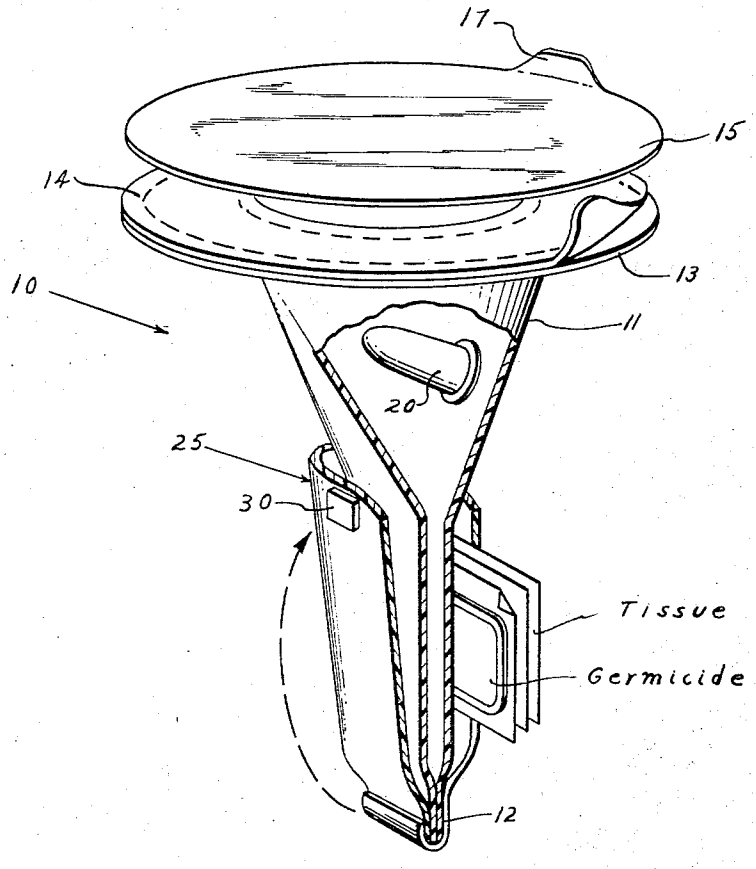
Jan. 14, 1969 JAMES E. WEBB 3,421,506
ADMINISTRATOR OF THE NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION
RELIEF CONTAINER
Filed Aug. 26, 1966



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United States Patent Office 3,421,506 Patented Jan. 14, 1969

3,421,506

RELIEF CONTAINER

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of George W. Priebe and Francis R. Scroop, Benton Harbor, Mich.

Filed Aug. 26, 1966, Ser. No. 575,475
U.S. Cl. 128—283 6 Claims
Int. Cl. A61f 5/44

The invention described herein was made in the performance of work under a NASA contract and is subject to the provision of section 305 of the National Aeronautics and Space Act of 1958, Public Law 85–568 (72 Stat. 435; 42 U.S.C. 2457).

This invention relates to a relief container or colostomy appliance, and more particularly to a fecal collection device.

Persons who must remain in confied quarters for relatively long periods of time, as for example astronauts during a space flight, have need of a relief container which can be used sanitarily and effectively without the escape of its contents and odors. It must also be readily disposable or adaptable to storage while using very little storage space.

Disposable waste collection devices and colostomy appliances have heretofore been devised which may be attached to the body of the user in sealed relation thereto around the anus when the device is a relief container, or around a stoma opening if used as a colostomy device. These devices generally are of the flexible bag type and it is usually difficult, however, for the user to properly attach the receptacle to his body without assistance, and to clean himself after usage. Furthermore, these devices do not readily lend themselves to storage after use, when storage is necessary, since they cannot always be easily closed in a tightly sealed condition and conveniently reduced to small size.

