

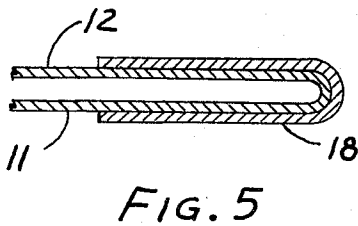
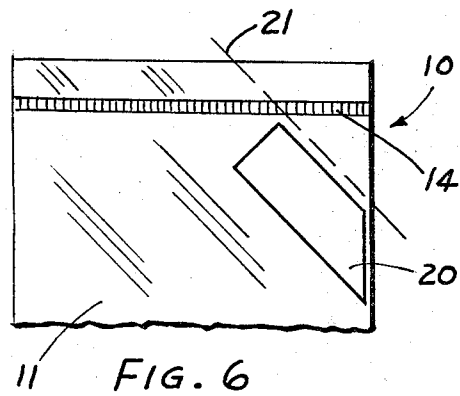
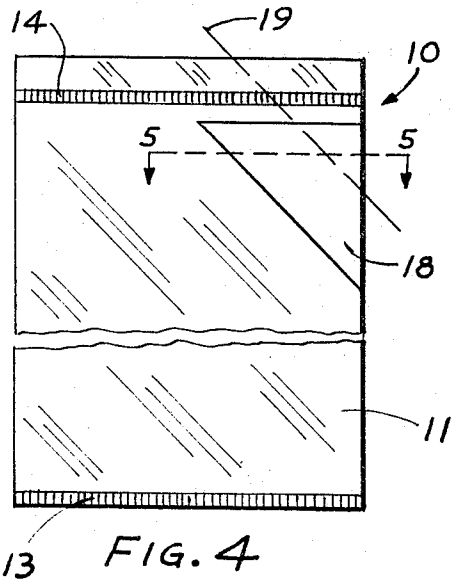
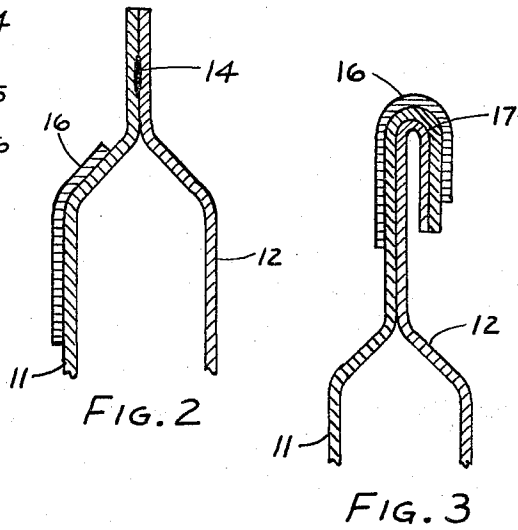
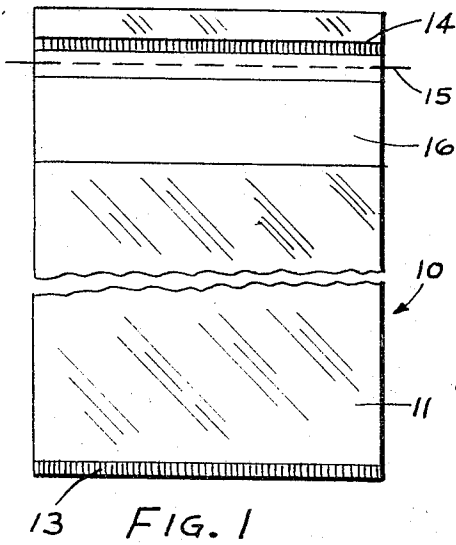
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CLOSURE MEANS FOR CONTAINERS

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## CLOSURE MEANS FOR CONTAINERS

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## ABSTRACT OF THE DISCLOSURE

Closure means for a container of pliant thermoplastic material comprising an area of bendable metal secured to at least one of the walls of the container adjacent its opening to be heat sealed.

This invention relates to containers of the type made from a thin, pliant material which resists creasing when folded, such as polyethylene film or the like. More particularly, the invention has reference to a bag of the type described which embodies means for selectively holding the bag in closed position.

Containers, such as plastic bags of the type described, are now in wide use, especially in the food industry. After the contents are placed in the bag, the upper adjacent parts of the bag are brought together and sealed in any suitable manner such as by adhesives or heat sealing. To remove the contents of the bag, the walls are cut below the sealed area. If the contents are partially removed, it is necessary to provide means for temporarily closing the bag in order to retain and store the remaining contents in the bag. Thin pliant material, such as polyethylene film, resists creasing so that it will not retain a creased condition and hence such a bag cannot be satisfactorily closed by merely folding or rolling the walls at the open end of the bag.

One of the objects of this invention is to provide a container of the type described which will embody simple, yet efficient, closure means which may be used repeatedly after the initial opening of the filled container.

Another object is to provide for a container of the type described closure means adapted for repeated use and capable of being applied to the container in a simple, cheap manner adapted for mass production.

Still another object is to provide a container which is made of heat sealable plastic film and embodies simple metallic closure means adapted for repeated use.

