July 10, 1962 R. N. HERGATT ETAL 3,043,306

BODY WASTE RECEPTOR APPLIANCE

Filed April 8, 1959

FIG. 2

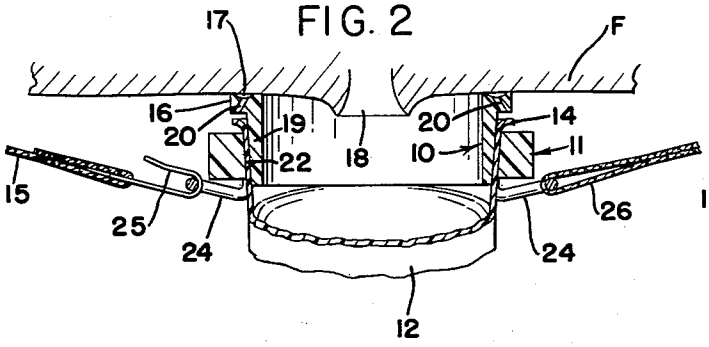


FIG. 1

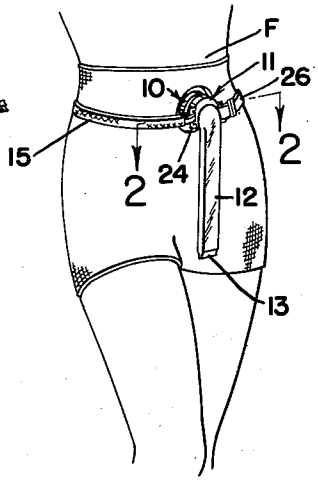
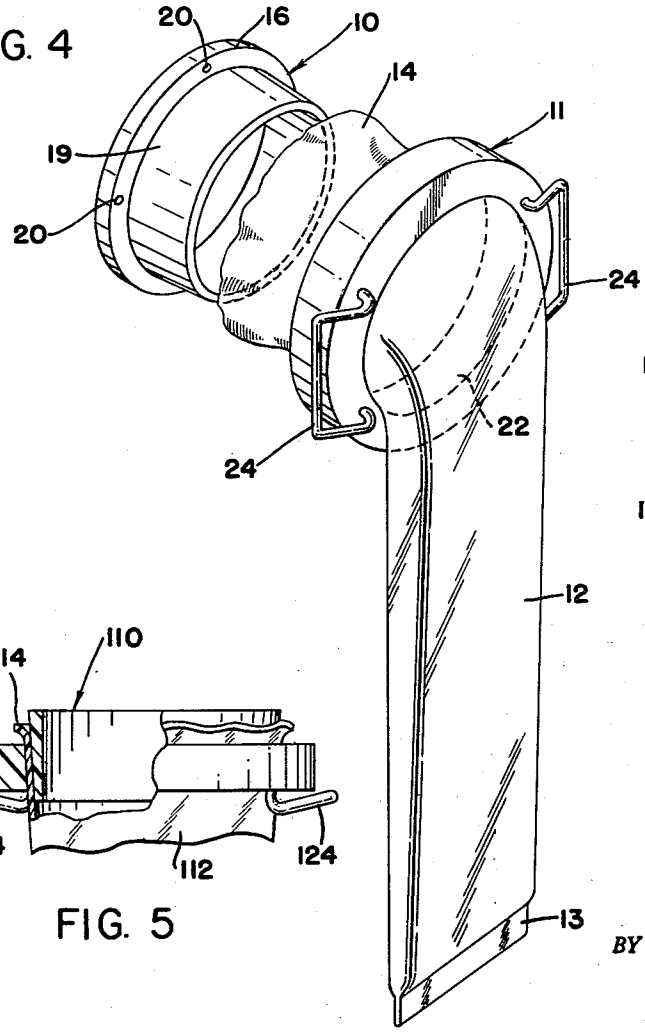


FIG. 4



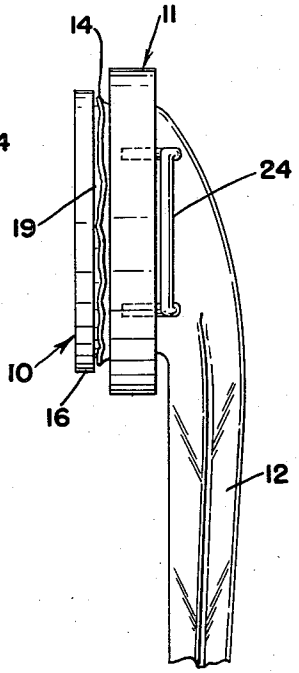


FIG. 3

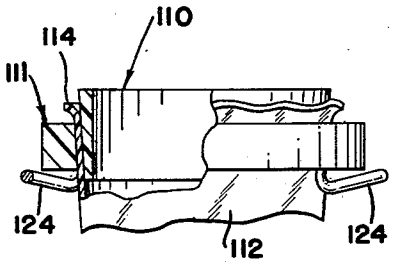


FIG. 5

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United States Patent Office

3,043,306

Patented July 10, 1962

3,043,306

BODY WASTE RECEPTOR APPLIANCE

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Filed Apr. 8, 1959, Ser. No. 804,962
4 Claims. (Cl. 128—283)

The invention relates generally to waste receptors adapted to be worn by a person who has undergone an operation such as a colostomy, ileostomy or nephrostomy, and whose body waste is thereafter discharged through an incision in the abdominal wall sometimes called a rosette.

