United States Patent

Suominen

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[54] BAG HANDLE

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[52] **U.S. Cl.** .....**229/54 R,** 24/30.5 L, 150/3, 150/5, 229/62

[51] **Int. Cl.** **B65d 33/06,** B65d 33/16

[58] **Field of Search** .....229/54 R, 62, 65; 150/3, 5; 24/30.5 L, 30.5 R

[56] **References Cited**

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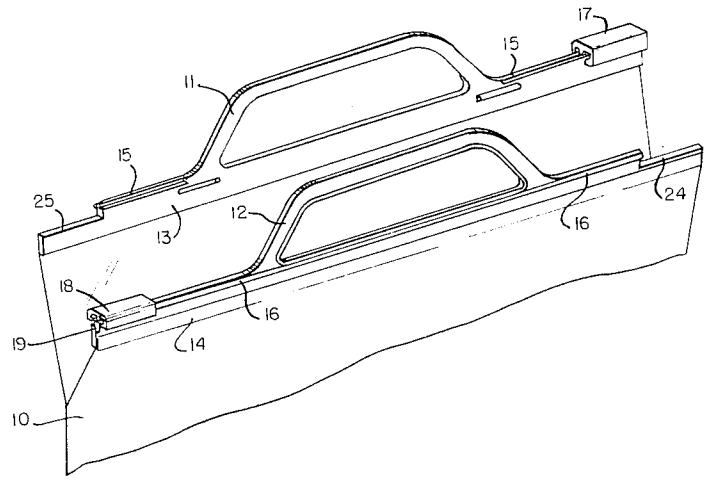
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[57] **ABSTRACT**

A plastic bag and handle therefor having a closure means for holding two handle parts together wherein two handle grip members are attached to respective elongated strip members which in turn are respectively attached to opposite sides of the top of the bag. Each of the elongated strip members has arranged thereon an outwardly facing track along which a closure member is arranged to slide to hold the mouth of the bag closed. Each closure member has internal walls which define grooves through which the tracks pass.

9 Claims, 5 Drawing Figures



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FIG. 1.

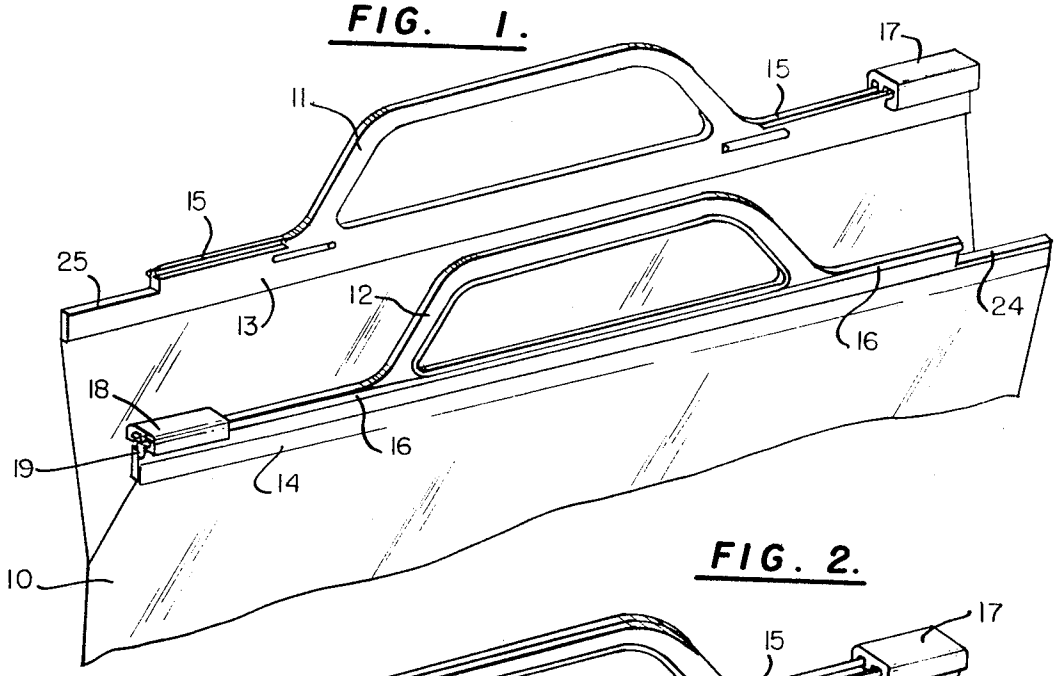


FIG. 2.

