

[54] DISPOSABLE BAGS

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[58] Field of Search 229/62.5, 56; 150/9, 30

[56] **References Cited**

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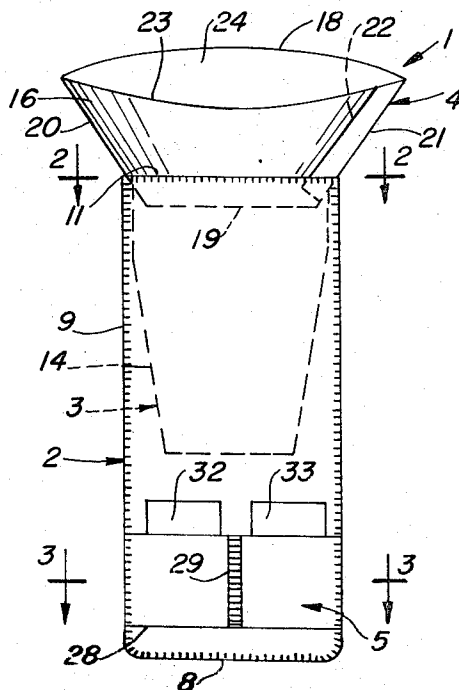
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ABSTRACT

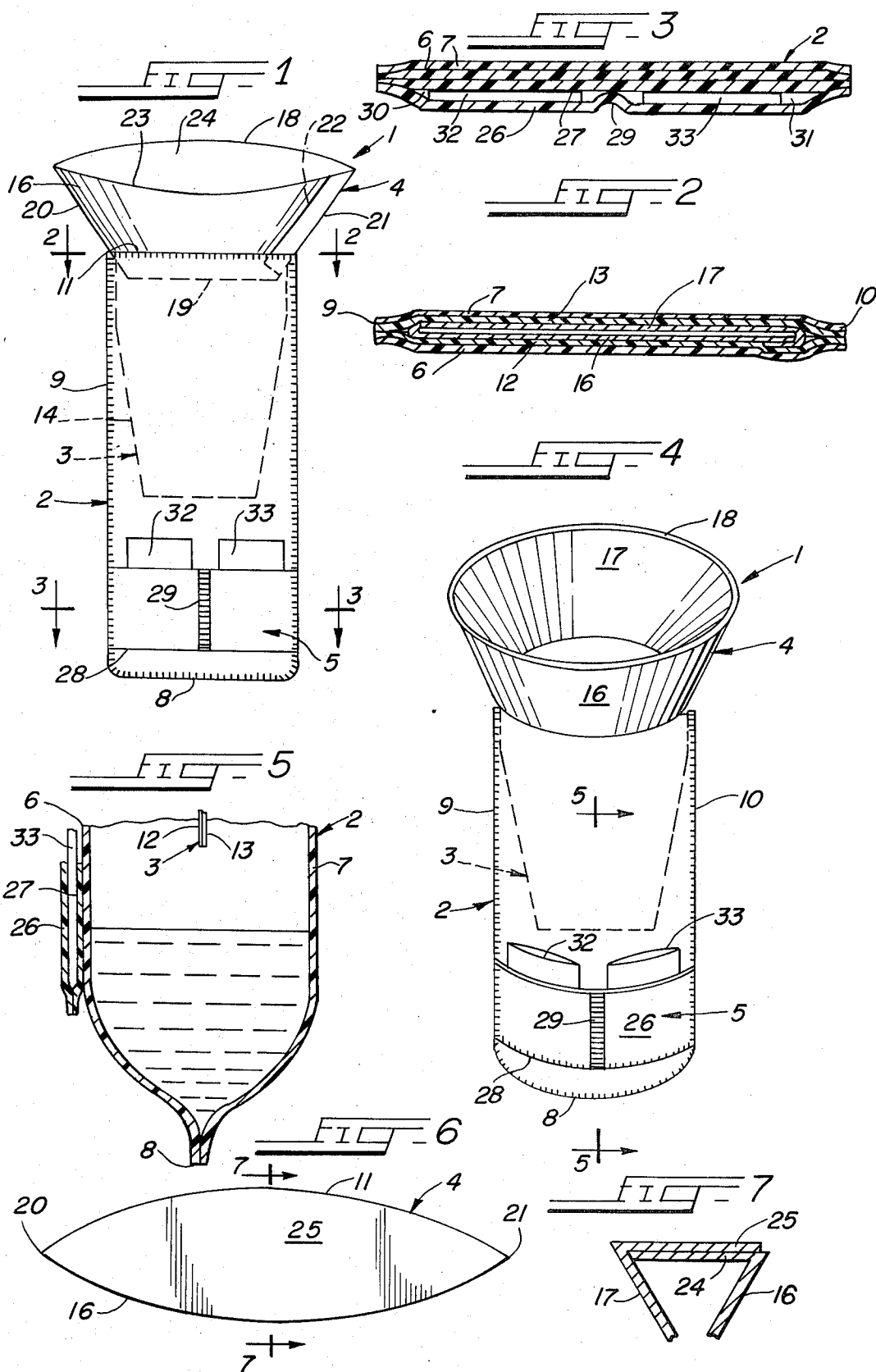
A collapsible, disposable bag for use in sick-rooms, and the like, having a valved construction for preventing reverse flow of material therefrom.