Prior devices for this purpose have provided means for holding the mouth of a disposable bag over the incision or rosette, but all of such devices of which we are aware have failed to meet one or more of the requirements necessary to provide an effective device capable of being satisfactorily and comfortably worn for substantial periods of time.

The improved device of the present invention is small and compact, comfortable and inconspicuous to wear, provides a seal with the body around the rosette while allowing the skin at the seal to breathe, and provides a positive seal with the mouth of a disposable bag.

An important object of the invention is to provide an improved construction which utilizes the pressure of a body-encircling belt to effect a positive seal between the mouth of a disposable bag and a ring sealing member held against the body.

A further object is to provide a novel bag holding colostomy device in which the bag may be removed and replaced without removing the device from the body.

Other objects are to provide a novel bag holding colostomy device which requires only one supporting belt, which requires no spring clamping means to seal the mouth of the bag, which has all its parts capable of sterilization, and which uses ordinary open-mouth disposable plastic bags.

A still further object is to provide a novel bag holding colostomy device having a sealing ring with an annular body sealing groove on its inner end and a tapered bag-sealing flange on its outer end, and breather holes connecting the sealing groove with the atmosphere.

These and other objects are accomplished by the improvements comprising the present invention, preferred embodiments of which are shown by way of example in the accompaying drawing and hereinafter described in detail. While the best known modes of carrying out the invention are disclosed herein, it will be understood the various modifications and changes in details of construction are comprehended within the scope of the invention as defined in the appended claims.

Referring to the drawing:

FIG. 1 is a perspective view of the improved device as positioned upon the body of a wearer.

FIG. 2 is an enlarged sectional view as on line 2—2 of FIG. 1.

FIG. 3 is a side elevation of the assembled device with the belt removed.

FIG. 4 is an exploded perspective view.

FIG. 5 is a view similar to FIG. 2 of a modification.

The extreme compactness and simplicity of the improved device are apparent from the fact that its parts comprise just two wedge fitting rings, a bag and a belt. The sealing ring 10 and clamping ring 11 may both be made of a suitable rigid plastic material such as Lucite, or other suitable material not corroded or attacked by body fluids, and easily sterilized by washing in soap and hot water. The bag 12 is preferably an ordinary tubular flexible polyethylene bag having one end 13 sealed shut and an open mouth 14 at the other end.

The belt 15 may be of fabric or nylon or any suitable material, preferably a material which is easily cleaned or sterilized.

The sealing ring 10 has a shouldered base portion 16 formed with an annular groove 17 in its end face for contacting the flesh F of the wearer around the rosette 18 through the abdominal wall. From the base portion 16, an annular flange 19 extends outwardly of the body and the outer annular surface of the flange is tapered convergingly on the order of 2° to 10°. Obviously, the diameter of the ring 10 can be varied according to the size of the rosette 18 which it is to surround, and the ring is preferably sized to fit standard sizes of bags 12.

The grooved surface 17 provides for making a tight non-skid sealing contact with the wearer's skin when the ring is gently pressed against the body by the belt 15. However, since the device may be worn over long periods of time, it is desirable to relieve the suction effect within the groove to permit the skin to breathe and prevent the development of sores or skin irritation. To this end a few tiny breather holes 20 are provided in the shouldered portion 16 connecting the groove 17 with the atmosphere outside of the ring 10. These holes 20 do not interfere with the seal between the inner edge of the groove 17 and the body, so that gases within the ring cannot escape, but ordinarily flexing of the body will cause a slight breathing or pulsating effect within the groove 17 and consequent circulation of air through the breather holes 20.

The clamping ring 11 is substantially narrower than the flange portion 19 of ring 10 in a direction axially thereof, and its inner annular surface 22 is tapered to match the outer tapered surface of flange 19 to make a sliding wedge fit therewith. Thus, by forcing the ring 11 inwardly on the flange 19, with the mouth 14 of a snugly fitting bag between the two tapered surfaces, a tight seal is effected between the ring 10 and the mouth of the bag.

At diametrically opposite locations, the clamping ring 11 is provided with U-shaped metal clips 24 having their ends embedded into the material of the ring, and adapted for attachment to the ends of the belt 15. One end of the belt preferably has a hook 25 attached thereto for detachably engaging one of the clips 24, and the other end is attached to the other clip by means of an adjusting loop 26 for adjusting the length of the belt in a usual manner.

