNEY.

UNITED STATES PATENT OFFICE

2,669,235

COLOSTOMY APPARATUS

Hazel C. Burton, Gardena, Calif.

Application October 28, 1950, Serial No. 192,779

10 Claims. (Cl. 128—283)

1

The present invention relates to apparatus for irrigation portions of the human anatomy, and is more particularly directed to apparatus for irrigating a person's colon through a colonic opening resulting from the performance of a colostomy.

Prior colostomy devices for irrigating and cleaning the colon have caused excessive discomfort to the user, especially when the device is worn under the clothing of an ambulatory patient. In addition to the lack of comfort, the device extends outwardly from the wearer's body to an excessive extent, forming pronounced and unsightly protuberances in the person's clothing, as well as interfering with the facility with which the person can bend or otherwise move the body in a normal manner. In use, the prior devices tend to become excessively messy, and thereafter are difficult to clean thoroughly.

Accordingly, it is the object of the present invention to provide a colostomy, or similar, irrigation apparatus that can be used with less difficulty and with a minimum of messiness.

Another object of the invention is to provide colostomy, or similar, apparatus that conforms generally to the wearer's body, is comparatively comfortable to wear, and does not form pronounced protuberances or bulges under the wearer's clothing.

A further object of the invention is to provide a colostomy, or similar, apparatus that makes a leak-proof fit with the person's abdomen adjacent the colostomy, the apparatus having a channel into which the contents of the colon are discharged directly, thereby preventing the stream emanating from the colon from substantially soiling any other portions of the apparatus.

Still another object of the invention is to provide colostomy, or similar, apparatus that can be held comfortably in proper position against the wearer's body.

A further object of the invention is to provide colostomy, or similar, apparatus capable of use with a minimum of messiness, and which can be cleaned easily.

Yet another object of the invention is to provide colostomy, or similar, apparatus which is transparent; so as to facilitate its use and to enable it to be washed with absolute assurance of its being cleansed thoroughly.

Still a further object of the invention is to provide a colostomy, or similar, apparatus having a bag or other type of container capable of being secured easily in leakproof fashion to the discharge portion of the apparatus, and which is

2

readily manipulated for the purpose of emptying its contents into a suitable receptacle.

Another object of the invention is to provide colostomy, or similar, apparatus which tends to retard or prevent drainage from the colon when an irrigating operation is not being performed.

Still another object of the invention is to provide a colostomy, or similar, apparatus capable of containing a suitable deodorant.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of a form in which it may be embodied. This form is shown in the drawings accompanying and forming part of the present specification. It will now be described in detail, for the purpose of illustrating the general principles of the invention; but it is to be understood that such detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is a front elevation of a colostomy apparatus.

Fig. 2 is an enlarged longitudinal section taken along the line 2—2 on Fig. 1, illustrating the apparatus during the performance of an irrigating operation.

Fig. 3 is a view similar to Fig. 2 illustrating the apparatus worn by a person when irrigation is not being performed.

Fig. 4 is a rear view of the apparatus disclosed in Fig. 1.

The apparatus illustrated in the drawings is designed primarily for use by a person on whom a colostomy has been performed, for the purpose of allowing irrigation of the colon, and resultant drainage from the colon in a clean and orderly manner.

The colostomy apparatus includes a shield 10 shaped to conform generally to the required portion of the person's body, at which the colostomy C or colon opening exists. As illustrated in the drawings, the apparatus is to be applied to a person's abdomen A from which the colostomy C may protrude slightly, particularly during the performance of an irrigating act. Inasmuch as the abdomen is of generally convex shape, the interior 11 of the shield 10 is concave, and its exterior 12 is convex, the shield itself being generally ovate and of shallow dome shape; so that its rim portion 13 bears snugly against the abdomen around the entire periphery of the shield. If desired, a suitable peripheral sealing element 14

may be secured to the rim portion of the shield, bearing against the person's abdomen A.

The shield has an inlet opening 15, preferably shaped to conform generally to the shape of the colostomy C, and into which opening the end of the colostomy may protrude slightly when the apparatus is applied to the abdomen. The opening 15 forms an entry into a drainage channel or passage 16 which extends downwardly and terminates adjacent the lower portion of the rim 13. This drainage or passage is defined by the front wall 17 and by side walls 18, 18 integral with the front wall and merging into a rear wall 19, the lower portion of which is spaced from the concave-convex shield 10, and the upper portion of which, below the inlet opening 15, may be provided by the shield 10 itself. The front 17 and side walls 18 extend upwardly and are integral with a transverse top wall 20 located immediately above the inlet opening 15.

