

May 14, 1963

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3,089,493

COLOSTOMY BAG WITH DISPOSABLE LINER

Filed Aug. 12, 1960

2 Sheets-Sheet 1

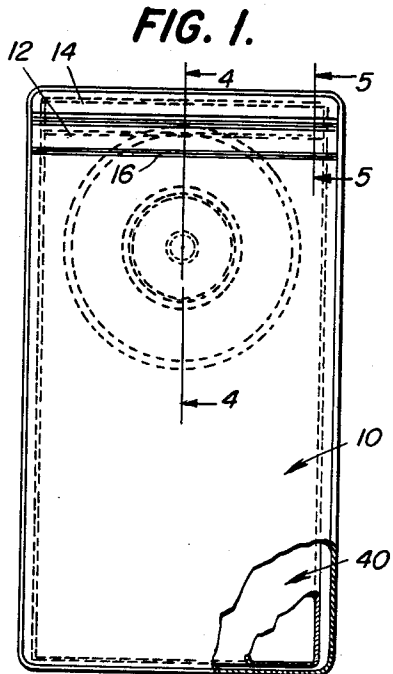


FIG. 1.

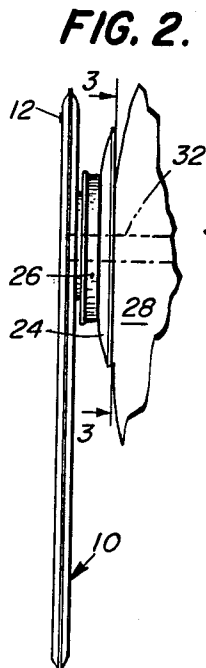


FIG. 2.

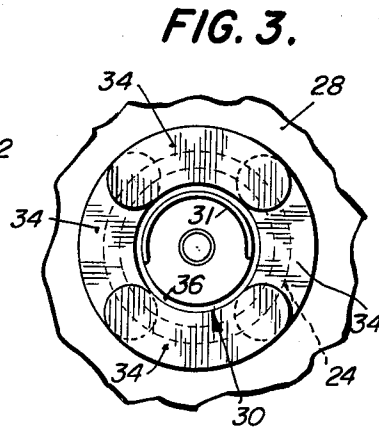


FIG. 3.

FIG. 4.

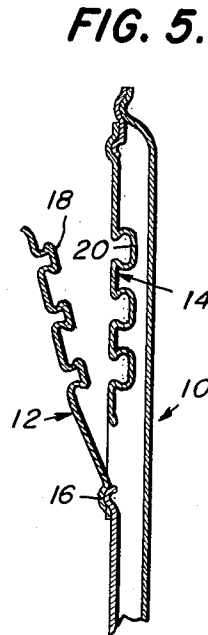
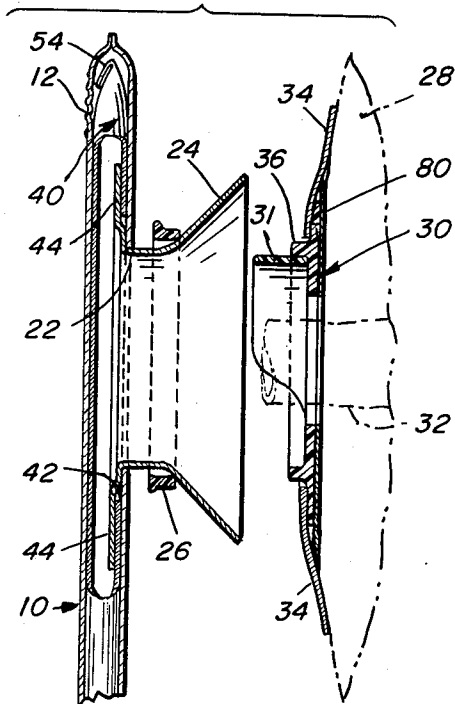


FIG. 5.

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FIG. 6.