When the ends of the belt are attached to the clips 24 as indicated in FIG. 2, the tension of the belt exerts an inward pressure on clamping ring 11 to wedgably clamp the mouth of bag 12 between the matching tapered surfaces of the rings 10 and 11, and tightly seal the mouth of the bag against the escape of liquids or gases. This same inward pressure tightly seals the inner edge of the shouldered portion 16 of ring 10 against the wearer's skin to prevent the escape of liquids or gases at that point, by partially folding the skin into the annular groove 17, wherein the suction effect is relieved by the breather holes 20, as previously described.

In the modified form of device shown in FIG. 5, the sealing ring 110 has no annular shouldered portion with an annular groove contacting the body. The ring 110 has an outer tapered surface matching the inner tapered surface of the clamping ring 111 which is provided with the belt clips 124 so that the mouth 114 of bag 112 is wedgably clamped between the matching tapered surfaces by the tension of the belt.

It will be apparent that the device is so compact as to be comfortable and inconspicuous when worn under clothing, and that the two rings constituting, with the belt, the permanent essential parts of the device are easily dis-

assembled and sterilized. No bacteria-breeding absorbent pads are required.

To apply the improved device, the clamping ring **11** is first slid over the mouth of the bag **12** to a position such as shown in FIG. 4, with the clips **24** toward the sealed end of the bag. Then the small end of the sealing ring **10** is inserted into the mouth of the bag, and the clamping ring pushed firmly toward the shoulder **16** until the mouth of the bag is tightly wedged between the rings. Next the belt **15** is wrapped around the body and, with the ring **10** centered over the rosette, the hook **25** is engaged in the clip **24** opposite to the clip engaged by the loop **26**, the tension of the belt being adjusted to exert a slight amount of inward pressure on the rings **10** and **11**.

The gentle inward pressure of the belt upon the matching tapered surfaces of the sealing and clamping rings insures a positive seal at all times between the bag and the sealing ring and between the sealing ring and the body. However, the bag can easily be removed at any time by pushing outwardly with the fingers on the inner edge of clamping ring **11** at diametrically opposite points to release the mouth of the bag. Thus, the device does not need to be removed from the body to remove and replace the bag.

The improved device provides an extremely simple, compact and inconspicuous body waste receptor for use following colostomy and the like operations, which device is easy, effective and comfortable to use over long periods and adapted for complete cleansing and sterilization before re-use.

What is claimed is:

1. A bag holding body waste receptor appliance adapted to be worn against the body comprising a rigid sealing ring having an inner end face for contacting the body, said end face having an annular groove therein, breather holes connecting said groove with the exterior of said ring, said ring having a tapered annular exterior surface, a rigid clamping ring having an interior matching tapered surface slidably fitted over said tapered exterior surface and adapted by relative movement toward said end face to wedge-clamp the mouth of a flexible bag in sealing engagement with said sealing ring, and means on said clamping ring to attach a body-encircling belt to diametrically opposite portions of said clamping ring to exert said wedge-clamping action on said sealing ring.

2. A bag holding body waste receptor appliance adapted to be worn against the body comprising a rigid sealing ring having an annular shouldered portion with an inner end face for contacting the body, said end face having an annular groove therein, breather holes in said shouldered portion connecting said groove with the exterior of said ring, said ring having a tapered peripheral clamping surface, a rigid clamping ring having an interior matching tapered surface slidably wedge-fitted over said peripheral surface to clamp the mouth of a flexible bag between said rings, and means on said clamping ring to attach a body-encircling belt to diametrically opposite portions of said clamping ring to urge it into wedge-fitting relation with said sealing ring.

3. A bag holding body waste receptor appliance adapted to be worn against the body comprising a rigid sealing ring having an inner end face for contacting the body, said end face having an annular groove therein, breather holes connecting said groove with the exterior of said ring, said ring having a tapered peripheral clamping surface, a rigid clamping ring having an interior matching tapered surface slidably wedge-fitted over said peripheral surface to clamp the mouth of a flexible bag between said rings, and means on said clamping ring to attach a body-encircling belt to diametrically opposite portions of said clamping ring to urge it into wedge-fitting relation with said sealing ring.

4. A bag holding body waste receptor appliance adapted to be worn against the body comprising a rigid sealing ring having an inner end face for contacting the body, breather holes connecting said inner end face with the exterior of said ring, said ring having a tapered annular exterior surface, a rigid clamping ring having an interior matching tapered surface slidably fitted over said tapered exterior surface and adapted by relative movement toward said end face to wedge-clamp the mouth of a flexible bag in sealing engagement with said sealing ring, and means on said clamping ring to attach a body-encircling belt to diametrically opposite portions of said clamping ring to exert said wedge-clamping action on said sealing ring.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,043,306 July 10, 1962

Robert N. Hergatt et al.

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 26, for "ordinarily" read -- ordinary --.

Signed and sealed this 4th day of June 1963.

(SEAL)

Attest:

ERNEST W. SWIDER
Attesting Officer

DAVID L. LADD
Commissioner of Patents