In order to avoid abrupt corners and projecting portions, a supplementary upper wall 21 of arcuate form extends above the top wall 20, the lower ends of the supplementary wall preferably merging smoothly into the side walls 18. The top and supplementary walls 20, 21 form a container or chamber 22 with the shield 10 capable of holding a suitable deodorant, D. This container may be closed by a cap or closure element 23 shaped to conform to the chamber and having an inwardly directed skirt portion 24 fitting snugly within the chamber and an outer perforated head 25 extending beyond the skirt to provide a rim or flange 26 bearing against the top and supplementary walls 20, 21.

For the purpose of reinforcing the entire structure and to streamline the device, a centrally located band member 27 is provided, being integral with, or otherwise secured to, the upper rim portion 13 of the shield 10 and the outer margin of the supplementary wall 21.

The band member 27 is convex and prevents any abrupt changes in the contour of the apparatus from the upper portion of the shield rim 13 to the location of the deodorant chamber 22. Moreover, it is to be noted that the front wall 17 of the channel may also be made somewhat convex, or, in general, parallel to the shield 10, the band member 27 and outer wall 17 of the channel together forming a substantially continuous convex surface from the upper to the lower portions of the device, which surface approximates the shape of the person's abdomen.

The inner surface 11 of the shield 10 fits the person's abdomen A snugly, both above and below the colon outlet. To insure a leak-proof seal between the abdomen and the shield below the inlet opening 15, the inner surface 30 of the shield immediately below the opening may be made comparatively flat, bearing against and flattening the abdomen A to a slight extent. In this manner a leak-proof seal with the abdomen is formed, which also causes the end of the colostomy C to project slightly into the opening 15, insuring discharge from the colon directly into the drainage channel or passage 16 (Fig. 2).

Projecting inwardly from the front wall 17 of the channel, and in alignment with the upper portion of the opening 15, is a generally cylindrical inlet and guide 31 for a catheter tube T, which is insertable through the guide and into the colon C. The catheter tube has a passage P in it through which a suitable irrigating liquid from a suitable tank receptacle (not shown) may

flow into the colon, when the irrigating operation is taking place. The guide tube 31 itself projects inwardly from the front wall 17 to a substantial extent, so as to provide a proper bearing surface for the catheter tube.

When the tube T is not in place, the irrigating inlet 31 may be closed by a plug 32, having a shank portion 33 of substantially the same length as the guide 31, and having a head flange 34 engaging the outer wall 17 of the drainage channel. The head flange 34 is relatively thin, to avoid substantial protuberances outwardly of the channel 16. This is also true of the thickness of the deodorant head 25 and its flange 26.

During the irrigating operation, the liquid flows through the catheter passage P and into the colon. When the catheter is withdrawn, the liquid passes from the colon directly into the drainage channel or passage 16, from where the discharge will flow downwardly into a flexible bag, chute or container 35, which fits closely around the lower end of the drainage channel. The bag extends upwardly between the rear wall 19 of the channel and the lower portion of the shield 10, to insure substantial piloting of the lower portion of the channel 16 into the bag. This bag is held in place by a strap 36 secured to its upper portion and passing along one side wall 18, over the supplementary wall 21 and down along the other side wall 18. One end of the strap 36 may have a suitable releasable fastener element 37 secured to it, such as a snap fastener, to allow it to be readily secured to and easily released from the upper end of the bag 35. The lower end of the bag is closed by folding the bag upon itself and threading it through a buckle 38. Unthreading of the lower end of the bag from the buckle 38 and unfolding of the latter will open the lower end of the bag and allow its contents to empty into a suitable receptacle.

It is to be noted that the upper band member 27 not only serves to prevent abrupt changes in the contour of the apparatus, but it also prevents outward slipping of the bag strap 36, insuring retention of the bag in proper location with respect to the drainage channel 16.

The outer portion of the shield 10 on opposite sides of the channel 16 may be provided with pairs of lower and intermediate loops 39, 40 for the reception of lower and intermediate belts B releasably secured to the loops in a suitable fashion. The belts B pass around the body of the wearer, holding the shield 10 snugly and comfortably, against the person's abdomen. In addition, an upper belt B' may be passed through the space between the upper band 27 and shield 10, and then disposed around the body of the wearer. Because of the loop and belt arrangement, the shield 10 may be properly and comfortably supported against the person's abdomen, with the inlet and guide tube 31 substantially in alignment with the colostomy opening, and with the lower portion 30 of the shield bearing against the abdomen A immediately above and below the colostomy to cause a slight projection of the latter into the channel inlet 15.

