United States Patent [19]

Montgomery

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[45] **Jan. 1, 1974**

[54] **PLASTIC BAGS**

[75] Inventor: **Ray E. Montgomery,** Terre Haute, Ind.

[73] Assignee: **Bemis Company, Inc.,** Minneapolis, Minn.

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[21] Appl. No.: **187,943**

[52] **U.S. Cl.** ..... **229/54 R,** 156/202, 150/7

[51] **Int. Cl.** **B65d 33/08**

[58] **Field of Search** 156/202; 161/99, 161/104, 106; 150/7; 229/52, 54, 53

[56] **References Cited**

UNITED STATES PATENTS

3,596,824	8/1971	Lehmacher	229/54 R
3,548,723	12/1970	Sengewald	229/54 R X
2,709,467	5/1955	Hoeppner	150/7
3,429,497	2/1969	Dorfman	229/54 R
R26,075	9/1966	Canno	156/202

FOREIGN PATENTS OR APPLICATIONS

1,470,957	1/1967	France	229/54 R

Primary Examiner—Davis T. Moorhead
Attorney—Irving Powers et al.

[57] **ABSTRACT**

A plastic bag having a front wall and a back wall joined at the bottom, heat-sealed together at the sides, and open at the mouth, having a closure flap folded down at the bag mouth and heat-sealed at its ends together with the bag side seals. Finger hole means is provided in each of the front wall, the back wall and the closure flap whereby the bag may be carried by the hand with the fingers of the hand extending through all three of said front wall, back wall and closure flap. Also disclosed is a hem at the mouth of the bag receiving a stiffener extending transversely of the bag. The stiffener may have a hook for hanging the bag, or holes may be provided in the bag walls and closure flap for hanging the bag.