6 Claims, 7 Drawing Figures



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3,797,734



DISPOSABLE BAGS

BACKGROUND OF THE INVENTION

This invention relates to disposable bags, and, more particularly, to collapsible, disposable bags which are particularly well adapted for use in sick-rooms, airplanes, and the like.

It is a primary object of the present invention to afford a novel collapsible, disposable bag.

Another object of the present invention is to afford a novel, collapsible, disposable bag which is particularly well adapted for use in sick-rooms, hospital rooms, airplanes, and the like.

Collapsible, disposable bags for receiving and storing materials, such as, for example, bags of the type shown in U.S. Pat. Nos. 2,966,294, issued to George G. Pelfred on Dec. 27, 1960; 3,144,197, issued to Richard H. Milner on Aug. 11, 1964; 3,189,252, issued to Theodore A. Miller on June 15, 1965; 3,263,903, issued to Robert J. Waller on Aug. 2, 1966; and 3,282,412 and 3,297,152, issued to Arthur P. Corella on Nov. 1, 1966 and Jan. 10, 1967, respectively, have been heretofore known in the art. However, collapsible, disposable bags of the type heretofore known in the art commonly have had several inherent disadvantages, such as, for example, being complicated in construction and operation; being difficult to feed material therein so that they do not effectively protect against spillage or discharge therefrom; being difficult to open; or being complicated and expensive to manufacture, and the like. It is an important object of the present invention to overcome such disadvantages.

Another object of the present invention is to afford a novel, collapsible, disposable bag which is particularly well adapted for use by persons who are sick to their stomach.

An object ancillary to the foregoing is to afford a novel bag of the aforementioned type which may be readily used by such persons, even when they are unskilled in the use thereof.

Yet another object of the present invention is to afford a novel, collapsible, disposable bag which is particularly well adapted for use in receiving and storing vomit, and the like.

A further object of the present invention is to afford a novel, collapsible, disposable bag wherein the parts thereof are constituted and arranged in a novel and expeditious manner which enables the bags to be quickly and easily opened to a wide-open position, when they are to be used for receiving vomit from a person who is sick to his or her stomach, while permitting the bag to initially, automatically, but effectively seal itself against accidental reverse flow of the vomit therefrom, and permitting the bag to thereafter readily be more permanently and effectively sealed against such reverse flow and spillage therefrom.

Another object of the present invention is to afford a novel, collapsible, disposable bag which is practical and efficient in operation and which may be readily and economically produced commercially.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show a preferred embodiment of the present invention and the principles

thereof and what we now consider to be the best mode in which we have contemplated applying these principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

DESCRIPTION OF THE DRAWINGS

10 In the drawings:

FIG. 1 is an elevational view of a bag embodying the principles of the present invention, showing the bag in normal, unused, flat position;

FIG. 2 is a detail sectional view taken substantially along the line 2—2 of FIG. 1;

FIG. 3 is a detail sectional view taken substantially along the line 3—3 of FIG. 1;

FIG. 4 is a perspective view showing the bag in fully opened position;

FIG. 5 is a fragmentary sectional view taken substantially along the line 5—5 in FIG. 4;

FIG. 6 is a top plan view of the upper end of the bag shown in FIG. 1, but showing the top of the bag in the closed position in which it is normally placed after usage; and

FIG. 7 is a fragmentary sectional view taken substantially along the line 7—7 in FIG. 6.

DESCRIPTION OF THE EMBODIMENT SHOWN HEREIN

A collapsible, disposable bag 1, embodying the principles of the present invention is shown in the drawings to illustrate the presently preferred embodiment of the present invention. The bag 1 embodies, in general, an outer body portion 2, an inner body portion 3, an upper end portion 4 and a pocket assembly 5, FIG. 1, as will be discussed in greater detail presently.