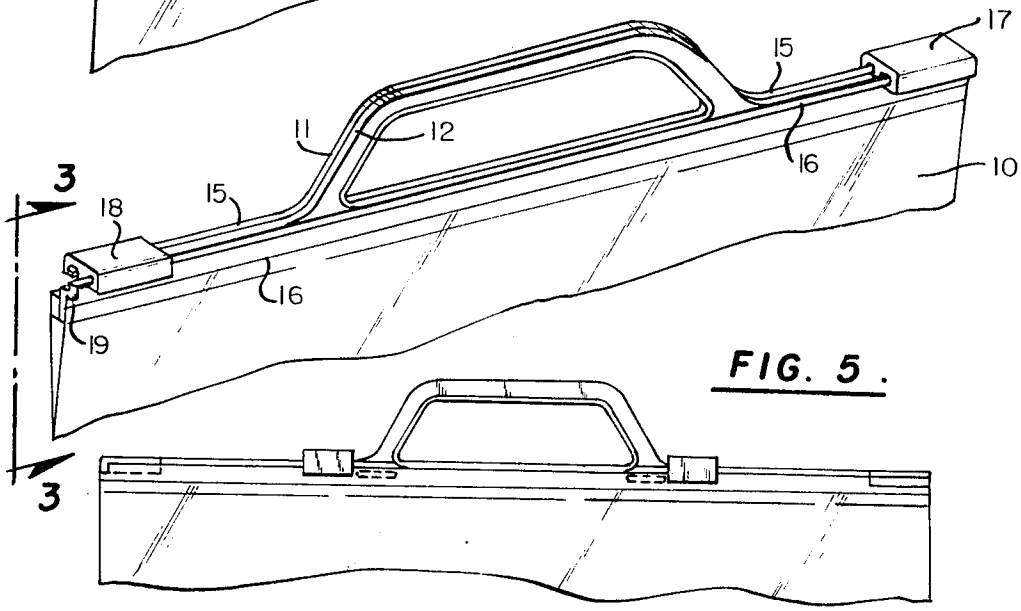


FIG. 5.

FIG. 3.

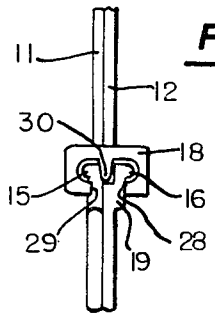
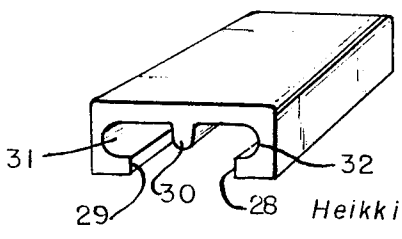


FIG. 4.



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BAG HANDLE

BACKGROUND OF THE INVENTION

1. Field of Invention

The present invention relates to a handle locking device and more particularly is concerned with a plastic bag in combination with a handle and closure means therefor.

2. Description of the Prior Art

Various types of handles for bags are known in the art, including numerous kinds made of thermoplastic material. Many of the prior art devices include a combination handle and closure means for the bag which makes it possible to provide a tight closure thereof.

It is also well known in the art to provide bags whose main body portion is typically formed of a thin film of thermoplastic material. The prior art further teaches the use of a combination handle and closure means, for such a thin-film plastic bag, which is welded or cemented or otherwise fastened to the thin film. It is also common to fabricate the handle and closure means from a plastic having a substantially heavier gauge than that of the thin film used for the main portion of the bag since this provides greater strength and provides a desirable rigidity to the mouth of the bag, thereby making it more convenient to open the bag and to maintain it open.

In addition to the foregoing, it is also known in the art to provide a combination handle and closure means which consists essentially of two generally congruent strips of a semirigid material (such as a fairly heavy-gauge plastic) which are welded or heat-sealed to the mouth of the bag. To open the bag, it is then only necessary to grasp the two handle portions with one's right and left hands, respectively, and separate the two handle portions.

Quite often, a securing or locking means is employed which tends to hold the two oppositely disposed handle portions together, thereby effectively maintaining a tight closure of the mouth of the bag. In one form, such a fastening means is a snap acting device which comprises a small projection on one member which frictionally engages an indentation in the opposite member as for example, shown in the U.S. Pat. of Harrah, No. 2,978,769, entitled Plastic Bag or Container, dated Apr. 11, 1961. To open a bag which is provided with such a closure means, it is again only necessary to separate the two handle portions, but now, obviously, somewhat more force is required to accomplish this because the fasteners must first be "unsnapped."

