

[72] Inventor **John J. Vasile**
 15-25 Utopia Parkway, Whitestone, N.Y.
 11357
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Primary Examiner—Charles F. Rosenbaum
Attorney—Clarence O'Brien & Harvey B. Jacobson

[54] **EXCREMENT COLLECTING APPLIANCE**
 9 Claims, 4 Drawing Figs.

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 128/344, 128/129
 [51] Int. Cl..... A61f 5/44
 [50] Field of Search..... 128/129,
 246, 275, 285, 283, 344, 1

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ABSTRACT: A self-contained multipurpose appliance for use in the rectum and anal canal, respectively. While usable in giving enemas, delivering fluids, nutrition and medications via the anal canal, it is primarily usable in collecting fecal matter in paraplegic and other bowel incontinent persons by way of the anal canal. It is characterized by a first indwelling inflatable ring which is stationed and anchored for as long as needed in the rectum and is connected by depending flexible straps to a second inflatable ring. This latter ring is communicatively connected with oriented and aligned inflatable coils or convolutions which provide adapter means which lines and opens and closes the anal canal and, when expanded, serves to funnel fecal matter into a disposable bag.

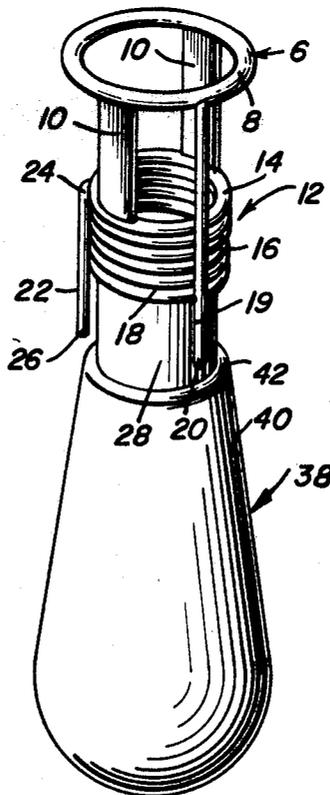


Fig. 1

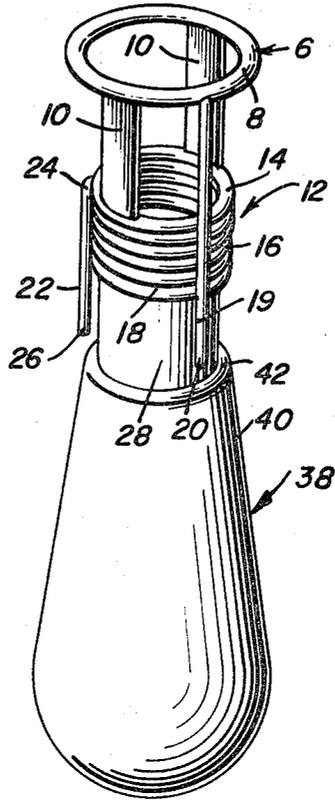
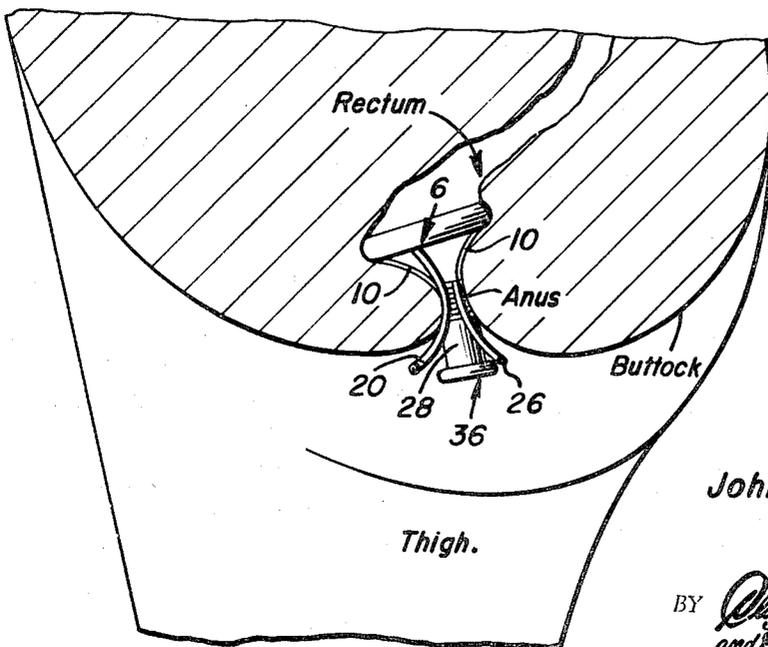