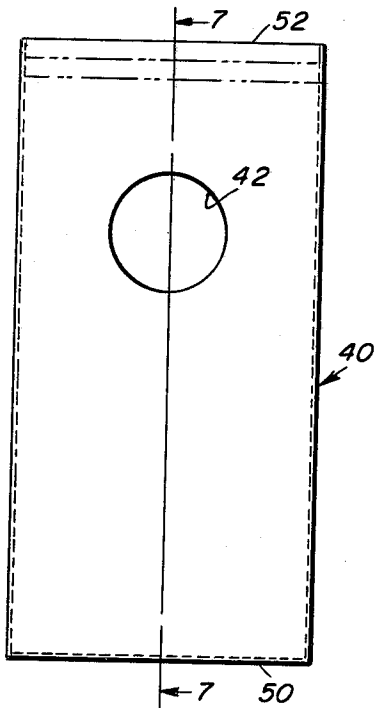


FIG. 7.

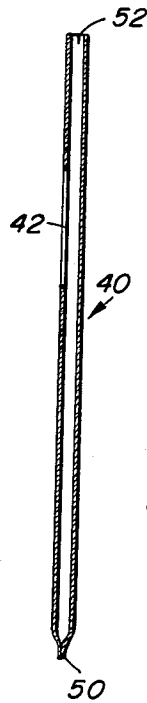


FIG. 8.

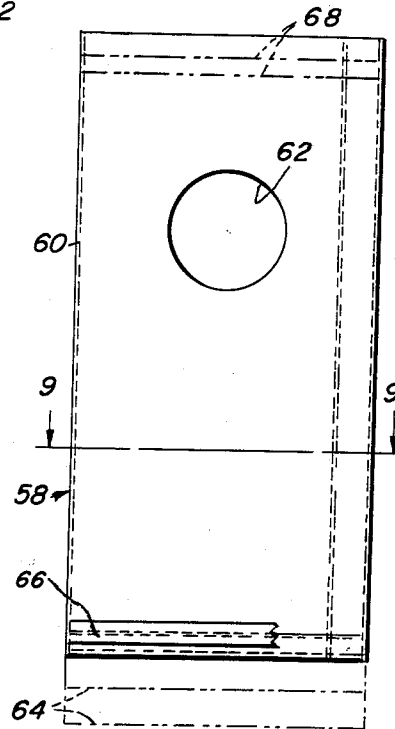


FIG. 10.

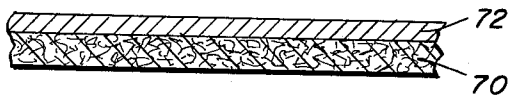


FIG. 9.

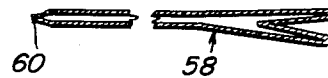
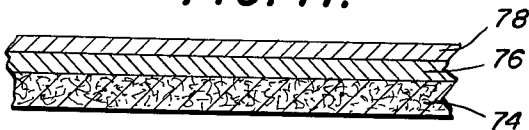


FIG. 11.



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**COLOSTOMY BAG WITH DISPOSABLE LINER**  
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5 Claims. (Cl. 128—283)

This invention relates to a colostomy bag with disposable liner and has for one of its principal objects the provision of a device of the class described, which can be conveniently worn at all times by the user and the contents of which can be readily removed from time to time and disposed of in a toilet or similar device in a very simple manner.

One of the important objects of this invention relates to the provision of a colostomy device which can be held in place on the body in a very comfortable manner with no likelihood of becoming loose or leaking, which is inconspicuous when worn and further affords a high degree of protection.

Another important object of the invention relates to an abdominal appliance which need not be removed from the user's body each time it is emptied or cleaned, but which is capable of being emptied in a very short space of time and with a minimum of expenditure or effort, and furthermore, wherein the contents are always in a disposable bag which presents no problem as far as ordinary toilet facilities are concerned.

Still another important object of the invention relates to a colostomy or similar device which, when worn, provides an air-tight seal so far as the contents are concerned, but which can be readily opened or valved to permit escape of gases which otherwise might accumulate to an objectionable degree.

Yet another object of the invention relates to a colostomy bag with a disposable inner liner which is simple of construction, easy of installation and operation, and the inner liner of which can, whenever desired or necessary, be flushed down an ordinary toilet without danger of blocking the same.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawings and following specification.

The invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:

FIGURE 1 is an elevational view of the improved colostomy appliance of this invention illustrating the outer face thereof when the same is worn, and with parts broken away to show certain interior construction.

FIGURE 2 is a side elevation of the apparatus of FIGURE 1, showing additional essential details.

FIGURE 3 is a partial sectional view taken on the plane of the line 3—3 of FIGURE 2, looking in the direction indicated by the arrows.

FIGURE 4 is an enlarged exploded detailed section, parts being broken away, taken on the line 4—4 of FIGURE 1, looking in the direction indicated.

