

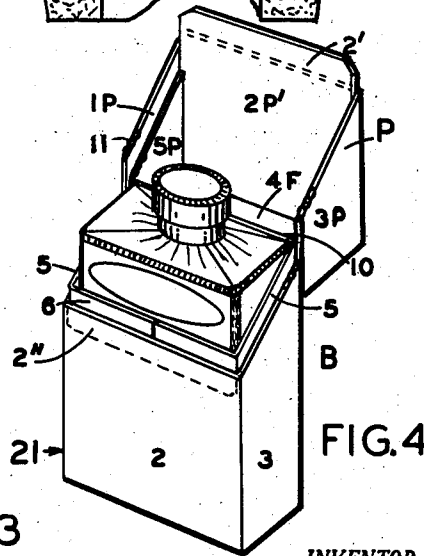
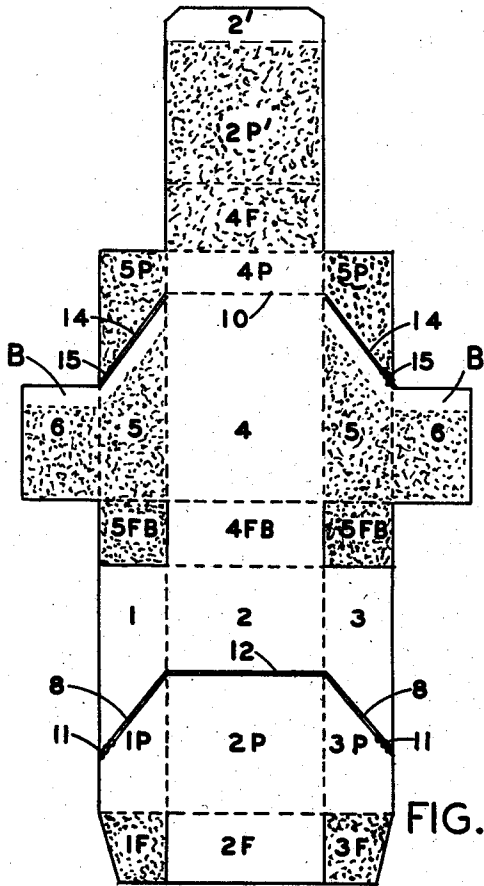
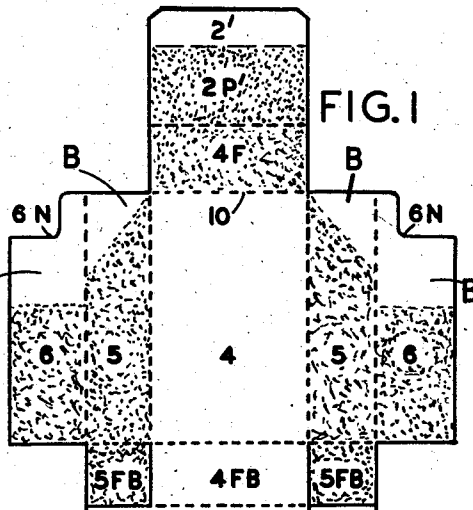
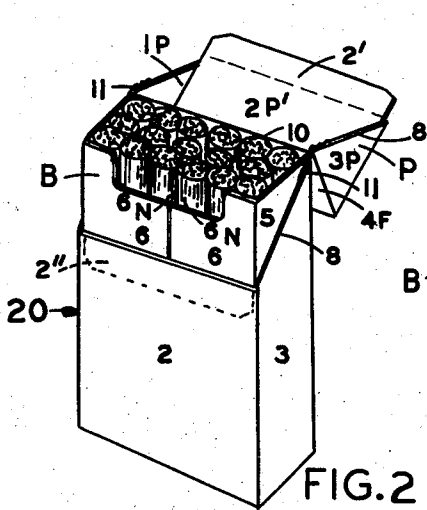
Feb. 3, 1959

P. J. GRAYBILL

2,872,097

RECLOSABLE CONTAINERS

Filed Aug. 9, 1956



INVENTOR.

*Paul J. Graybill*

1

2,872,097

**RECLOSABLE CONTAINERS**

Paul J. Graybill, New Haven, Conn.

Application August 9, 1956, Serial No. 603,121

5 Claims. (Cl. 229-44)

The present invention relates to swing-top containers with a baffle, a tuck-tab and a tuck-slot.

*Broad objective*

The broad objective of my invention is to provide a one-piece, swing-top container of the type disclosed in a co-pending application filed July 16, 1956, since allowed as Patent No. 2,796,212, having a solid one-piece swing-top and a baffle as therein claimed but in addition having a tuck-tab articulated to the front edge of said swing-top and a tuck-slot situated between said baffle and the front side-wall of said container, to accommodate said tuck-tab and hold said swing-top in its closed position when said tuck-tab is forced therein, thus not depending on the arc of rotation of the swing-top to hold the swing-top in its closed position. The container otherwise is similar in all respects to the co-pending container, said baffle being of two parts coming off the two side glue-laps, and said swing-top closing over and about said baffle which is adhesively joined about on the inner three sides of said container, said baffle in the instant container to perform either of two functions (1) to prevent interference with the contents of said container as cigarettes for instance as the swing-top is being opened and closed and (2) to form with the container front wall a tuck-slot. When closure retention is thus provided by a tuck-tab and tuck-slot, said baffle may be extensively abbreviated to form in reality a display type container for appropriate merchandise, as a bottle or large instrument for instance. This container, as the co-pending one, accommodates itself to the wrapping method of packaging and can be adapted to existing machines with minor alterations or adjustments.