3 Claims, 12 Drawing Figures

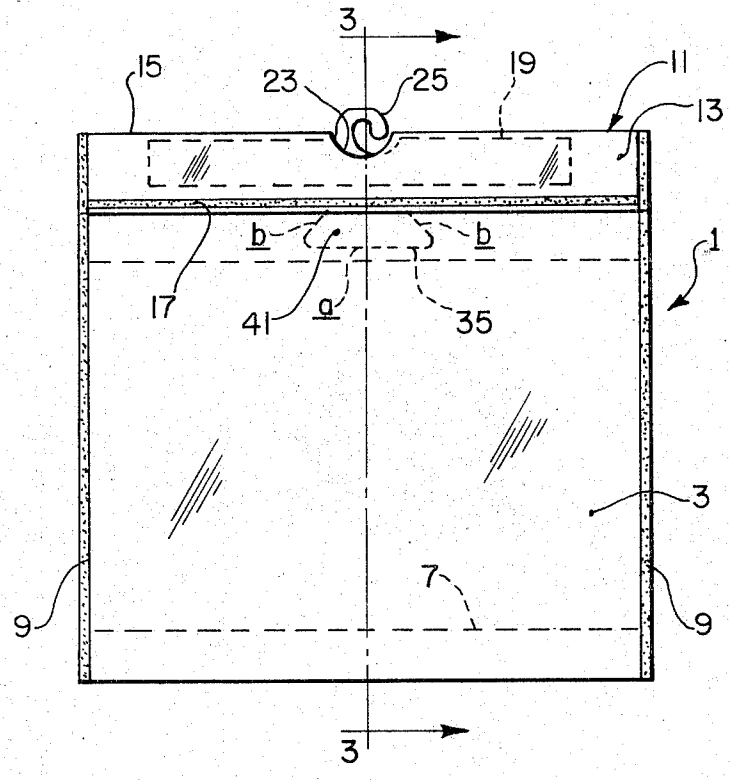


FIG. 1

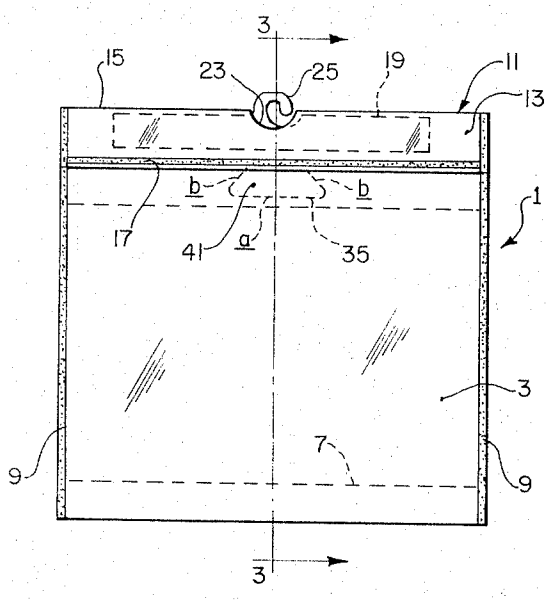


FIG. 2

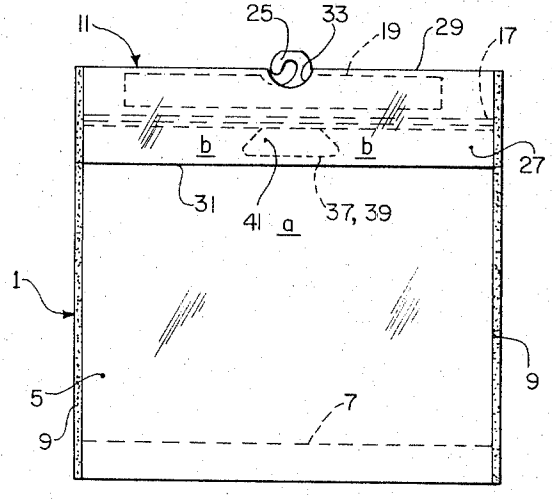


FIG. 3

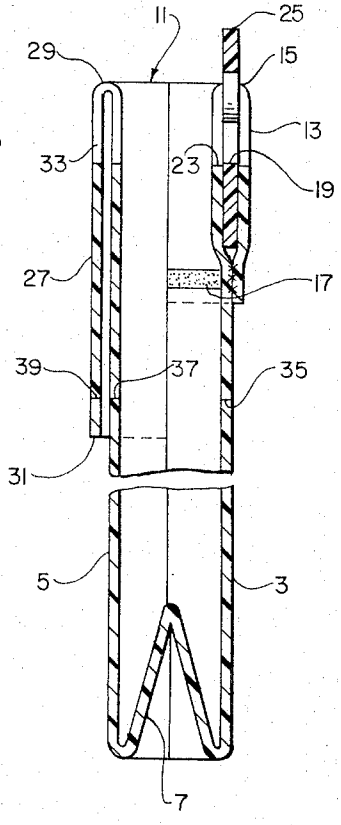


FIG. 4

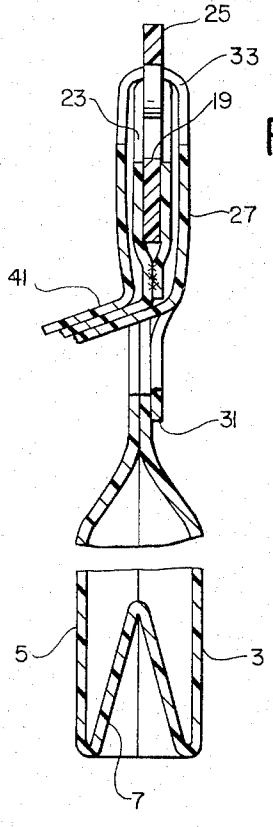


FIG. 5

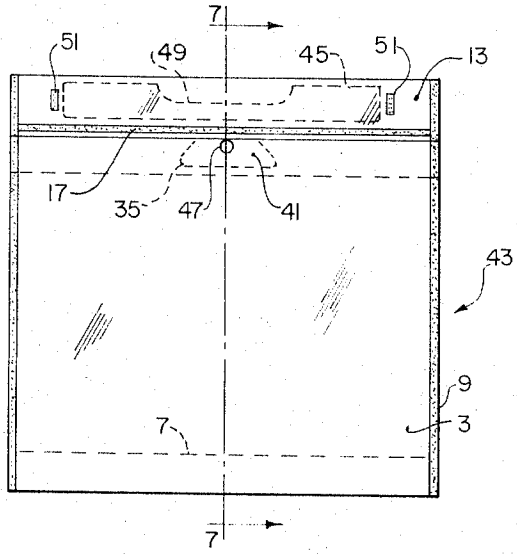


FIG. 6

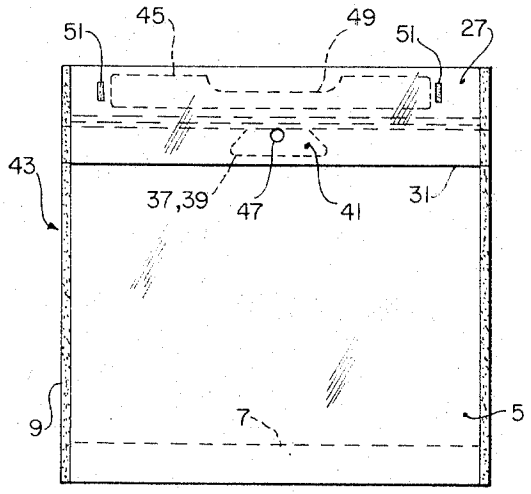