The outer body portion 2 of the bag 1 embodies two opposed, elongated, flexible outer side walls 6 and 7, FIGS. 2 and 3, which may be made of any suitable material, such as, for example, a suitable thermoplastic polymer sheet material, such as polyurethane. The walls 6 and 7 are secured together, in liquid-tight relation to each other along their bottom end edges 8 and their longitudinally extending, opposite side edges 9 and 10, to thereby completely close the outer periphery of the outer body portion 2 below the upper edge 11 thereof. The upper edges of the side walls 6 and 7 are left unsecured to each other to thereby afford an entrance opening into the outer body portion 2, for a purpose which will be discussed in greater detail presently.

The inner body portion 3 also embodies two opposed, elongated, flexible side walls 12 and 13, FIGS. 2 and 5, which may be made of any suitable material, such as, for example, a suitable thermoplastic polymer sheet material, such as, the aforementioned polyurethane. The walls 12 and 13 are secured together in liquid-tight relation to each other along their opposite longitudinal edges 14 and 15, the upper and lower edges of the side walls 12 and 13 being unsecured to each other so that the inner body portion 3 is tubular, in form, for a purpose which will be discussed in greater detail presently. In the preferred form of the invention shown herein, the upper end portions of the side edges 14 and 15 of the sheets 12 and 13 are disposed between and secured to the corresponding portions of the side edges 9 and 10 of the sheets 6 and 7, and the portions

of the side edges 14 and 15 disposed therebelow taper downwardly and inwardly toward each other to afford a substantially cone-shaped passageway, which is smaller at its lower end than at its upper end, and which is disposed in upwardly spaced relation to the lower end of the outer body portion 2.

The upper end portion 4 of the bag 1 also embodies two opposed, elongated, flexible side walls 16 and 17, FIG. 2. While the side walls 16 and 17 are flexible, they preferably are substantially more rigid, and of greater thickness than the side walls 6, 7, 12 and 13, and preferably are made of paperboard.

When the bag 1 is disposed in flat position, the longitudinal edges 18 and 19 of the walls 16 and 17 thereof extend transversely to the length of the outer and inner body portions 2 and 3, with the upper longitudinal edges 18 being convex outwardly, or upwardly, as viewed in FIG. 1. The lower edges 19 of the walls 16 and 17 are shorter in length than the upper edges 18 thereof, and the opposite side edges 20 and 21 of the upper end portion 4 slope downwardly and inwardly toward each other from their junction with respective ends of the upper edges 18 to their junction with respective ends of the lower edges 19, FIG. 1.

Preferably, the side walls 16 and 17 are made from one piece of paperboard, and are connected to each other at the side edge 20 thereof along a fold line. At the other side edge 21, the side walls 16 and 17 are secured together in liquid-tight relation to each other by suitable means such as a flap 22 carried by the side wall 17 and adhesively secured to the outer face of the side wall 16, FIG. 1. Each of the side walls 16 and 17 has a score line 23, which is concave inwardly or downwardly, as viewed in FIG. 1, the score lines being disposed in parallel relation to each other, and extending between the upper ends of the side edges 20 and 21, when the side walls 16 and 17 are disposed in the aforementioned flat relation to each other, only the score line 23 on the side wall 16 being shown in FIG. 1.

The lower end portion of the upper end portion 4 of the bag 1 is of such size that it may be inserted downwardly into the common entrance opening afforded by the upper ends of the outer and inner body portions 2 and 3, in close fitting relation thereto. The upper end edges of the side walls 6 and 12 are secured to each other and to the outer face of the side wall 16, and the upper end edges of the side walls 7 and 13 are secured to each other and to the outer face of the side wall 17 by suitable means such as, for example, by heat sealing.

Preferably, when the bag 1 is disposed in normal, stored position, it is disposed in flat position, as shown in FIG. 1. When it is desired to open the bag 1, such as, for example, when a person desires to use the bag 1 as a receptacle into which he or she may vomit, the bag 1 may be quickly and easily opened by pressing the side edges 20 and 21 of the upper end portion 4 thereto inwardly toward each other. Such pressure on the side edges 20 and 21 may be continued until the upper end portion 4 is disposed in fully open position, wherein it preferably is substantially circular in transverse cross section, and affords a substantially cone-shaped opening for the bag 1, in the form of a funnel which tapers downwardly and inwardly to the common entrance opening between the side walls 6 and 7 of the outer body portion 2 and the side walls 12 and 13 of the inner body portion 3, FIG. 4.

