March 27, 1951 B. H. POLCYN 2,546,779

COLOSTOMY APPLIANCE

Filed Aug. 15, 1946

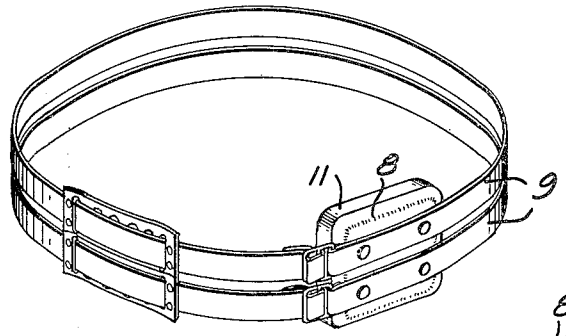


Fig. 1

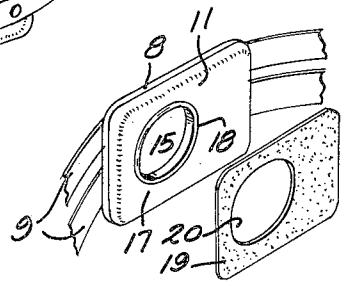


Fig. 3

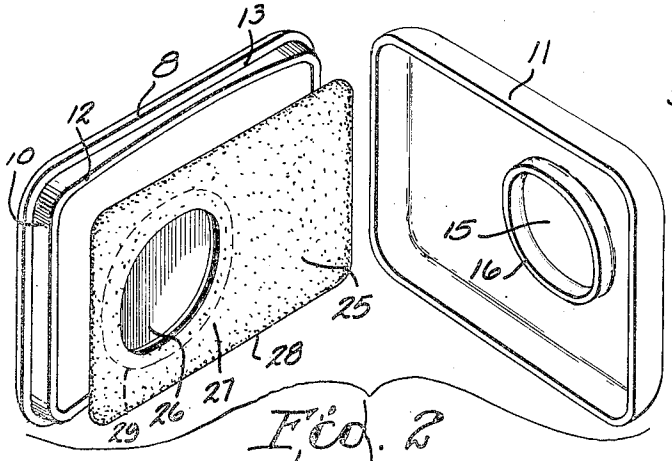


Fig. 2

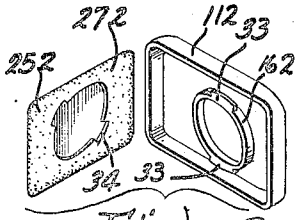


Fig. 6

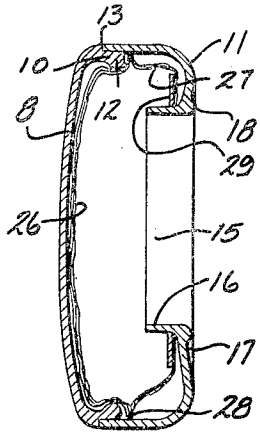


Fig. 4

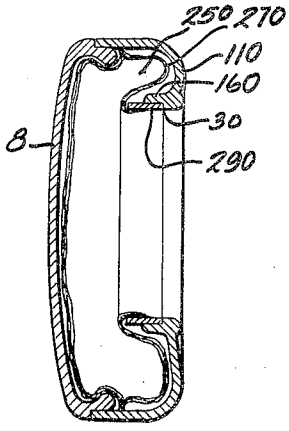


Fig. 5

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COLOSTOMY APPLIANCE

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15 Claims. (Cl. 128—283)

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This invention relates to an improvement in colostomy appliances.

It is the object of the invention to provide a novel and simplified colostomy cup which can be worn with increased comfort, manipulated with increased facility, and is provided with a changeable liner which provides increased convenience and sanitation.

Other objects of the invention will be more clearly apparent from the following disclosure thereof.

In the drawings:

Fig. 1 is a view in perspective showing a completed appliance embodying the invention.

Fig. 2 is a view showing in perspective on an enlarged scale the separated complementary parts of the colostomy cup.

Fig. 3 is a detail view on the scale of Fig. 1 fragmentarily showing in perspective an interior view of a portion of the appliance illustrated in Fig. 1.

Fig. 4 is an enlarged detail view in cross section showing a preferred embodiment of the invention.

Fig. 5 is a view similar to Fig. 4 showing a modified embodiment of the invention.