In the use of the device, it is applied and held against the person's body by means of the several belts B, B'. The outer plug 32 is removed and the catheter tube T inserted through the guide sleeve 31 and into the colon. The irrigating fluid then flows through the catheter tube into the colon, after which the catheter is removed and the plug 32 replaced in the sleeve 31. The drainage from the colon then empties di-

5

rectly into the drainage channel 16, with very little opportunity for soiling the inner surface of the shield 10. From the drainage channel the contents of the colon drop into the removable bag 35. The prompt replacement of the plug 32 into the sleeve 31, after the catheter tube T is withdrawn, prevents any subsequent drainage from the colon from passing into the exterior of the apparatus.

Prior to commencement of the irrigating operation, the lower end of the bag may be opened by removing the buckle 38 and unfolding the bag itself, allowing the drainage entering the bag to drop into a suitable receptacle (not shown). Thereafter, the belts B, B' are loosened and the device removed from the person's abdomen. The bag is then removable from the channel by releasing one end of the strap 36 and slipping it off the channel through the space between the upper band 27 and shield 10. The bag 35, shield 10 and the drainage channel 16 may then be washed until completely clean.

The bag may again be replaced about the channel 16 and the strap 36 threaded around the several walls 18, 21, the strap then being resecured to the upper end of the bag. The lower end of the bag, of course, is again folded and passed through the buckle 38 to effect its closing. The outer plug 32 is inserted in place, and the inner inlet opening 15 closed by a retarder cap or closure element 40a that is shaped to conform to the inlet opening 15. This retarder cap has an inwardly directed skirt portion 41 that will be disposed within the channel, and a head 42 with an overlying rim or flange 43 bearing against the inner surface 11 of the shield. The apparatus may again be mounted on the person's body, being held in position by the belts B, B'. The abdomen A, as before, makes a close fit with the inner surface 11 of the shield, the outer end of the colostomy C bearing against the retarder cap head 42 to effectively close the colon and prevent inadvertent drainage from it, which would otherwise soil the person's clothing.

The shield 10 and associated drainage channel 16, and other parts, are preferably made of a transparent and light weight material, such as cellulose acetate, methyl methacrylate, or polystyrene, which enables the condition of the apparatus to be observed, both during the irrigating operation and during the cleaning operation. The bag is also preferably made of a transparent material, such as cellophane. In view of the transparency of the several parts of the device, the person can observe its condition and be assured that the parts have been thoroughly cleaned.

It is to be noted that the drainage channel 16 is relatively narrow, but of substantial width. A large drainage channel area is provided, to insure emptying of the colon without difficulty, the front wall 17 still being disposed relatively close to the rear wall 19 and shield 10, resulting in apparatus that projects only slightly outwardly from the wearer's abdomen, A. As a result, when the device is worn under a person's clothing, with the retarder cap 40a in place, such as illustrated in Fig. 3, there are no pronounced or noticeable protuberances or bulges in the person's clothing. Moreover, the lack of any substantial extension of the device from the person's body does not cause it to interfere with movements of the body. In this connection, it is to be noted the lower end of the channel 16 does not extend materially below the lower portion of the shield 10 or its

6

rim seal 14. As a result, the person may bend over in a forward direction without the lower end of the channel being forced against the body. The bag 35 itself is preferably made of flexible and readily foldable material, such as cellophane, and does not exert any pressure against the person's body.

The inventor claims:

1. In colostomy apparatus: a generally dome-shaped shield snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a front wall disposed across said opening, and an upper wall above said opening, said front wall having an inlet for a catheter tube in alignment with said opening; a container separate from said channel and disposed around and depending from said channel; and means attached to said container and extending across said upper wall to hold said container in place.

2. In colostomy apparatus: a generally dome-shaped shield snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a front wall disposed across said opening, an upper wall above said opening, and a rear wall spaced forwardly from said shield, said front wall having an inlet for a catheter tube in alignment with said opening; a container separate from said channel and into which the lower portion of said channel is piloted so that a portion of said container is disposed between said rear wall and shield; and means attached to said container and extending across said upper wall to hold said container in place.