FIG. 7

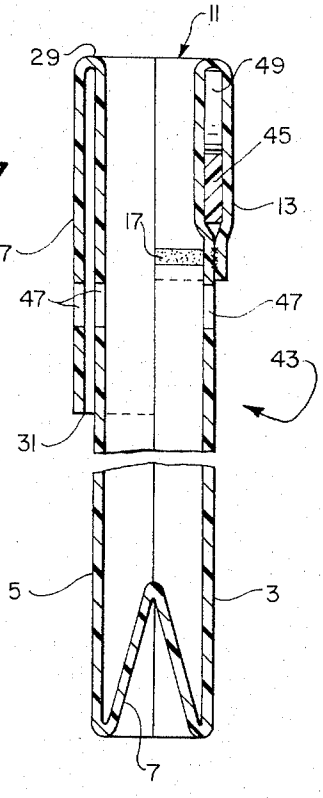


FIG. 8

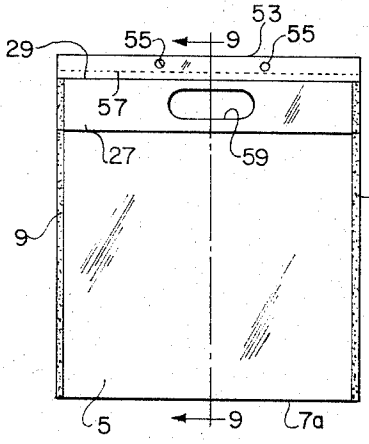


FIG. 9

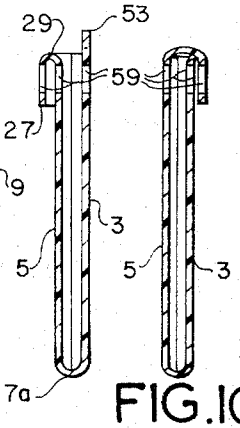


FIG. 10

FIG. 11

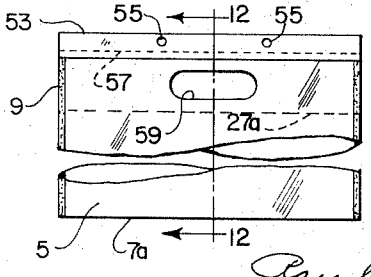
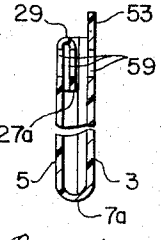


FIG. 12



Ray E. Montgomery,
Inventor.
Koenig, Senniger,
Powers and Leavitt,
Attorneys.