Fig. 2



John J. Vasile
INVENTOR.

BY *Clarence W. O'Brien*
and Harvey E. Jacobson
Attorneys

EXCREMENT COLLECTING APPLIANCE

This invention relates to certain new and useful improvements in an appliance which is susceptible of efficacious use in several practical ways, which lends itself to inserted use in a natural body orifice and has to do with an appropriate disposable plastic bag and unique indwelling means which adapts the bag for reception and retention of all excrement and also allows the bag to be aptly used for giving enemas and feeding fluids, nutrition and medications into the rectum by way of the anal canal.

Briefly, the appliance herein disclosed can be acceptably used in a number of different ways. To the primary ends desired it comprises (1) indwelling anchoring means (2) adapter means which is attached by straps to and connected with the anchoring means (3) a flexible sleeve-like bag connector provided at its open bottom with (4) a detachable closing cap and (5) an appropriate disposable bag which is detachably hung from the discharge end of the connector when the cap is removed. The anchoring means comprises a first inflatable ring which is fittingly stationed for use in the user's rectum and has an inflating tube (for air or liquid) with an inner end communicatively joined to the ring and which has its outer free end portion passed outwardly through the anal canal for accessible use. The adapter means embodies a second inflatable ring mounted atop and communicable with a series of companion coils or convolutions defining a funneling duct. This second ring also has an inflating tube similar to the above mentioned tube. The innermost and outermost convolutions will maintain a predetermined state of inflation to assist in locating and retaining the adapter means in its given position. The cap is normally closed but can be detached and replaced by the thin plastic or equivalent bag at will.

The herein disclosed appliance lends itself to feasible use when employed to collect fecal matter in paraplegic and other bowel incontinent people by way of the anal canal. It enables incontinent users to go about their daily duties without fear of soiling themselves and of carrying a fecal odor.

It can be used to give enemas in a manner to save on nursing care time and personnel. All that is necessary is to attach the collecting bag and permit to serve as an enema bag. Likewise, it may be used as a means of giving fluids and electrolytes, nutrition and medication via the rectum to people who are unable to take fluids by mouth.

Further it lends itself to use in the patient with gynecology or genitourinary surgery where introducing a finger per rectum (or an enema tip per rectum) may stir up bleeding, and yet the stimulation to bowel activity (after anesthesia) may be enhanced by dilatation of the anal sphincter. May even permit controlled amounts of fluids per rectum to act as source of fluids or as a stool softener, or as a bowel stimulant. All this can be done with minimum disturbance and moving of patient.

Then, too this appliance is unique in that it may be used for indwelling urinary collecting device, it would have to be modified in dimensions; but the essential principles would be the same. The inflatable adapter means or spiral would act to open the bladder neck outlet and when the adapter is collapsed, there would be minimal pressure on the urethral canal. A standard rubber catheter produces constant pressure and irritation to the urethra.

For general background information the reader may desire, if so inclined, to refer to the colostomy attachment in a U.S. Pat. No. 3,216,420 to D. E. Smith, et al. and wherein, unlike the present invention, the construction requires a surgically prepared orifice and removable closing plugs for when the bag is not in use. By comparison the present invention is inserted in and associated with a natural process, the anal canal, and functions to collect fecal matter and intestinal waste too but does not require or call for the aforementioned surgically prepared orifice.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to

like parts throughout, and in which: FIG. 1 is a view in perspective of a multipurpose self-contained appliance expressly designed and adapted for use in the rectum and anal canal, respectively.