Fig. 6 is a view on a reduced scale showing in perspective a further modified embodiment of the invention with certain of the parts separated.

In its preferred form, the appliance comprises a cup 8 to which the supporting belt or belts 9 may be attached. The cup is bordered by a flange 10 which, because the cup is sometimes worn without its closure 11, is preferably provided with a marginal bead at 12. Externally, the flange 10 is shouldered at 13 to afford a seat for the margin of the closure member 11.

The closure is worn between the cup 8 and the body so that the pressure of the cup toward the body under tension of the belts 9 holds the closure securely seated against shoulder 13. The cup and closure together comprise a receptacle which is wholly closed except for the aperture 15 which admits bodily secretions to the interior of the receptacle. The closure has an annular, inwardly projecting flange 16 surrounding opening 15. The face of the closure is slightly concave at 17, but in registry with the flange there is a slight bead at 18. A disposable paper gasket 19 centrally apertured at 20 is normally worn between the closure 11 and the body. The bead 18 localizes the pressure and tends to confine the secretions which pass through the opening 20 in the gasket and the opening 15 in the closure to the interior of the container.

An important feature of the invention involves

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the manner in which the disposable liner 25 is made. As indicated in the drawing, the liner preferably comprises socalled cellucotton which is conventionally made up of a number of plies of tissue laminated together. The liner has a multi-ply outer wall 26 and a multi-ply inner wall 27 peripherally joined adhesively or otherwise at a seam 28 which lies against the beaded inner margin 12 of the cup in the manner best shown in Fig. 4. The outline of the completed liner is smaller than the interior dimensions of closure 11, but greater than the interior dimensions of the bead 12 of cup 8.

The liner is so made as to establish a tight-fitting connection between the liner and flange 16. This may be accomplished in a variety of ways, some of which are suggested in Figs. 4 to 6. In one of the preferred constructions, an aperture in the inner wall 27 of liner 25 is outlined by a ring 29 of cardboard or the like which reenforces the margin of the wall about the aperture. Even heavy paper is sufficient, as not a great deal of reenforcement is required. The ring 29 may be fastened by adhesive or otherwise to the plies of tissue making up the inner wall 27 of the liner. Since the flange 16 has a slight taper externally, the ring 29 will tend to wedge on to the outside of flange 16 in the position shown in Fig. 4, thus making a tight connection between the parts. It may be forced to wedging position by pressure of the operator's finger, which may be inserted through the opening 15 in the closure before the appliance is positioned on the body. The ring 29 is preferably of sufficiently lightweight material to be disposable along with the liner and to disintegrate readily in the water of a toilet bowl. It is sufficiently flexible so that it may readily be flushed down the toilet, even before it is disintegrated. To dispose of the liner and its contents, it is only necessary to remove the cup or twist it upon its belt sufficiently to expose the closure, and withdraw the liner, stripping ring 29 from flange 16 for disposal. One or more plies of the cellucotton tissue used to construct the liner may be of relatively waterproof material, if desired. The socalled waterproof tissue used in cellucotton for sanitary napkins and other purposes is not really waterproof but is merely water resistant and will ultimately disintegrate in water. It does, however, sustain its form adequately in the presence of moisture so that it is well adapted for this purpose.

In the construction shown in Fig. 5, the closure 110 has its flange 160 so made as to provide

an internal shoulder at 30. The lining sack 250 is made exactly as heretofore described except that the margins of its wall 270 are fastened to a sleeve 290 instead of to the annular disk shown in Fig. 4. The sleeve 290 is so dimensioned that it may be pressed by the operator's fingers to frictionally bind against the flange 160 and abut the shoulder 30 as shown in Fig. 5.

In the construction shown in Fig. 6, the closure 112 has its flange 162 provided with radial ears at 33 and the inner reenforced margin 292 of the inner wall 272 of the liner 252 is notched at 34 to receive these ears. The liner is assembled to the closure in a position angularly offset from its ultimate position in order to permit the ears 33 to enter the notches 34. The liner is then rotated a few degrees into registration with the closure, thereby locking the liner to the closure.

In all of the constructions illustrated, a very satisfactory seal between the liner and the cup closure is established whereby bodily fluids seeping into the liner are confined to the liner and prevented from escape to the interior of the cup or its closure. Because such a seal is established most simply in the manner suggested in Fig. 4, the Fig. 4 construction is preferred.