The fecal collection unit or colostomy device of this invention which has been devised to overcome the attendant disadvantages of the prior art devices comprises a flexible waterproof plastic bag which is provivded with an adhesive means at its open end whereby the bag may be attached to the body of the user in sealed relation thereto to serve as a waste collection device. The adhesive means is preferably a "Stomoseal" annular disk which is secured to the flanged top edge portion of the plastic bag with its annular opening registering with the bag opening. The "Stomoseal" is a conventional material which is provided with a non-irritating pressure sensitive adhesive over its surfaces. A protective sheet of wax paper is also provided which is adhered to the "Stomoseal" disk to close off the bag opening, but which may be readily removed when the bag is intended for use.

The bag is also provided in its side with a finger stall in the form of a plastic sleeve shaped like a glove finger which extends into the bag. The finger stall aids the user in locating the bag in its proper position on the body, which is extremely difficult to accomplish when one is attaching the bag for his own use. The lower end of the bag is also provided with an outer cuff-like container of generally stiffer plastic material than the collection bag itself, and which serves as a container for such items as tissue, a germicide packet, or a skin cleaning pad. The cuff-like container is provided with adhesive pads on its outer surface near the top edge thereof whereby for storage purposes the flexible collection bag may be stuffed into the plastic cuff which may then be folded over with its lower end secured to the adhesive pads and thereby effectively retain its contents.

Other objects and many of the attendant advantages of this invention will be readily appreciated as the same become better understood by reference to the following detailed description when considered in connection with the accompanying drawing wherein the fecal collection device of this invention is shown in a partly exploded view with a part of the device broken away to show structural details.

Referring more particularly to the drawing, there is shown a fecal collection device **10** which is a preferred embodiment of the invention. The collection device **10** comprises a flexible waterproof plastic bag **11** which is heat-sealed at its closed end **12** and is provided at its open end with a radial flange **13** which is joined to the top edge of the bag **11** and extends continuously around the top edge. An adhesive means, preferably in the form of a "Stomoseal" annular disk **14**, is stitched along its peripheral margins to the plastic bag on the upper surface of the flange **13** at the top of the bag, with the annular opening of the adhesive disk registering with the bag opening. "Stomoseal" is a commercial product of the Minnesota Mining & Manufacturing Corporation which is provided with a pressure-sensitive sticky adhesive on both surfaces whereby it can be securely sealed to the bag **11** and also provide means for attaching the bag to the body of a user in a sealing relationship therewith. Although other adhesive means might be used, "Stomoseal" is preferred since it is particularly known to be non-irritating to the skin. The flexible bag **11** is fabricated of a waterproof plastic such as a laminate of polyethylene, Mylar, and polyethylene, although other materials might be suitable.

The adhesive disk **14** is also provided with a protective cover in the form of a circular sheet **15** of wax paper or the like which is placed over the bag opening and secured to the "Stomoseal" disk in a manner to completely close off the bag. The wax paper cover is provided with a protruding ear **17** by which it may be readily grasped and pulled free of the adhesive disk when it is desired to remove the cover from the bag and attach the bag to the body.

The collection bag **11** is also provided in one side with a finger stall **20** in the form of a plastic sleeve which extends into the bag. The finger stall, which is designed to fit over the finger, aids the user in locating the bag by means of his finger in its proper position around the body opening, which is normally an extremely difficult feat to accomplish when one is installing the bag for his own use. After the bag is located with its open end around the anus, when used as a relief container, it may be secured in sealing relationship with the body by exerting light pressure against the "Stomoseal" disk. This manner of attachment securely holds the device to the body of the user and effectively prevents escape of unpleasant odors which is particularly important when the user is restricted to confied quarters such as a spacecraft. The finger stall is also helpful to the user in cleaning himself after use.

After using the device **10**, the user may readily detach it from his body and fold over the "Stomoseal" disk so that its adhesive surface seals against itself and securely retains the contents within the bag **11** without escape of undesirable odors.

The lower end of the collection bag **11** is provided with an outer cuff-like container **25** of generally stiffer plastic material than the collection bag itself, though nevertheless flexible. The outer container **25** serves as a receptacle for such items as tissue paper, a germicide packet, or a skin cleaning pad. It is also provided with at least one adhesive pad **30** on its outer surface near the top edge thereof. Each adhesive pad is secured to the cuff, preferably by stitching, and is provided with a pressure-sensitive adhesive on its outer surface.