PLASTIC BAGS

BACKGROUND OF THE INVENTION

This invention relates to bags, and more particularly to a plastic bag having a handle feature for carrying the bag, and a hanger feature for hanging the bag.

The invention is especially concerned with plastic bags generally in the same field as the bags shown in U.S. Pat. Nos. Re. 26,075, 2,709,467, 2,878,849, 3,249,285 and 3,462,069, for example.

SUMMARY OF THE INVENTION

Among the several objects of the invention may be noted the provision of a plastic bag such as above-described with a closure of the type such as shown in the coassigned U.S. Pat. No. 2,709,467, for example, and a handle feature for carrying the closed bag (with its contents); the provision of such a bag with a hanger feature; and the provision of such a bag which is economical to manufacture.

Generally, a bag made in accordance with this invention is made of flexible heat-sealable sheet plastic material and has first and second walls joined at the bottom and heat-sealed together at the sides of the bag, being open at its mouth. The first of the walls has an upper end portion constituting a closure flap adjacent the mouth of the bag folded over on a fold constituting the mouth edge of said wall and extending down toward the bottom of the bag, the ends of the flap being heat-sealed together with the bag side seals. The first and second walls and the closure flap each have finger hole means therein whereby the bag may be carried by the hand with the fingers of the hand extending through all three of the first wall, the second wall and the closure flap. A hem may be provided at the mouth of the bag, and a stiffener provided in the hem extending transversely of the bag.

Other objects and features will be in part apparent and in part pointed out hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view in elevation of one face of a bag made in accordance with this invention with a stiffener;

FIG. 2 is a view of the other face of the bag, showing a closure flap of the bag in its open position;

FIG. 3 is an enlarged vertical section on line 3—3 of FIG. 1 with parts broken away and thicknesses exaggerated, showing the closure flap open;

FIG. 4 is a view similar to FIG. 3 showing the closure flap closed and certain handle flaps punched out;

FIG. 5 is a view similar to FIG. 1 showing a modification;

FIG. 6 is a view similar to FIG. 2 showing the FIG. 5 modification;

FIG. 7 is an enlarged vertical section on line 7—7 of FIG. 5 with thicknesses exaggerated;

FIG. 8 is a view in elevation of a modification without a stiffener;

FIG. 9 is a section on line 9—9 of FIG. 8;

FIG. 10 is a view similar to FIG. 9 showing a closure flap of the bag closed;

FIG. 11 is a view in elevation of another modification without a stiffener; and

FIG. 12 is a section on line 12—12 of FIG. 11.

Corresponding reference characters indicate corresponding parts throughout the several views of the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. 1–4, there is generally indicated at 1 a bag made in accordance with this invention of flexible heat-sealable sheet material, such as polyethylene or polypropylene, having walls 3 and 5 joined at the bottom by an integral gusset 7, heat-sealed together at the sides as indicated at 9, and being open at its mouth, generally indicated at 11. For convenience, wall 3 may be referred to as the front wall and wall 5 as the back wall of the bag. The front wall 3 has an upper end portion or hem 13 adjacent the mouth of the bag folded over upon the outside of wall 3 on a fold 15 constituting the mouth edge of wall 3, this hem extending from side edge to side edge of the bag and being heat-sealed to the wall 3 along line 17 spaced downwardly from the fold 15. A stiffener 19 extends transversely of the bag in the space between hem 13 and wall 3 and between the fold 15 and the hem seal 17. This stiffener consists of an elongate strip of relatively thick, stiff plastic such as polyethylene having a length substantially less than the width of the bag. The end edges of the hem 13 are heat-sealed to the wall 3 (and wall 5) along upper portions of the bag side seals 9. The fold 15 is provided with a slit 23 at the center of the bag width, and the stiffener 19 has an integral hanger hook 25 at the center of its length extending upwardly out of the hem through this slit. This hook is provided for hanging the bag on a peg of a rack or the like. The hook 25 protruding through the slit 23 holds the stiffener generally centered within hem 13.