These and other objects and advantages reside in certain novel features of construction, arrangement and combination of parts as will hereinafter be more fully described and pointed out in the appended claims.

Referring to the drawings:

FIG. 1 is a front elevational view of a container embodying the invention.

FIG. 2 is an enlarged fragmentary view of the upper part of the container of FIG. 1.

FIG. 3 is an enlarged fragmentary sectional view showing the position of the parts after the container of FIG. 1 has been opened and re-closed.

FIG. 4 is a front elevational view of a container showing a modified arrangement of the closure means.

FIG. 5 is an enlarged sectional view taken on line 5—5 of FIG. 4.

FIG. 6 is a front elevational view of a further modification.

FIG. 7 is a fragmentary view showing the container of FIG. 1 when re-closed by a twisting operation.

A preferred embodiment of the invention is shown in FIGS. 1 and 2 wherein 10 indicates generally, a container of the bag type made of a pliant film material which is resistant to creasing when folded, such as poly-

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ethylene film. The container has the front and rear walls 11 and 12, respectively, which are sealed at the bottom by any suitable means such as adhesive or heat sealing, as indicated at 13. The upper adjacent portions of the two walls are brought together and sealed in any suitable manner such as by adhesives or heat sealing, as shown at 14, after the bag is filled.

The sealed container may be opened by cutting the walls along line 15 and if the contents of the container are only partially removed, closure means will be needed for holding the walls in closed position. Such closure means are provided by an area 16 of thin bendable metal, such as aluminum foil, which is adhesively secured to the front wall 11 and is coextensive with the width of the wall. The metallic strip 16 is located below the sealed portion 14 and is spaced therefrom so that the metallic strip 16 will not interfere with the operation of heat sealing portions of the upper parts of the two walls, as indicated at 14.

After the container 10 has been opened by cutting the walls along line 15, a portion of the contents may be removed and the remainder of the contents may be retained in the container 10 which may be re-closed by folding the contacting parts of the walls along a line extending along the metallic strip 16 as indicated at 17. Since the metallic area 16 is bendable and is relatively stiff compared to the plastic material of the walls, the folded over portions will be retained in a creased, folded position as shown in FIG. 3. The parts may, of course, be folded and creased with two or more folds and the parts may also be rolled into closing relation. The container 10 may also be re-closed by twisting around the walls at the metal strip 16 and with the metal on the outside of the twist so as to crease or crimp the metal and thereby hold the container closed, as shown in FIG. 7. For a twisting closure, however, it is preferable that a metallic area also be secured to the rear wall with both metallic areas substantially coextensive in area and in opposed relation to each other. The closure means thereby provided may, of course, be opened and closed repeatedly in all forms of the invention as the contents are removed from the container from time to time.

In a modified form of the invention shown in FIGS. 4 and 5, the thin, bendable metallic foil area 18 is located adjacent to the upper right hand corner of the container 10 and extends downwardly and outwardly to the side of the container. As shown in FIG. 5, the metallic foil area 18 extends around the side of the container and has a portion secured to the rear wall 12. The sealed container may be opened by cutting the walls along the line 19 to thereby provide a pouring spout opening at the upper corner of the container. The pouring opening may then be selectively closed by folding and creasing the walls along the remaining portion of the foil area 18.

A still further modification is shown in FIG. 6 in which the metallic foil area 20 consists of a diagonally positioned strip of foil which is secured to the front wall 11 and is positioned below the sealed portion 14. The sealed container may be opened by cutting along the line 21 and re-closed by folding the walls along the strip 20.

From the foregoing, it will be apparent that I am able to attain the objects of the invention and provide an improved closure means for containers of the type described. The metallic foil areas or strips may be made of any suitable material such as aluminum foil. For the currently used polyethylene bags having a wall thickness of about .001 inch, I have found that aluminum foil having a thickness of .001 inch is satisfactory. The thickness and stiffness of the metallic material used should be such that the contacting portions of the container walls will be retained in folded and creased relation. The metallic areas or

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strips may be secured to one or both walls of the container and on the inner or outer sides of the walls.

Various modifications will be obvious to those skilled in the art and may be made without departing from the spirit of the invention as pointed out in the appended claims.

I claim:

1. A container for the packaging of merchandise comprising a bag having front and rear walls formed of a pliant thermoplastic material which resists creasing when folded, the adjacent upper end parts of the two walls having portions which are heat sealed for closing the bag, a limited area of thin bendable metal secured to at least one of the walls, said area of metal being spaced from and located entirely below and adjacent said sealed portions whereby the sealed bag may be opened by cutting the walls below the sealed portions and closed by creasing the walls along the area of metal.

2. The container described in claim 1 wherein the area of bendable metal is substantially coextensive with the width of the walls.

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3. The container described in claim 1 wherein the area of bendable metal is adjacent to only one of the upper corners of the bag and extends downwardly from the upper part of the bag and outwardly towards a side of the bag.

4. The container described in claim 1 in which areas of thin metal are secured, respectively, and in opposed relation on the front and rear walls.

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