For storage of the fecal collection device **10** prior to use and after use, the flexible collection bag **11** may be stuffed into the outer container **25** towards the bottom thereof, and the outer container then folded over so that the lower end **12** of the device may be secured to the adhesive pads **30**. This folded arrangement serves to effectively retain the flexible collection bag and its contents and the other items such as tissue, cleaning pads and the like, within the outer container **25** in a particularly compact and space saving arrangement.

The cuff-like container which is attached to the collection bag serves as a handy receptacle for such items as tissue paper, moist cleaning pads, and germicide packets of conventional type such as one which may be cut with scissors or crushed with the fingers to release its contents into the bag for bactericidal purposes. Normally, the contents of the germicide packet are released into the bag prior to its attachment to the body of the user. After removal of the bag and sealing of the top of the bag, the germicide mixed with the fecal waste effectively precludes bacteria growth and gas production.

It will therefore be seen that a novel waste collection unit is described herein which is particularly suitable as a fecal collection unit. It is particularly useful for persons who find themselves restricted to confined quarters for a relatively long period of time and who also have need of a portable relief container which can be used sanitarily and effectively. Although particularly suitable for use by astronauts, it could also be used by campers, or travelers who do not have ready access to other facilities. The device also lends itself to use as a colostomy appliance by hospital patients and others who have need of such drainage collection appliances.

It should also be understood that the foregoing disclosure relates only to a preferred embodiment of the invention and that it is intended to cover all changes and modifications of the examples in the invention herein chosen for the purposes of the disclosure and which do not constitute departure from the spirit and scope of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A container suitable for attachment to a person's body for use as a fecal collection unit or a colostomy appliance, said container comprising:

an open top bag of flexible waterproof material, said bag being provided with a radial flange of like flexible material which extends continuously around the top edge of said bag;

an adhesive means provided on the upper surface of said flange and completely encompassing the open top of the bag, whereby the bag may be applied to the user's body in encircling relation to a stoma opening or other body opening and in sealing relationship with the user's body for the collection of waste matter therefrom; and

a flexible sleeve of water-proof material formed in the side wall of the bag and extending inwardly of said bag, said sleeve being adapted to receive a finger of the user therein whereby the user may insert his finger in the sleeve and use the sleeve as an aid in positioning the bag in its proper location on the body.

2. A device as described in claim **1** wherein said adhesive means is in the form of an annular disk secured in sealing engagement with the top surface of said radial flange and with its central opening in registry with the top opening of said bag, said annular disk being provided on its upper surface with a non-irritating pressure-sensitive adhesive.

3. A device suitable for use as a fecal collection unit or a colostomy appliance comprising:

an open top bag of flexible material;

an adhesive means provided on the surface of said flexible material at the top of said bag and completely encompassing the open top of said bag whereby the bag may be applied to the user's body in encircling relation to a stoma opening or other body opening and in sealing relationship therewith; and

a flexible sleeve formed in the side wall of the bag and extending inwardly of said bag, said sleeve being in the general configuration of a glove finger whereby the user with his finger inserted into the sleeve may position the bag in its proper location on the body.

4. A device as described in claim **3** wherein said bag is fabricated of flexible waterproof material.

5. A device as described in claim **3** wherein said adhesive means is a pressure sensitive adhesive.

6. A device as described in claim **4** further including a flexible outer bag disposed in sleeved relationship to said waterproof bag with the bottom of said outer bag secured to the bottom of said flexible waterproof bag, said outer bag being adapted to serve as a receptacle for cleansing tissue and germicide; and

adhesive pad means provided on said outer bag when the waterproof bag is disposed within the outer bag, and said outer bag may be folded over its bottom end secured to said adhesive pad means to effectively and securely retain its contents.

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U.S. Cl. X.R.

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