It will be noted that the various constructions disclosed are not only adapted to effect a seal between the liner and the closure but are also adapted to hold the liner open and to tend to prevent its collapse pending flow into it from the body of the wearer. But for some more or less secure connection between the apertured inner wall of the liner and the closure of the cup, such inner wall might collapse against the outer wall of the cup. In the device as shown, this does not occur. Also, the contact of the seam 28 with the outer margin of the cup or its closure tends to keep the liner from flattening out and maintains it open as shown.

The device has ample capacity and yet is sufficiently flat so that it may be worn comfortably and without undue pressure against the body of the wearer. A feature contributing greatly to comfort as well as sanitation is the arrangement whereby the portion of the container worn next the body (i. e., the closure 11) is concave but is beaded about its opening.

I claim:

1. A colostomy appliance comprising a hollow container having an apertured wall provided with a tubular flange marginally connected with the wall about the aperture and projecting inwardly from said wall into the container, and a hollow liner wholly within the container having an apertured wall portion detachably connected with the flange.

2. The combination set forth in claim 1 in which the apertured wall portion of the liner has a marginal reenforcement, in frictional engagement with the flange.

3. The combination set forth in claim 1 in which the apertured wall portion of the liner has a marginal reenforcement in frictional engagement with the flange, said reenforcement comprising a radial annulus and the flange having a taper upon which such annulus wedges externally.

4. The combination set forth in claim 1 in which the apertured wall portion of the liner has a marginal reenforcement in frictional engagement with the flange, said reenforcement comprising a collar and the flange having an internal shoulder against which said collar seats.

5. A colostomy appliance comprising a cup provided with a support, a closure removably applied to the cup to be worn between the cup and the body and having an apertured wall and an inwardly projecting flange about the aperture, and a liner comprising inner and outer wall portions peripherally seamed together, the seam lying within the closure and of greater dimensions than the interior of the cup, the inner wall portion of the liner having an aperture registering with the aperture of the closure and having a marginal reenforcement holding the margin of said inner wall portion about said aperture in frictional engagement with said flange, whereby to hold said liner removably to the closure and in an open position within the container.

6. The combination set forth in claim 5 in which said reenforcement comprises a radial annulus externally engaged with said flange, said flange having an external taper upon which said annulus is wedged.

7. The combination set forth in claim 5 in which said flange has an internal shoulder and said reenforcement comprises a collar seated within the flange against such shoulder.

8. The combination set forth in claim 5 in which said flange and reenforcement have ear and notch portions rotatably interlocked against separation.

9. In a colostomy appliance a cup having a beaded margin and an external shoulder, a cup-shaped closure telescopically fitted about said margin against said shoulder and provided with an aperture, and an apertured liner comprising inner and outer wall portions having a peripheral seam uniting them, said seam lying adjacent said bead outside of said cup and within said closure, the inner wall portion of said liner having an aperture and having means providing releasable marginal connection about said aperture between the inner wall portion of the liner and the flange of the closure.

10. In a device of the character described, a liner for a colostomy appliance comprising inner and outer wall portions, means connecting said portions marginally, the inner wall portion being apertured, and a marginal reenforcement for the inner wall portion about the aperture, the entire liner including such reenforcement being disposable.

11. The liner set forth in claim 10 in which the reenforcement comprises a flat annulus to which margins of the inner wall about its aperture are adhesively connected.

12. The combination set forth in claim 10 in which the reenforcement comprises a length of tubing to which the margins of the inner wall portion about said aperture are adhesively connected.

13. A liner for a colostomy receptacle, said liner comprising an apertured wall portion and an unapertured wall portion, both of said wall portions comprising multi-ply tissue, and means adhesively connecting the respective wall portions marginally to each other to comprise a peripheral seam.

14. The liner described in claim 13 in further combination with an annular reenforcement of paper material about the aperture and connected with said apertured wall portion.

15. A colostomy appliance comprising a hollow container having an apertured wall provided with a tubular flange marginally connected with the wall about the aperture and projecting inwardly from said wall into the container, and a hollow liner within the container having an apertured

wall portion provided with an integral marginal reenforcement detachably connected with the flange.

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