FIG. 2 is a view on a suitably reduced scale which shows the appliance with the component parts thereof, not including the bag, in normal use.

FIG. 3 is a view on an enlarged scale showing the appliance inserted or installed and with the cap removed and the collecting bag attached in readiness for use.

FIG. 4 is a view similar to FIG. 1 with the bag removed and the cap attached, with the anal canal substantially closed and the median inflatable coils or convolutions collapsed and the innermost and outermost ones inflated to assist in maintaining the aforementioned adapter means in the contemplated state shown.

The appliance per se which constitutes the tangible subject matter of the concept is shown in FIG. 1 and is illustrated in use in FIGS. 2—3 inclusive. The anchoring means is denoted, generally stated, by the numeral 6 and its normal indwelling position is shown when in use in the rectum as in FIGS. 2, 3 and 4. This means is characterized by an appropriate inflatable and deflatable plastic or equivalent anchoring ring and referred to as a first ring as at 8. It is provided at diametrically opposite points with depending attaching and suspending straps 10 for the inflatable and deflatable adapter means denoted, as an entity, by the numeral 12. This means 12 is characterized by a smaller ring referred to as a second ring 14 and which is integrally and communicatively aligned with the nesting coils or convolutions, the upper and median ones of which are denoted at 16 and the lowermost one at 18. The straps 10 join the two rings 6 and 14 together in assembled relationship. The inflation tube for the anchoring ring is denoted at 19 and has an upper end communicatively and integrally joined with the outer peripheral surface of the ring 6. This tube is of a length that it is capable of extending downwardly and outwardly through and beyond the anal canal or anus, as illustrated in FIG. 2. The free end is exposed and accessible as indicated at 20. A similar second inflating tube is provided at 22. The upper end 24 of tube 22 is communicatively integrally joined with the second ring 14. The lower free end portion is denoted at 26 and this tube also projects through and downwardly beyond the anus in the manner shown in the assembly view in FIG. 2. The lowermost convolution 18 is provided with an integral sleeve-like component part which is here designated as a connector 28 and which as shown in FIGS. 3 and 4 has a reinforcing and retaining endless bead 30 at the lower end thereof. This bead serves to accommodate a cooperating elastic and separably connectable bead 32 on the annular rim 34 of the attachable and detachable closing cap 36 as brought out in FIG. 4. The plastic or equivalent disposable fecal matter collecting bag is denoted by the numeral 38 and has a neck portion 40 provided with a reinforcing and encircling bead 42 which is separably connectable with the aforementioned bead 30 when the bag is applied for use.

All of the coacting component parts of the overall appliance are clearly shown in FIG. 1 and the manner of use is evident from a consideration of FIGS. 2 to 4 when considered singly and collectively.

This appliance may be used, as stated, for the paraplegic patient or for any person or patient who has no control over his bowels. The appliance is applied for use by the physician or a duly qualified assistant. After the anchoring ring 6 is properly situated in the rectum it is inflated and will stay put in its indwelling state indefinitely. The complementary second ring 14 (at the inward end of the anal canal) and companion coils or convolutions are not inflated (FIG. 4) until the patient is to be evacuated. When inflated (see FIG. 3) the anal canal is expanded and the fecal matter can then be funneled and delivered into the attached collecting bag. When the evacuation is completed the components of the spiral or adapter means are deflated and the anus acted on by the contractile

sphincter muscles will close down. The loaded bag is properly detached and discarded and the beaded lower end of the sleeve or connector is capped as shown in FIG. 4. If there should be some fecal leakage via the spiral or adapter it will be trapped in the capped sleeve 28 and no odor will ensue. If some feces leaks out and around the exterior of the adapter means the latter can be partially if not completely inflated.