FIGURE 5 is another enlarged view on the line 5—5 of FIGURE 1, illustrating a simple means for gaining access to the interior of the device and showing the disposable inner lining bag of the colostomy appliance of this invention removed therefrom.

FIGURE 6 is a plan view of the disposable inner bag or liner of the colostomy appliance of this invention.

FIGURE 7 is a sectional view on the line 7—7 of FIGURE 6, looking toward the left.

FIGURE 8 is a view similar to FIGURE 6 illustrating another type of disposable inner bag used in connection with the colostomy appliance of this invention.

FIGURE 9 is an enlarged and fore-shortened section on the line 9—9 of FIGURE 8 illustrating certain details.

FIGURE 10 is a greatly enlarged sectional view of a

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portion of the wall of a disposable bag or inner liner of the colostomy appliance of this invention illustrating essential details.

FIGURE 11 is also an enlarged section similar to FIGURE 10, but illustrating a slightly modified form of the invention.

As shown in the drawings:

The reference numeral 10 indicates generally a waterproof container, preferably of rubber or some suitable plastic, which comprises the main element of the improved colostomy bag of this invention. As shown in FIGURES 4 and 5, the bag consists essentially of two wall portions sealed together completely around their peripheral edges.

Referring now to FIGURE 5, a special easily opened and operated closure element is provided for the bag 10 adjacent its upper outer face. This consists of an insert of some special plastic or similar material and comprises two portions 12 and 14. The portion 12 forms part of the front wall or outer face of the bag 10, being attached thereto in a resilient manner for opening purposes along the line 16 (FIGURE 5). The element 12 has linear protuberances 18 which are integral therewith and which are adapted to fit into juxtaposed or similarly parallel channels 20 formed in the companion portion 14. This is a well-known type of such an easily operable closure means and forms no part of the present invention, except that it enables ready access to the interior of the bag 10, and also furnishes a completely air and liquid type seal when closed.

The bag 10 is provided with a circular inlet opening 22 in its rear wall or inner face and this is equipped with a flexible outer skirt or flange 24 (FIGURE 4), usually of the same material as the bag, and actually sealed thereto in fluid-tight relationship. A resilient plastic ring or the like 26 is adapted to be fitted about this flange 24 when the bag is to be placed in position on the body 28 of a patient or user. In this event, a receiving ring 30 adapted to cooperate with the ring 26 is preliminarily fixed on the patient's body 28 about the exit opening or tube 32, all as best shown in FIGURE 4. This is fastened into position by means of a plurality of arcuate strips 34 (FIGURE 3) and when the ring 26 is seated or fitted on to the protruding flange 36 of the ring 30 with the plastic flange 24 therebetween, a fluid-tight seal results with a very firm connection, whereby there is no possibility of the bag 10 with its contents becoming loose or falling away from its support on the user's body.

The exit tube 32 is adapted to protrude through the opening 22 and extend into the bag 10. In order to protect the end of the exit tube 32 and also to prevent it from becoming blocked by any of the walls of the bag, a hood or shield 31 is provided, as best shown in FIGURES 3 and 4. This is preferably of the same material as the rings 26 and 30, and is usually either integral with the ring 30 or can be fitted therein in any suitable manner as by an adhesive. This hood 31 is shaped as shown in FIGURE 4 and is slightly more than semi-circular, as shown in FIGURE 3, in order to provide a maximum of efficient protective spacing at this critical point.

A disposable inner bag 40 (FIGURES 1 and 6), is adapted to be placed inside the outer main bag or container 10, and this disposable receptacle is provided with an opening 42, which, when properly inserted in the bag 10, will be in alignment with the opening 22 of the bag 10. At this point, and annularly disposed about and fastened to the peripheral opening 22, is an inner skirt or flange 44 of the same material as the bag 10 and the flange 24. When the disposable bag 40 is fitted into the bag 10 through the opening 12—14, the openings 22 and 42 are first aligned and then the flange 44 is pulled in, so as to be inside the opening 42 in the inner receptacle 40, thereby

providing a liquid-proof connection at that point and about the aligned openings 22 and 42.