Likewise the instant container is desirable because of its versatility in packaging a wide range of products as anything from sticks or cigarettes and cigars to single items such as bottles or prewrapped cereals, as the container permits the complete unwrapping of the end of the inner closure bag for dispensing and the subsequent rewrapping of the bag before reclosing the container swing-top to provide double protection. This container thus in various sizes and arrangements is unusually well adapted for a wide variety of products and machines and is very economical in that because of its basic structure an unusually light weight board can be used and still obtain a sturdy container and a secure reclosure.

*Specific objectives*

The more specific objectives of my invention are as follows:

(1) To provide in a preferred embodiment a one-piece swing-top container with said swing-top articulated to one wall thereof which swing-top may have either triangular or quadrangular side-walls depending on the location of the hinge-crease, e. g. the swing-top may have three or four side-walls as the case may be, the swing-top designed to form the full-end opening and closing means of said container, to swing about on said hinge-crease, said side and

2

front walls of said swing-top being cut from the three corner-tuck-tab and tuck-slot in the instant container.

(2) To provide such a container having said baffle adhered to the inside surface of said three container walls, said baffle to extend to at least partially replace the wall portions having been cut free to form the walls of said swing-top. Said baffle may be complete or have a finger access area cut therefrom to facilitate the dispensing of such products as cigarettes for instance, or may be abbreviated to extend only slightly above the terminal edges of said walls, thus forming a display-type of container since it is not essential that said baffle have full height to retain the swing-top in its closed position as in the co-pending container since that function is performed by the tuck-tab and tuck-slot in the instant container.

(3) To provide such a container that is readily openable and as readily reclosable, one which is retained in its closed position by a tuck-tab which is articulated to the front wall of said swing-top, said tuck-tab to be inserted in a tuck-slot formed by the baffle and an adhesive-free area of the front wall of said container.

(4) To provide such a container so constructed as to be formed as a Brightwood container, with the exception of having the two parts of the baffle construction appended to the two opposing inner glue-laps on the side walls of said container which baffle parts are to be adhered to the inside of the outer container walls when the package is wrapped about the product. The top end-closure of the container which also closes the end of said swing-top is formed substantially as any regular glue-end container end is currently done.

(5) And still further to provide a container so constructed as to require the overlapping of stock on three sides only, in the formation of the container and the baffle, this being accomplished by providing perforated lines to hold the container wall panels and the swing-top wall panels together until they are torn free on the initial opening.

(6) And also to provide in one four wall swing-top embodiment of my invention a container having tear-away hinge-tabs partially cut and perforated from the regular side glue-laps to bind said swing-top together at the corners, said tabs to extend downward from the outer ends of said glue-laps substantially to the juncture of the hinge on the back wall of said swing-top, said tabs to be torn free on the initial opening by reason of being adhered to the side-wall and end-closure of said swing-top, thus abbreviating said side-walls of said baffle, from which they are torn when said swing-top is forced open.

*Designations of illustrations*

These and other objectives and advantages will become apparent as the following detailed description proceeds; when reference is made to the accompanying drawings; wherein for the purpose of illustration is shown two principal embodiments of my invention.

Fig. 1 is a view of the inside surface of the blank which forms one embodiment of the container as claimed, showing the various creases and cuts and perforations, as well as the areas where glue is applied on the outside surface; this blank shows the triangular side-wall swing-top with the hinge crease at the extreme top of the rear wall of the container thus providing for a three walled swing-top.

Fig. 2 is a perspective view of the front of the container formed from the blank of Fig. 1 in an open position showing the proposed content in position and showing in dots, the position of the tuck-slot between the baffle and the front container wall.

Fig. 3 is a view of the inside surface of the blank which forms a second embodiment of the container as claimed, showing the various creases, cuts and perforations as well

3

as the areas where glue is applied on the outside surface, this blank shows the quadrangular side-wall swing-top with the hinge-crease somewhat away from the extreme top of the rear-wall of the container, thus providing for a four-walled swing top,

Fig. 4 is a perspective view of the front of the container formed from the blank of Fig. 3 in an open position showing the proposed content in position and in dots the position of the tuck-slot between the baffle and the front container wall.

#### *Description and manufacturing procedure*

Referring then to the drawings in which the same or similar parts are indicated in the various illustrations, by the same designations for ease in identification Figs. 1 and 2 show the embodiment employing the three walled swing-top P, having the hinged juncture 10 at the extreme top of the rear container wall. Figs. 3 and 4 likewise indicate a second embodiment having the four walled swing-top P with the hinged juncture at some distance from the top of the rear wall. In both embodiments either a full baffle, or a cut-away baffle or an abbreviated baffle may be employed with the tuck-tab 2' and the tuck-slot 2''.