The back wall 5 has an upper end portion 27 constituting a closure flap adjacent the mouth of the bag folded over on a fold line 29 constituting the mouth edge of wall 5 upon the outside of wall 5. Fold line 29 is at the same level as fold line 15. The width of this closure flap 27 (its dimension endwise of the bag) is considerably greater than the width of the hem 13. It is heat-sealed at its end edges to the wall 5 (and wall 3) coincident with the heat-sealing together at 9 of the walls 3 and 5 at the sides of the bag. This flap 27 is like the closure flap shown in U.S. Pat. No. 2,709,467; its lower edge 31 is free of wall 5 and it is adapted to be folded over the mouth edge 15 of wall 3 (after insertion in the bag of its contents) to overlie the outside of wall 3 to close the bag mouth 11 as shown in FIG. 4. To accommodate the hook 25, the flap 27 and wall 5 are notched as indicated at 33 at the center of the mouth edge 29 of wall 5. When flap 27 is folded over on the outside of wall 3, hook 25 passes through the opening provided by the notch 33, as shown in FIG. 4.

Further in accordance with this invention, the front wall 3 of the bag is provided with a line of weakness 35, e.g., a line of perforations, defining a section adapted to be pushed out of wall 3 to provide a hole in wall 3 for the four fingers of the hand located generally centrally of the width of the bag and immediately below the hem seal 17. The other wall 5 and the closure flap 27 each have corresponding lines of weakness 37 and 39 (e.g., lines of perforations) generally in register with each other and with the line 35 to provide finger holes in wall 5 and flap 27 registering with the finger hole in wall 3 when the closure flap is in either its open (FIG. 3) position or closed (FIG. 4) position. Each of the lines of weakness 35, 37 and 39 comprises a section *a* extending transversely of the bag having a length ap-

proximating the combined width of the four fingers of the hand, and end sections *b* extending up from the ends of section *a* inclined toward one another, these sections defining a tongue **41** adapted to be punched out or pushed out of the respective wall **3** or **5** or flap **27** to form the finger hole. The upper ends of tongues **41** are just below the level of the hem seal **17**; thus the finger holes provided when the tongues are punched out are just below the stiffener **19** so that it serves as a relatively rigid carrying handle.

FIGS. **5–7** illustrate a modification designated in its entirety by the reference numeral **43** using a stiffener without a hook, the stiffener here being designated **45** to distinguish it from the stiffener **19.** In this case, there is no necessity for slit **23** and notch **33.** Provision is made for hanging the bag **43** on a peg on a rack, or the like, by providing a hole **47** through wall **3,** wall **5** and the closure flap **27** immediately below the level of the hem seal **17** at the center of the width of the bag. As shown, this hole extends through the base portion of the tongues **41** defined by the lines of perforations. The stiffener **45** may be provided with an indent in its upper edge as indicated at **49** for facilitating the gripping of the bag by the hand. Stiffener **45** is held centered in hem **13** by means of heat seals such as indicated at **51** between the hem **13** and front wall **3** adjacent the ends of the stiffener.