With the bag 1 thus in open position, when material is fed into the upper end of the upper end portion 4 thereof, the material passes downwardly through the upper end portion 4 into the upper end portion of the inner body portion 3, from which it passes downwardly through the tubular-shaped inner body portion 3 into the lower end portion of the outer body portion 2. While the side walls 12 and 13 of the inner body portion 3 are normally disposed in juxtaposition to each other, they may open outwardly relative to each other to permit the passage of such material from the upper end edges thereof when the latter have been opened by the funnel 4. However, after the material has passed downwardly through the inner body portion 3, into the outer body portion 2, the natural resilience of the side walls 12 and 13 causes them to again move into juxtaposition to each other, below the upper end portion 4 of the bag 1, to afford an effective valve member for preventing reverse flow or discharge from the outer body portion 2 upwardly through the inner body portion 3.

After the bag 1 has thus been used to receive material therein, the upper edge portion 24 of the upper end portion 4 of the bag 1, above the score line 23, may be folded inwardly toward the side wall 17, and the upper edge portion 25 of the side wall 17, above the score line therein, not shown, may be folded over the outer face of the upper edge portion 24, as shown in FIG. 7, to thereby afford an effective closure for the upper end of the bag 1. The thus closed bag 1 affords an effective closed container for storing the material in the outer body portion 2, outwardly of the inner body portion 3, as shown in FIG. 5, until the bag 1, with the material therein, is to be disposed of, such as, for example, by depositing the same in a suitable receptacle.

The pocket assembly 5, FIGS. 1, 4 and 5, comprises two opposed, elongated flexible strips 26 and 27, made of a suitable material such as, for example, a thermoplastic polymer sheet material, such as, polyurethane. The strips 26 and 27 are secured together at their opposite ends, and to the opposite side edges 9 and 10 of the outer face of the side wall 6 of the outer body portion 2 by suitable means such as, for example, the aforementioned heat sealing. The lower edges 28 of the strips 26 and 27 are secured together in liquid-tight relation to each other by suitable means such as the aforementioned heat sealing, and preferably are secured together along a line, such as the line 29, FIG. 1, disposed intermediate the ends thereof to afford two pockets 30 and 31, FIG. 3, into which material, such as, for example, a stick of gum 32 and a towel or napkin 33 may be disposed, so as to be readily accessible for use by the person using the bag 1, after it has been closed in the aforementioned manner.

With the bag 1 constructed in the aforementioned manner, it will be seen that it affords a compact unit which may be stored, in unused condition, in a relatively small space, and in a location in a room or airplane, or the like, wherein it is relatively readily accessible for emergency use.

Also, it will be seen that it affords a bag which may be quickly and easily opened for use, and which is effective to automatically afford a temporary seal against reverse flow therefrom, and the top of which may be quickly and easily manually closed, after the bag has been used.

Also, it will be seen that the bag 1 disclosed herein affords a compact, relatively complete kit, which not only affords a receptacle into which a person, who is sick, may vomit, but also embodies a construction which enables material to be afforded in a readily accessible manner, which may be used for "freshening up," and the like.

Also, it will be seen that the present invention affords a novel bag of the aforementioned type which is practical and efficient in operation, and which may be readily and economically produced commercially.

Thus, while we have illustrated and described the preferred embodiment of our invention, it is to be understood that this is capable of variation and modification, and we therefore do not wish to be limited to the precise details set forth, but desire to avail ourselves of such changes and alterations as fall within the purview of the following claims.

We claim:

1. A collapsible disposable bag for sick-room usage or the like, comprising
 - a. a pair of opposed, flexible outer walls
 1. secured together around the major portion of their outer peripheral edges in liquid-tight relation to each other, and
 2. the remainder of said peripheral edges defining an entrance opening,
 - b. a pair of opposed, flexible inner walls
 1. secured together along spaced opposite edges in liquid-tight relation to each other, and
 2. having
 - a. lower edges defining an opening therebetween, and
 - b. upper edges defining an opening therebetween,
 - c. said upper edges of said inner walls being secured to the inner faces of said remainder edges of respective ones of said outer walls to afford a common entrance opening into said pair of inner walls and into said pair of outer walls, and
 - d. a tubular member secured to said upper edges and to said remainder edges for feeding material into said common entrance opening,
 - e. said inner walls
 1. having a normal position wherein they are
 - a. substantially flat, and
 - b. disposed in juxtaposition to each other, and
 2. being movable to an actuated position wherein they are separated from each other for permitting the passage of material therebetween, and
 - f. said outer walls
 1. having a normal position wherein
 - a. they are substantially flat,
 - b. portions thereof are disposed in juxtaposition to respective ones of said inner walls, and
 - c. other portions thereof are disposed in juxtaposition to each other, and
 2. being movable to an actuated position wherein they are separated from each other for receiving material from said first mentioned opening between said inner walls,
 - g. said tubular member comprising two opposed flexible walls
 1. having a normal position wherein they are
 - a. substantially flat, and
 - b. disposed in juxtaposition to each other, and

