United States Patent

Meyer

[15] **3,653,583**

[45] **Apr. 4, 1972**

[54] DRAWCORD BAG

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[22] Filed: **Sept. 14, 1970**

[21] Appl. No.: **71,885**

[52] **U.S. Cl.** .....**229/54 C**, 150/11, 229/63

[51] **Int. Cl.** **B65d 33/12**, B65d 33/28

[58] **Field of Search** .....150/11; 229/54 R, 54 C, 63

[56] **References Cited**

UNITED STATES PATENTS

3,013,597 12/1961 Moran 150/11

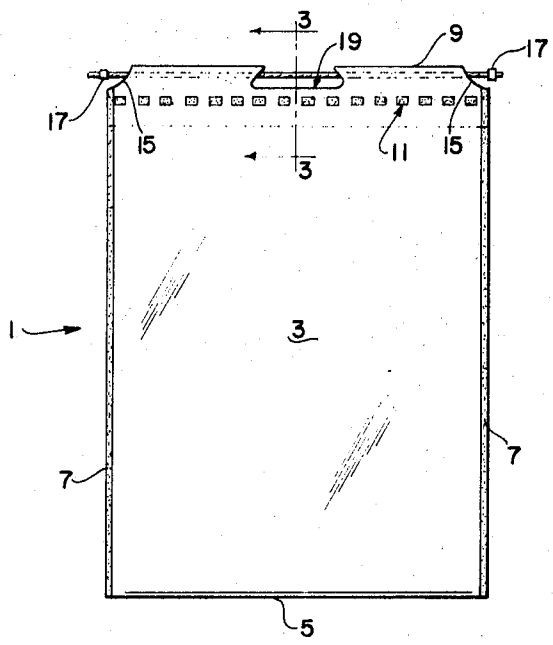
Primary Examiner—Donald F. Norton

Attorney—Koenig, Senniger, Powers and Leavitt

[57] **ABSTRACT**

A drawcord bag made of plastic in which drawcords extend through hems at the mouth end of the bag with a special feature for preventing the drawcords from splitting the hems when they are used for carrying the bag.

5 Claims, 7 Drawing Figures



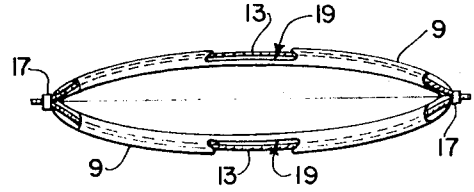


FIG.2

FIG.3

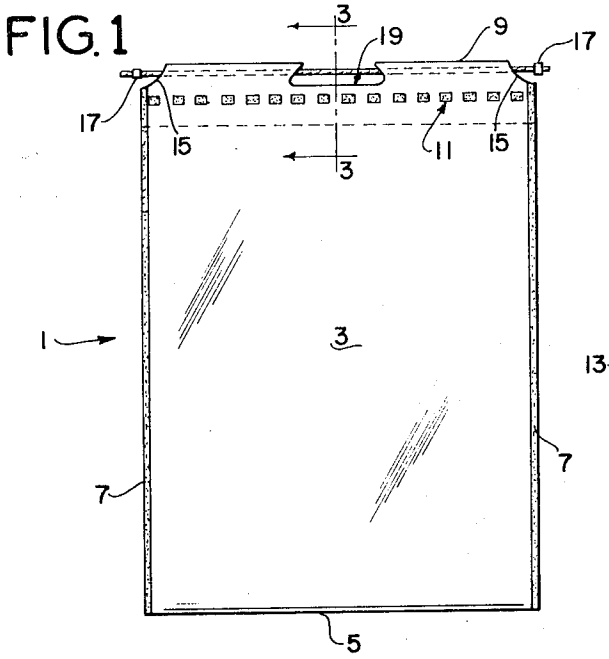
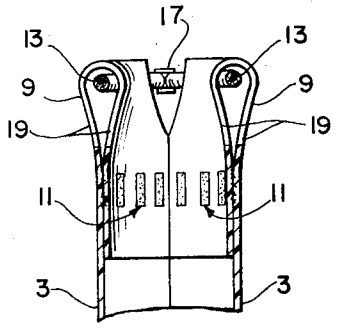