As best shown in FIGURES 6 and 7, one type of a disposable bag 40 is sealed at its lower end 50, but is open at its upper end 52. However, this inner bag 40 is slightly longer than the main container 10, so that after it has been properly fitted into the outer bag 10, its upper edge can be bent over and folded as best shown at 54 in FIGURE 4. In the event that undesirable gas accumulates in the inner disposable bag 40, this seal at the top can be easily unfolded by gaining access thereto through the lock-joint 12-14 and simply unfolding the same to allow the escape of such gases.

A slightly different type of disposable inner bag is illustrated in FIGURES 8 and 9. This is usually of the same material as the bag of FIGURES 6 and 7, but is constructed of a single sheet of paper, or the like 58, doubled over with an accordion fold, as shown in FIGURE 9, and then sealed along one edge 60. The dimensions are such that it can be easily placed inside the outer main container 10 and this bag is also provided with a circular opening 62 similar in size and location to the opening 42 in the bag 40. As best shown in FIGURE 8, this bag 58 is originally longer than the outer container 10 and the lower end is preliminarily folded at least twice, as shown on the dotted lines 64 in FIGURE 8, and this folded over portion is then sealed by a strip of adhesive tape or similar material 66.

A similar fold is made at the top as shown on the dotted lines 68, this being the same as the fold at the top of the bag 40 (FIGURE 6). The accordion fold in the bag 58, as shown in FIGURE 9, provides for additional expansion which often becomes necessary.

Referring now to FIGURE 10, the nature of the walls of one of the disposable bags 40 is therein disclosed. An outer layer or wall of paper 70 forms the main portion of this disposable bag and this is of a fairly loose construction and comprises a rather readily soluble material, which, when exposed to water, will disintegrate in a fairly short space of time. The inner face of this paper sheet 70 is coated with a rather insoluble material, such as a layer of lacquer or the like 72. The proportions of the layers of material in FIGURE 10 are not in any way accurate because the relative thickness may be varied considerably, depending upon the actual material and the proposed end use.

A slightly different type of disposable inner bag material is shown in enlarged section in FIGURE 11 where an outer sheet of paper 74 is first coated with a lining of some water soluble material, such as glue or gelatin 76, and then an inner face or coating of substantially insoluble lacquer 78 similar to the lacquer 72 of FIGURE 10 is then applied over the water-soluble intermediate liner or coating.

In operation, the plastic bag 10 is more or less permanently affixed to the body 28 of the user, as best shown in FIGURES 2, 3 and 4, and ordinarily need not be removed except at rather infrequent intervals, and even the replacement of the bag is simple because this is accomplished by merely separating the two rings 26 and 30, whereupon the bag 10, with all its contents and appurtenances, readily comes away from the more or less permanently positioned ring 30 with its flange 36 and the fastening means 34. These are used with a special inner lining 80 which further protects the wearer's skin from blistering, peeling and rawness.

In any event, the inner bag 40 can very readily be removed from the outer container 10 by simply reaching in through the sealable and resealable opening 12-14, and pulling out the bag 40. When this, with its contents, is flushed down a toilet, the outer layer of paper 70, being readily soluble in water, will practically immediately dissolve, whereupon, the insoluble coating 72, which ordinarily is relatively thin, and left with no foundation, will simply go to pieces. This completely eliminates any possibility of clogging the toilet or other drain.

With regard to the inner bag construction shown in FIGURE 11, substantially the same action results because a bag composed of this material when placed in a toilet bowl will have its outer layer of paper immediately softened and practically dissolved in a few minutes. Then the inner water-soluble layer 76 will also go into solution in the water and the innermost lining 78 of lacquer, having no foundation and being thin in any event, will disintegrate.

It will be seen that herein is provided a really necessary and extremely convenient colostomy bag which enables the user to more readily dispose of the contents at almost any time with practically no difficulty. Furthermore, the main bag is safe and foolproof, need not be replaced except at long intervals, is very comfortable when worn, will not irritate the skin, and any accumulated gas in the inner container can be readily disposed of in a minimum of time and by very simple operation. The replaceable, disposable and soluble inner bag is relatively cheap, therefore imposing no exorbitant expense or cost so far as the user is concerned.

I am aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention; and I, therefore, do not propose limiting the patent granted hereon otherwise than as necessitated by the prior art.