Extensive experience has shown, however, that the type of handle and closure means described thus far has several disadvantages. If the just-described fastening means is to be effective to maintain the top of the bag tightly closed under normal conditions, it is then also necessary that a fairly considerable force must be exerted on the two members comprising the handle and closure means in order to unsnap the fasteners and open the mouth of the bag. It has been found that when this is done, the natural muscular action of the user results in an abrupt and sudden further spreading of the mouth of the bag when the fasteners release, with the resulting application of large forces at the extreme ends of the two closure strips. These forces are naturally applied to the side walls of the thin film main bag portion and easily result in tearing this member. Previous attempts to solve this problem have comprised inserting a rivet or other fastening means through the two strips at their respective extreme ends so that such rivets, instead of thin plastic film, will bear these forces. Of course, the use of such rivets or equivalent fastening means is not entirely satisfactory because of the increased cost of manufacture of each bag and the lessening of the bag's attractiveness and eye appeal.

SUMMARY OF THE INVENTION

Accordingly, it is a feature of the present invention to provide a handle and closure means for a bag having first and second identical members adapted for attachment to the front and back walls respectively of the bag at the bag mouth. Each

member has an inner wall that lies against the inner wall of the other member when the bag is closed and an outer wall having a track or elongated protuberance mounted thereon. The members define a slot between the tracks when the inner faces lie against each other.

A resilient closure means is arranged to slide along the track of the first member. The closure means has internal walls which define grooves through which the tracks pass. It further contains a tongue portion which projects into the slot defined by the slot between the tracks when the inner faces of the identical members lie against each other.

The second member has a portion cut out which has a profile which is at least as large as that of the closure means such that the two members may be brought in congruent juxtaposition. The bag may be closed by sliding the closure means along the track of the first member into engagement with the track of the second member. The resilient closure means grips the tracks of the first and second members so that it tends to remain in the position in which it is left and the tongue of the closure means grips the inner walls of the first and second members.

An improved version of the present invention contains two closure means each associated with one of the two members and carried by and slidable on the associated track of the associated member. Each member has a portion cut out which is at least as large as the profile of the associated movable closure means to thereby permit the two members to be brought together in congruent juxtaposition. The bag may be closed by sliding both closure means along the associated tracks of the associated members into engagement with the track of the other member. The two resilient closure means grip the tracks of the first and second members so that they tend to remain in the position in which they are left and the tongues of the closure means grip the inner walls of the first and second member.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of an open bag having the handle and closure means of the present invention;

FIG. 2 is a perspective view of the bag of FIG. 1 in a partially closed position;

FIG. 3 is a side view of the bag when the mouth of the bag is closed;

FIG. 4 is a perspective view of the closure element; and

FIG. 5 is a perspective view of the bag of FIG. 1 in a fully closed position.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIG. 1 there is shown bag **10** having identical handle grip portions **11** and **12** attached to molded elongated strip members **13** and **14** respectively. It is noted that the elongated strip members **13** and **14** are attached to opposite sides of the top of bag **10**. Strip members **13** and **14** have arranged thereon outwardly extending tracks **15** and **16** respectively. A closure member **17** is arranged to slide along the track **15** and similarly another closure member **18** is arranged to slide along track **16**. As shown, track **16** follows the contour of the edge of the elongated strip **14** at the end to form a stop **19** to prevent the closure member from sliding off the track. Elongated strips **13** and **14** further have rectangular portions cut out at **24** and **25** respectively. The lengths of the cut out portions are just slightly greater than the length of closure members **17** and **18**.

As shown in FIG. **2**, the bag may be closed by bringing the handle in congruent juxtaposition. It is noted that the length of the rectangular cut-out portions **24** and **25** permit the closure of the bag without the closure members **17** and **18** obstructing the closure of the bag. The bag may be held closed by simply sliding the closure members **17** and **18** along the tracks **15** and **16** as shown in FIG. **5**. FIG. **3** shows a side view of the closed bag when the closure members engage the tracks of both members of the handle and thereby hold the bag closed.