FIG.1



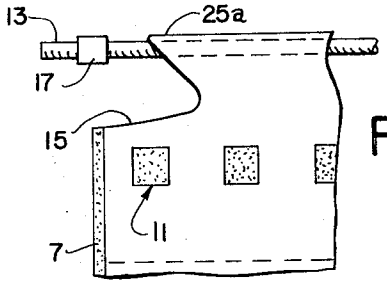


FIG.7

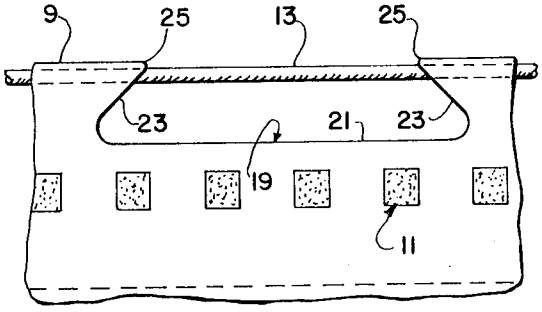


FIG.4

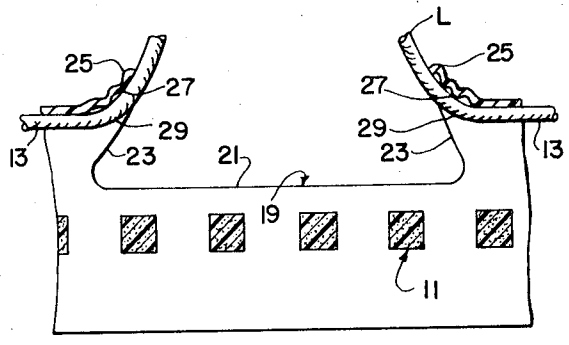


FIG.6

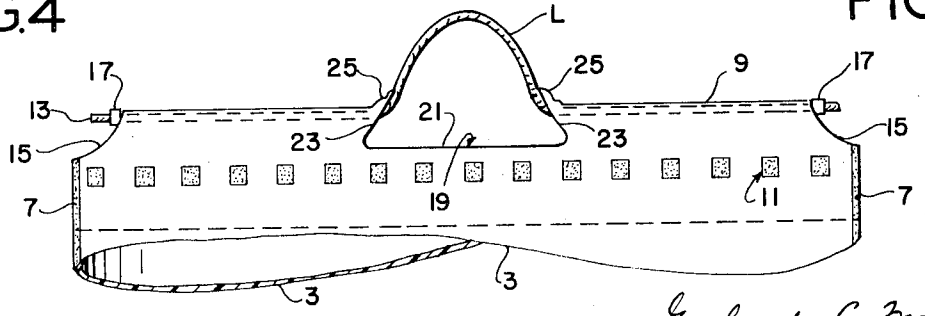


FIG.5

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DRAWCORD BAG

BACKGROUND OF THE INVENTION

This invention relates to drawcord bags, and more particularly to such bags made of plastic such as polyethylene and having a handle feature.

The invention is especially concerned with providing a handle feature for drawcord plastic bags of the type such as shown in the coassigned U.S. Pats. Nos. 2,897,729, 3,228,584 and 3,283,994, and essentially involves an improvement over the drawcord handle bags of the type shown in U.S. Pat. Nos. 3,010,640, 3,013,597, 3,029,853 and 3,460,741. Each of the four latter patents shows a bag which may be made of plastic such as polyethylene, having drawcords extending through hems at the mouth of the bag, with central cutouts in the hems forming a finger hole enabling grasping of the central portions of the drawcords for carrying the bag. When the cords are grasped and used for carrying the bag, they usually pull out of the hems through the finger hole at opposite sides of the cutouts due to the weight of the contents of the bag, as appears, for example, in FIG. 2 of U.S. Pat. No. 3,013,597. With cutouts such as shown in the four latter patents, if the bag is made of relatively thin plastic, and under a relatively heavy load, the cords may tend to split through the hems starting at the upper corners of the cutouts. The cords of a relatively thin plastic bag may also tend to split through the hems starting at an end of the hems from which the cords extend when portions of the cords extending from this end of the hems are used for carrying the bag.

SUMMARY OF THE INVENTION

Among the several objects of this invention may be noted the provision of a drawcord plastic bag with a reinforcement feature for preventing splitting of the hems of the bag by the drawcords; the provision of such a bag having central cutouts in the hems such as above described with reinforcement against splitting of the hems by the drawcords from the sides of these cutouts; the provision of such a bag with reinforcement against splitting of the hems by the drawcords from the ends of the hems; and the provision of such bags wherein the reinforcement is provided in a most simple and expeditious manner.

In general, the invention involves making edges of the hems where the lengths of drawcord extend out of the hems of undercut form thereby having laterally projecting upper portions adapted to curve up with portions of the lengths of drawcord which extend upwardly from the hems as used for carrying the bag, thereby minimizing the tendency of the drawcords to split the hems. These undercut edges may be at the sides of a central cutout, or at the ends of the hems, or both. 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 a bag made in accordance with this invention;

FIG. 2 is a plan of FIG. 1;

FIG. 3 is an enlarged section on line 3—3 of FIG. 1;

FIG. 4 is an enlarged fragment of FIG. 1;

FIG. 5 is a view showing cords of the bag pulled out to form a handle;

FIG. 6 is an enlarged fragment of FIG. 5 with parts shown in section; and

FIG. 7 is an enlarged view of the upper left corner of FIG. 1 showing a modification.