FIGS. **8–10** illustrate a modification having walls **3** and **5** shown as joined at the bottom by a fold **7***a*, heat-sealed together at the sides as indicated at **9,** and open at the mouth. Wall **5,** which may here be referred to as the first wall, has closure flap **27** (as before) adjacent the mouth of the bag folded over on the fold **29** constituting the mouth edge of wall and extending down toward the bottom of the bag on the outside of wall **5.** The ends of the flap are heat-sealed together with the bag side seals **9.** Wall **3,** which may here be referred to as the second wall, has an extension **53** above the level of the fold **29** with holes **55** therein for a wicket and a transverse line of perforations **57** for tearing off the bag proper from the extension. In accordance with this invention, each of walls **3** and **5** and flap **27** has a finger hole **59** therein (accommodating the four fingers of the hand). The three finger holes are generally in register when the flap **27** is in its open position as shown in FIGS. **8** and **9,** and also when the flap **27** is folded over, after the bag is torn away from extension **53,** to close the bag as shown in FIG. **10.**

FIGS. **11** and **12** show a modification of FIGS. **8–10** wherein the closure flap, designated **27***a* to distinguish it from flap **27,** is folded down on the inside of wall **5** rather than on the outside thereof. Otherwise the bag shown in FIGS. **11** and **12** is essentially the same as the bag shown in FIG. **8–10.**

It is further contemplated that the finger hole means may be constituted by tongues like **41** each initially partially cut out and partially connected to the walls **3** and **5** and flap **27,** respectively. Also, the ends of the tongues **41** may be made of semicircular form (similar to the ends of the finger holes **59**).

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A bag made of flexible heat-sealable sheet plastic material, said bag having first and second walls joined at the bottom and heat-sealed together at the sides of the bag and being open at its mouth, the first of said walls having an upper end portion constituting a closure flap adjacent the mouth of the bag folded over on a fold constituting the mouth edge of said wall and extending down toward the bottom of the bag on one face of said first wall in an open position permitting access to the bag, said closure flap being adapted to be disposed in a closed position closing the mouth of the bag extending down on the outside of said second wall, the ends of said flap being heat-sealed together with the bag side seals, said walls and said closure flap each having finger hole means therein which register when the closure flap is in its closed as well as its open position whereby the bag may be carried by the hand with the fingers of the hand extending through all three of said first wall, said second wall and said closure flap, the closure flap in its open position extending down on the outside of said first wall, and being adapted to be folded over the mouth edge of the second wall to overlie the bag mouth to close the bag mouth and to extend down on the outside of the second wall, the finger hole means in said flap registering with the finger hole means in the first and second walls when the flap is folded over, said second wall having a hem at its upper end and a stiffener extending transversely of the bag in the hem, said hem having a slit and said stiffener having a hanger extending through said slit, said first wall and said flap being notched to receive said hanger when the closure flap is folded over.

2. A bag made of flexible heat-sealable sheet plastic material, said bag having a front wall and a back wall joined at the bottom and heat-sealed together at the sides of the bag and being open at its mouth, one of said walls having an upper end portion adjacent the mouth of the bag folded over upon the said one wall on a fold constituting the mouth edge of said one wall and heat-sealed to said one wall along a line spaced downwardly from said fold to form a hem, a stiffener extending transversely of the bag in said hem, the other of said walls having an upper end portion constituting a closure flap adjacent the mouth of the bag folded over upon the said other wall on a fold constituting the mouth edge of said other wall, said closure flap being folded over on the outside of said other wall and heat-sealed at its ends to said other wall coincident with the heat-sealing together of the walls at the sides of the bag, said flap being adapted to be folded over the mouth edge of the said one wall to overlie the outside of the said one wall thereby to close the bag mouth, said one wall of the bag having a line of weakness therein defining a section adapted to be pushed out of said one wall to provide a finger hole in said one wall located generally centrally of its width and immediately below the hem seal, the other wall and said closure flap each having a corresponding line of weakness generally in register with said first-mentioned line of weakness to provide finger holes in said closure flap and said other wall registering with the finger hole in said one wall when the closure flap is in either its open or closed position, the width of said closure flap being substantially greater than the width of said hem, and the mouth edge of said one wall having a slit therein and said stiffener having means substantially at the center of its length extending out of the hem through said slit for hanging said bag.

3. A bag as set forth in claim **2** wherein said other wall and said closure flap are notched for receiving said hanging means when thee closure flap is closed.

* * * * *