3. In colostomy apparatus: a generally dome-shaped shield having a rim portion snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a convex front wall conforming generally to the curvature of said shield and spaced forwardly from said shield; side walls extending between said front wall and shield, and a top wall above said opening, the width of said channel between said side walls being considerably greater than the depth of said channel between said shield and said front wall; and a central external convex band secured to the upper portion of said channel and to said shield at its upper rim portion, said band being spaced from said shield between the upper portion of said channel and the upper rim portion of said shield.

4. In colostomy apparatus: a generally dome-shaped shield having a rim portion snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a convex front wall conforming generally to the curvature of said shield and spaced forwardly from said shield, side walls extending between said front wall and shield, a top wall above said opening, and a rear wall spaced forwardly from said shield, said front wall having an inlet for a catheter tube in alignment with said opening, the width of said channel between said side walls being considerably greater than the depth of said channel between said front and rear walls; a central external con-

7

band secured to the upper portion of said channel and to said shield at its upper rim portion; a container into which the lower portion of said channel is piloted so that a portion of said container is disposed between said rear wall and said shield; and a strap attached to said container and extending across said top wall between said shield and band to hold said container in place.

5. In colostomy apparatus: a generally dome-shaped shield snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a front wall disposed across said opening, and a top wall above said opening, said front wall having an inlet for a catheter tube in alignment with said opening; a partition above said top wall forming a chamber therewith and with said shield; removable means for closing said chamber; a container disposed around and depending from said channel; and means attached to said container and disposed across said partition to hold said container in place.

6. In colostomy apparatus: a generally dome-shaped shield having a rim portion snugly engageable with the body and having an inlet opening into which a colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a convex front wall conforming generally to the curvature of said shield and spaced forwardly from said shield, side walls extending between said front wall and shield, and a top wall above said opening, the width of said channel between said side walls being considerably greater than the depth of said channel between said shield and front wall; a partition above said top wall forming a chamber therewith and with said shield; removable means for closing said chamber; a central external convex band secured to said partition and to said shield at its upper rim portion; a container disposed around and depending from said channel; and a strap attached to said container and disposed across said partition between said band and shield to hold said container in place.

7. In a colostomy apparatus: a generally dome-shaped shield snugly engageable with the body and having an inlet into which said colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a convex front wall conforming generally to the curvature of said shield and spaced forwardly from said shield, side walls extending between said front wall and shield, a top wall above said opening, and a rear wall spaced forwardly from said shield, said front wall having an inlet for a catheter tube in alignment with said opening, the width of said channel between said side walls being considerably greater than the depth of said channel between said rear and front walls; a partition above said top wall forming a chamber therewith and with said shield; a container into which the lower portion of said chan-

8

nel is piloted so that a portion of said container is disposed between said rear wall and shield; and means attached to said container and disposed across said partition to hold said container in place.

8. In colostomy apparatus: a generally dome-shaped shield snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a front wall disposed across said opening, and an upper wall above said opening, said front wall having an inlet for a catheter tube in alignment with said opening; a container separate from said channel and disposed around and depending from said channel; and a band member attached to said container and extending across said upper wall to hold said container in place.

9. In colostomy apparatus: a generally dome-shaped shield snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; a drainage channel secured to said shield and communicating with said opening, said channel comprising a front wall disposed across said opening, and an upper wall above said opening, said front wall having an inlet for a catheter tube in alignment with said opening; a container separate from said channel and disposed around and depending from said channel; means attached to said container and extending across said upper wall to hold said container in place; and upper, intermediate and lower belt attaching means secured to said shield.

10. In colostomy apparatus: a generally dome-shaped shield having a rim portion snugly engageable with the body and having an inlet opening into which the colostomy may effect a discharge; the inner surface of said shield adjacent and below said opening being shaped to snugly engage and seal against the body below the colostomy; a drainage channel secured to said shield and communicating with said opening, said channel having an inlet for a catheter tube in alignment with said opening; and upper, intermediate and lower belt attaching means secured to said shield.

HAZEL C. BURTON.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,154,202	Gricks	Apr. 11, 1939
2,331,226	Pritchard	Oct. 5, 1943
2,504,872	Perry	Apr. 18, 1950
2,540,777	Deahl	Feb. 6, 1951

FOREIGN PATENTS

Number	Country	Date
752,361	France	July 17, 1933

OTHER REFERENCES

Article from "Surgery, Gynecology and Obstetrics," vol. 78 of 1944.

"Carcinoma of the Rectum" by F. A. Collier and H. K. Ransom, page 311, Figure 5.