In the perspective view of the closure member in FIG. 4, the internal walls 31 and 32 are shown defining grooves through which the tracks pass. As shown in FIG. 3, the track 16 passes in the groove defined by the portion between the edge 29 and the elongated centered protuberance 30 of the closure member. As shown further in FIG. 3 the track 15 passes through the groove defined by the portion between edge 28 and the centered protuberance 30. The closure member is molded from plastic and makes a snug fit on the associated track. The closure member 17 and member 13 are somewhat resilient, and the inner walls of member 17 grip the track 15 and member 13 so that the closure member 17 moves against the impedance of friction and tends to remain in the position where it is left. Likewise, closure member 18 is resilient and grips track 16 and member 14 so that it tends to remain in the position wherein it was left.

The locking feature of the present invention renders the lock bag more secure and tightly closed than prior art devices. It is seen that there is no abrupt and sudden spreading of the mouth of the bag when the bag is opened as in the case of typical prior art devices employing small protuberances on one handle operative in combination with corresponding recesses in the other handle member.

Having described the improved plastic bag and particularly a novel handle and closure means therefor, it is to be understood that various modifications and alterations may be made to the specific forms shown without departing from the scope of the invention.

I claim:

1. Combined handle and closure means for a bag having front and back walls comprising,

first and second members adapted for attachment to the front and back walls respectively of the bag at the bag mouth, each said member having an inner wall that lies against the inner wall of the other member when the bag is closed and each having an outer wall with a track mounted on the outer wall, and

at least one closure means, having internal walls which define grooves through which said tracks pass, carried by and slidable on the first member from a first position out of engagement with the second member to a second position in which the track of the second member extends into a groove of said closure means, whereby when the closure means is in the first position said first and second members may be separated and the bag mouth may be opened and when in the second position, in which said first and second members are juxtaposed, said first and second members are held together and said bag mouth is held closed.

2. The device as described in claim 1 wherein said second member has a portion cut out, said portion being at the location of said closure means when in said first position and having a shape which is at least as large as the profile of said movable closure means to thereby permit said two members to be brought together in congruent juxtaposition and to be separated.

3. The device in claim 2 wherein said closure means is resilient and grips the first member and its track in both said first and second positions.

4. The device as defined in claim 3 in which the bag extends away from the lower portions of the first and second members and the tracks extend outward from the upper portions of the first and second members respectively, said members defining a slot between said tracks when their inner faces lie against each other,

said closure means having a portion that rides above the first and second members which portion includes a tongue between said grooves, which projects into said slot,

said tongue engaging the inner wall of said first member,

the walls of said groove, that engage the track of said first member, extending around its complementary track on said first member so as to grip the same and hold the closure means on said track.

5. Combined handle and closure means for a bag having front and back walls comprising,

first and second members adapted for attachment to the front and back walls respectively of the bag at the bag mouth, each said member having an inner wall that lies against the inner wall of the other member when the bag is closed and each having an outer wall, and

first and second closure means each associated with one of said first and second members respectively and each carried by and slidable on its associated member from a first position out of engagement with the other member to a second position in engagement with the other member, whereby when said first and second closure means are in their respective first positions said first and second members may be separated and the bag mouth may be opened and when in their respective second positions, in which said first and second members are juxtaposed, said first and second members are held together and said bag mouth is held closed.

6. The device as described in claim 5 in which said first and second members each has an elongated protuberance on its outer wall and said first and second closure means each has internal walls which define grooves through which said elongated protuberances pass.

7. The device as described in claim 6 wherein each of said first and second members has a portion cut out, said portion being at the location of the associated closure means when in said first position and having a shape which is at least as large as the profile of the associated movable closure means to thereby permit said two members to be brought together in congruent juxtaposition and to be separated.

8. The device in claim 7 wherein said first and second closure means are resilient and grip the elongated protuberance of its associated member when in said first position and continues to grip the elongated protuberance of the other member when moved to said second position.

9. The device as defined in claim 8 in which the bag extends away from the lower portions of said first and second members and the associated elongated protuberances extend outwardly from the upper portions of the first and second members respectively, said members defining a slot between said tracks when their inner faces lie against each other,

said first and second closure means each having a portion that lies above the associated members which portion includes a tongue between said grooves, which projects into said slot,

said tongue of said closure means engaging the inner wall of each of said members,

the walls of said groove, that engage the elongated protuberance of the associated member, extending around its complementary elongated protuberance on the associated member and gripping the same to hold the associated closure means on the associated elongated protuberance.

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