This innovation lends itself to endorsed home use in the patient or person who requires an enema. To do so, the aforementioned collecting bag can be filled enema liquid and, by raising the bag above the level of the anus the liquid will enter the rectum by way of the inflated adapter means and will minimize foul odors commonly associated with enemata. This appliance will also save valuable time for the nurse giving an enema for the reason that all that needs to be done is assemble the component parts and leave the patient along while he evacuates at his leisure.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

I claim:

1. A fecal matter appliance for use in the rectum and communicating anal canal of paraplegic and other bowel incontinent persons, and for other applicable uses comprising: a readily attachable and detachable fecal matter collecting bag of requisite size and capacity, said bag having an elastic attaching and retaining neck, indwelling adapter means insertable into and capable of retention in and for lining said anal canal, said adapter means having a proximal end communicable with the rectum of the user and a distal end provided with an integral exterior sleeve-like connector to which said neck is communicatively cooperatively connectable and anchoring means separate from, complementary to spaced from said adapter means and functioning to retain said adapter means in its given position, said anchoring means being designed and adapted to be inserted and operatively anchored in the rectum of the user, and a closing cap which is designed and adapted to be cooperatively connected to said distal end when said bag is not being used.

2. The appliance defined in and according to claim 1, and wherein said bag is made of thin lightweight plastic material, said connector having a free end with an elastic bead, and the free inlet end of said intake neck having an elastic contractile bead which is separably connectable with said first-named bead.

3. The appliance defined in and according to claim 1, and wherein said adapter means is adapted to be wholly or partially inflated and controllably deflated and also wherein said anchoring means is likewise adapted to be inflated and deflated.

4. The appliance defined in and according to claim 1, and wherein said anchoring means comprises a first inflatable and

deflatable ring capable of being inserted into the rectum in deflated form, said ring having an elongated inflating tube with an inner end communicatively joined to said ring and an outer free end extending when in use through and beyond the anal canal for accessible use and permitting said ring to be inflated and lodged and retentively anchored in the rectum of the user.

5. The appliance defined in and according to claim 4, and wherein said adapter means embodies a second inflatable and deflatable ring communicatively and integrally joined to a plurality of inflatable and deflatable spiralling convolutions and providing a fecal matter funneling and anal canal controlling duct, and said second ring having an inflating tube also with an inner end communicatively joined thereto and an outer free end likewise extending when in use through and beyond the anal canal in a manner to variably inflate said second ring and its complementary convolutions at will and contingent on the physical condition of the sphincter muscles surrounding the anal canal, the innermost and outermost convolutions assisting in positioning and retaining the adapter means in its given position.

6. The appliance defined in and according to claim 5, and wherein said bag is made of thin light weight plastic material, said tubular connector having a free end with an elastic bead, and the free inlet end of said intake neck having an elastic contractile bead which is separably connectable with said first-named bead.

7. A fecal matter collecting and disposal appliance for insertable and removable but indwelling use in the rectum and anal canal respectively, a first ring for placement and retention in the rectum of a user, said ring being inflatable to the degree desired and having a fluid inflating tube with one end communicatively joined to said ring and the other end free for accessible use, a second ring also inflatable and having an inflating tube operatively attached thereto, said second ring being aligned and communicable with a plurality of companion inflatable interconnected convolutions and defining an expansible and retractable open ended funneling adapter capable of fitting into the anal canal of the user and controllably inflatable at will, and flexible straps joining said rings together in cooperative relationship.

8. The appliance defined in and according to claim 7 and wherein said rings, inflating tubes and convolutions are made of soft expansible and contractible plastic material, the outermost convolution having an integral sleeve-like connector capable of assuming a position exteriorly or the discharge end of the anal canal, said connector having a free terminal end terminating in a ringlike bead, and an attachable and detachable closing cap having a bead-equipped rim detachably connected with the bead on said connector.

9. The appliance defined in and according to claim 8, and in combination, a disposable plastic bag having an attaching neck provided with a lip having a ringlike bead which can be cooperatively connected with the bead on said connector after said closing cap has been removed.

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