2. which are movable outwardly away from each other into an actuated position wherein they define a passageway for feeding material into said common entrance opening for passage between said inner walls,
 - h. said walls of said tubular member, when they are disposed in said actuated position, defining the outer periphery of a funnel which is substantially cone-shaped and tapers inwardly toward said common entrance opening,
 - i. said funnel having
 1. a lower edge secured to said inner and outer walls at said common entrance opening, and
 2. an upper edge disposed in spaced relation to said last mentioned lower edge,
 - j. said upper edge of said funnel being convex-outwardly when said walls of said funnel are disposed in said normal position.
2. A collapsible disposable bag as defined in claim 1, and in which
- a. each of said walls of said funnel has a convex-inwardly score line extending between the outer corners thereof when said walls of said funnel are disposed in said normal position, and
 - b. the portions of said walls of said funnel are movable on said score lines into overlapping relation to each other in position wherein they extend transversely to the remainder of said funnel for closing the top of said bag.
3. A collapsible disposable bag for sick-room usage or the like, comprising
- a. a pair of opposed, flexible outer walls
 1. secured together around the major portion of their outer peripheral edges in liquid-tight relation to each other, and
 2. the remainder of said peripheral edges defining an entrance opening,
 - b. a pair of opposed, flexible inner walls
 1. secured together along spaced opposite edges in liquid-tight relation to each other, and
 2. having
 - a. lower edges defining an opening therebetween, and
 - b. upper edges defining an opening therebetween,
 - c. said upper edges of said inner walls being secured to the inner faces of said remainder edges of respective ones of said outer walls to afford a common entrance opening into said pair of inner walls and into said pair of outer walls,
 - d. a tubular member secured to said upper edges and to said remainder edges for feeding material into said common entrance opening, and
 - e. two elongated strips of flexible material
 1. extending across the outer face of one of said outer side walls,
 2. having their ends secured together and to respective opposite side edges of said one outer side wall, and
 3. being secured together along the longitudinal edges thereof remote from said tubular member.
4. A collapsible disposable bag as defined in claim 3, and in which
- a. said strips are formed from thermoplastic polymer sheet material.
5. A collapsible disposable bag for sick-room usage or the like, comprising

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- a. a pair of opposed, flexible outer walls
 - 1. secured together around the major portion of their outer peripheral edges in liquid-tight relation to each other, and
 - 2. the remainder of said peripheral edges defining an entrance opening,
- b. a pair of opposed, flexible inner walls
 - 1. secured together along spaced opposite edges in liquid-tight relation to each other, and
 - 2. having
 - a. lower edges defining an opening therebetween, and
 - b. upper edges defining an opening therebetween,
- c. said upper edges of said inner walls being secured to the inner faces of said remainder edges of respective ones of said outer walls to afford a common entrance opening into said pair of inner walls and into said pair of outer walls, and
- d. a tubular member secured to said upper edges and to said remainder edges for feeding material into said common entrance opening,
- e. said inner walls
 - 1. having a normal position wherein they are
 - a. substantially flat, and
 - b. disposed in juxtaposition to each other, and
 - 2. being movable to an actuated position wherein they are separated from each other for permit-

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- ting the passage of material therebetween, and
- f. said outer walls
 - 1. having a normal position wherein
 - (a) they are substantially flat,
 - (b) portions thereof are disposed in juxtaposition to respective ones of said inner walls, and
 - (c) other portions thereof are disposed in juxtaposition to each other, and
 - 2. being movable to an actuated position wherein they are separated from each other by receiving material from said first mentioned opening between said inner walls,
- g. said tubular member comprising two opposed flexible walls
 - 1. having a normal position wherein they are
 - a. substantially flat, and
 - b. disposed in juxtaposition to each other, and
 - 2. which, by pressing opposite sides of said tubular member toward each other, are movable outwardly away from each other into an actuated position wherein they define a passageway for feeding material into said common entrance opening for passage between said inner walls.
- 6. A collapsible disposable bag as defined in claim 5 and in which
 - a. said tubular member is formed from paperboard.

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