I claim as my invention:

1. In a colostomy bag, the combination of: a first sealing ring; means adapted to secure said first sealing ring onto the body of the user of said bag; an outer bag having an opening in its rear wall and including an inner skirt and an outer skirt, each of said skirts extending radially outwardly from said opening; a second sealing ring located about said outer skirt and adjacent said opening and closely, removably fitted about said first sealing ring, thereby removably securing said outer skirt therebetween in unitary and fluid tight relationship and holding said outer bag in predetermined position; and a disposable inner bag located within said outer bag and having an inner bag opening, said inner skirt being disposed through said inner bag opening and extending radially from said inner bag opening, said outer bag including a second opening for quickly inserting and removing said inner bag without removing said outer bag from said predetermined position, said outer bag also including means adjacent said second opening to effect fluid tight sealing of said second opening.

2. In a colostomy bag, the combination of: a first sealing ring; means adapted to secure said first sealing ring onto the body of the user of said bag; an outer bag having an opening in its rear wall and including a flexible inner skirt and a flexible outer skirt, each of said skirts extending radially outwardly from said opening; a resilient second sealing ring located about said outer skirt and adjacent said opening and closely, removably fitted about said first sealing ring, thereby removably securing said outer skirt therebetween in unitary and fluid tight relationship and holding said outer bag in predetermined position; and a disposable inner bag located within said outer bag and having an inner bag opening in its rear wall, said inner skirt extending through said inner bag opening into said inner bag and mounting said inner bag, said outer bag including a bag opening for quickly inserting and removing said inner bag without removing said outer bag from said predetermined position, said outer bag also including means adjacent said second opening to effect fluid tight sealing of said second opening.

3. In a colostomy bag, the combination of: a first sealing ring; means adapted to secure said first sealing ring onto the body of the user of said bag; an outer bag having an opening in its rear wall and including a flexible inner skirt and a flexible outer skirt, each of said skirts extending radially outwardly from said opening; a resilient second sealing ring located about said outer skirt and adjacent said opening and closely, removably fitted about

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said first sealing ring, thereby removably securing said outer skirt therebetween in unitary and fluid tight relationship and holding said outer bag in predetermined position; and a disposable inner bag located within said outer bag and having an inner bag opening in its rear wall, said inner skirt extending through said inner bag opening into said inner bag and mounting said inner bag, said inner bag having walls constituted by a relatively thin inner layer of water insoluble material and an outer layer of readily water soluble material whereby said inner layer resists leakage of liquid material from said inner bag to said outer bag and said outer layer disintegrates when said inner bag is removed from said outer bag and immersed in water, said outer bag including a second opening for quickly inserting and removing said inner bag without removing said outer bag from said predetermined position, said outer bag also including means adjacent said second opening to effect fluid tight sealing of said second opening.

4. In a colostomy bag, the combination of: a first sealing ring; means adapted to secure said first sealing ring onto the body of the user of said bag; an outer bag having an opening in its rear wall and including a flexible inner skirt and a flexible outer skirt, each of said skirts extending radially outwardly from said opening; a resilient second sealing ring located about said outer skirt and adjacent said opening and closely, removably fitted about said first sealing ring, thereby securing said outer skirt therebetween in unitary and fluid tight relationship and holding said outer bag in predetermined position; and a disposable inner bag located within said outer bag and having an inner bag opening in its rear wall, said inner skirt extending through said inner bag opening, into said inner bag and mounting said inner bag, said inner bag having walls made of a readily water soluble material and including a relatively thin inner coating of water insoluble material whereby said inner coating resists leakage of liquid material from said inner bag to said outer bag and

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the remaining portion of said inner bag walls disintegrate when said inner bag is removed from said outer bag and immersed in water, said outer bag including a second opening for quickly inserting and removing said inner bag without removing said outer bag from said predetermined position, said outer bag also including means adjacent said second opening to effect fluid tight sealing of said second opening.

5. In a colostomy bag, the combination of: a first sealing element for securement to the body of the user of said bag; an outer bag having an inlet opening in its rear wall and including an integral, flexible skirt extending rearwardly of said inlet opening and radially outwardly therefrom; a resilient second sealing element encompassing said skirt adjacent said inlet opening, and resiliently, removably fitted about said first sealing element and against said skirt, thereby removably securing said skirt therebetween in unitary and fluid tight relationship and holding said outer bag in predetermined position, said outer bag including in its front wall a second opening; and a disposable inner bag within said outer bag and secured thereto adjacent said inlet opening, said inner bag being removable through said second opening without removing said outer bag from said predetermined position, said outer bag also including means adjacent said second opening to effect fluid tight sealing of said second opening.

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