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

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, a bag made in accordance with this invention, and generally designated 1, is shown to comprise opposed walls each designated 3 integrally joined at the bottom of the bag at a fold 5. The bag is made of heat-sealable flexible sheet plastic material such as polyethylene, and its walls 3 are joined at the sides of the bag, by heat-sealed seams 7. Each wall has a hem 9 at its mouth end. These hems are formed by portions of the walls each folded over on the inside of the respective wall and heat-sealed thereto throughout the width of the wall by a heat-sealed seam, preferably an interrupted seam as indicated at 11. Extending through each hem 9 is a length of drawcord 13. The hems are shown as having quarter-round notches 15 at their ends at the upper corners of the bag. The ends of the lengths of cord 13 extend out into these notches and are stapled together as indicated at 17. Each of the hems 9 has a generally central cutout 19 providing a finger hole between the lengths of cord 13 and the bottom 21 of the cutout for grasping the central portions of the lengths of cord for use thereof as a handle. The lengths of cord 13 are adapted to be pulled out into loops as indicated at L in FIGS. 5 and 6 from opposite sides of the cutouts 19 when so used as a handle. The bottom 21 of each cutout 19, as herein shown, is straight on a line parallel to the bag ends, and above the respective seam 11. In accordance with this invention, the side edges 23 of each cutout 19 are of undercut form thereby having upper portions 25 extending laterally inwardly toward one another at opposite sides of the cutout. More particularly, the side edges 23 of each cutout are inclined in opposite directions downwardly and laterally outwardly from the mouth (upper) end of the bag.

In using the lengths of drawcord 13 for a handle the fingers are inserted through the cutouts 19 between the lengths of cord and the bottom 21 of the cutouts 19, and the bag is carried by the loops L (see FIGS. 5 and 6) of the lengths of the cord which pull out from opposite sides of the cutouts under the weight of the contents of the bag. The upper portions 25 of the sides of the cutouts 19 curve up with the lower ends of the side portions of these loops, and form rounded fillets such as indicated at 27 in FIG. 6 with curved portions 29 of the cords curving around these fillets from within the hems 9 to the sides of the loops L, these fillets taking the stress on the cords due to the weight of the contents of the bag and preventing the cords from tending to cut into edges of the plastic material, thus minimizing the tendency of the cords to split out through the hems under the weight of the contents of the bag.

The invention is above described particularly as applied to an open-mouth drawcord bag such as shown in the aforementioned U.S. Pat. No. 2,897,729. It will be understood, however, that it is equally applicable to drawcord bags of the type shown in the aforementioned U.S. Pat. Nos. 3,228,584 and 3,283,994.

In FIG. 7, the bag is shown as having the end edges of the hems at the corner cutout 15 of undercut form thereby having upper portions 25*a* projecting laterally outwardly at the hem ends. These portions 25*a*, like portions 25, are adapted to curve upwardly with portions of the drawcords extending out of the ends of the hems and upwardly therefrom as used for carrying the bag. FIG. 7 shows the left-hand corner cutout 15, and it will be understood that the right end edges of the hems at the right corner cutout may also be undercut in the same manner. The hem end undercuts may be used in a bag with or without the central cutouts 19.

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 sheet plastic material having opposed walls and hems at the mouth ends of said walls with a length of drawcord extending through each hem, edges of the hems where the lengths of drawcord extend out of the hems

being of undercut form thereby having laterally projecting upper portions adapted to curve up with portions of said lengths of drawcord which extend upwardly from the hems as used for carrying the bag, thereby minimizing the tendency of the lengths of drawcord to split the hems.

2. A bag as set forth in claim 1 in which each of said hems has a generally central cutout providing a finger hole for grasping the central portions of said lengths of drawcord for use thereof as a handle, said lengths of drawcord being adapted to be pulled out into loops from opposite sides of said cutouts, when so used as a handle, the side edges of each cutout being of undercut form thereby having upper portions extending laterally inwardly toward one another at opposite

sides of the cutout, said upper portions being adapted to curve up with said lengths of drawcord when the latter are pulled out into loops from the opposite sides of the cutouts, thereby minimizing the tendency of the lengths of drawcord to split the hems.

3. A bag as set forth in claim 2 wherein the side edges of the undercuts are inclined in opposite directions downwardly and laterally outwardly from the mouth end of the bag.

4. A bag as set forth in claim 3 wherein the bottom of each cutout is straight on a line parallel to the bag ends.

5. A bag as set forth in claim 1 wherein the end edges of the hems are of said undercut form.

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