Fig. 1 shows the inside surface of the blank which forms container 20 of Fig. 2. Indicated in shade are the areas where glue is applied in forming the container and baffle. The four walls of container 20 are formed from panel 4 as the rear wall, panel 2 with extension 2P as the front wall, and panels 1 and 3 with extensions 1P and 3P as the two side walls. Extensions 1P, 2P and 3P when torn free at lines 12 and 18 and perforations 11 form the front and side walls of the swing-top P. The bottom of the container is formed from the two side glue-flaps 5FB and the coupling glue-flap 4FB which is hingedly joined to both the front wall panel 2 and the rear wall panel 4. The top closure of the swing-top and consequently the top closure of the container is formed from glue-flaps 4F, 1F, 3F and 2F. Glue-flap extension 2P is hingedly joined to glue-flap 4F and will form an inside liner to the front wall 2P of swing-top P and will extend beyond the front wall of said swing-top to form tuck-tab 2'. Full width glue-laps 5 have articulated thereto baffle panels 6 which together with glue-laps 5 form baffle B when these are folded inwardly in the formation of said container. The upper portions of panels 6 and glue-laps 5 are adhesive free to form the exposed portion of the baffle B and the tuck-slot 2''.

The procedure of forming container 20 and packaging the contents therein is as follows: The blank is presented to a wrapping machine, which places the contents as cigarettes for instance on panel 4, as glue is applied to panels 2P, 4F, 5, 6 and 5FB, and simultaneously glue-flaps 4F and 5FB are rotated upwardly, followed closely by the upward rotation of glue-laps 5 which also carry panels 6 which panels 6 are further rotated about to fully enclose said contents, panel 2P' carrying tuck-tab 2' is then rotated about said contents and said baffle, glue-flap 4FB is then rotated upwardly to 90° about glue-flaps 5FB and the end of the packaged contents, thus carrying with it panels 1, 2 and 3 with their modified parts and articulated appendages 1P, 2P, 3P and 1F, 2F and 3F. Panel 2 is then rotated inwardly and brought to bear on panels 6, panel 2P' and tuck-tab 2' where it is adhered as indicated. Panels 1 and 3 are rotated downwardly to adhere to glue-laps 5 as indicated, thus completing the body of the container. The upper end-closure is then made similarly to any glue-end container, except that glue-flap 4F is already in place with adhesive applied, glue-flaps 1F and 3F are rotated inwardly to contact 4F and glue-flap 2F is thence rotated inwardly and brought to bear on glue-flaps 1F, 3F and partially on 4F where it is adhered as indicated, finishing the end closure and the container.

When the container of Fig. 2 is to be opened as shown

4

the swing-top consisting of panels 1P, 2P and 3P would be grasped by the hand and broken backward at crease 10 at the top of rear wall 4, tearing perforations 11 and withdrawing tuck-tab 2' from tuck-slot 2''. The swing-top P can then be swung about its hinged connection 10 to reclose said container by tucking tuck-tab P' into tuck-slot P'' where it is securely held, thus not depending on baffle B to secure the closure as in the co-pending container.

When the second embodiment, container 21 of Fig. 4 with the four walled swing-top P, is desired the blank is cut as shown in Fig. 3 with crease 10 being somewhat inwardly from the top of rear-wall 4 with glue-laps 5 modified by angular cuts 14 and perforated lines 15 running from the outer ends of said crease 10 across glue-laps 5 forming hinge-tabs 5P which are subsequently adhered to the inside surface of side walls 3P to form the four walled swing-top P, Fig. 4.

In all other respects the blank and container of this embodiment are similar to those of the embodiment of Figs. 1 and 2 except that perforations 11 and cuts 8 and 12 are moved inwardly from the end of side walls 1, 2 and 3 to correspond to the location of crease 10. This embodiment lends itself very well to a "display" as shown in Fig. 4.

The packaging operation is identical to the first embodiment as described, and the opening and reclosing operations differ only that instead of tearing perforations 11 only, in this instance perforations 15 also have to be torn in the initial opening process.

#### *Novelty*

It should be noted how the novelty of this construction which includes all the advantages of the co-pending structure plus the tuck-tab and tuck-slot affords additional benefits which other swing-top structures do not afford. The most essential and obvious advantage over all others, including the co-pending structure, is the method of securing the closure of the swing-top which is by tuck-tab and tuck-slot. This feature in turn permits the use of either the three or the four sided swing-top, and allows the use of either a full baffle or an extremely abbreviated baffle since the height of the baffle is not a factor in retaining the closure. Thus a full baffle for use with cigarettes or cigars for instance may be employed to fully guard the ends of the product, or an extremely abbreviated one for such products as a bottle for instance may be employed to display the product, this latter being impossible in all other swing-top structures when a secured reclosure is desirable.

The instant structure as stated has all the advantages over other structures that the co-pending structure has, it is one-piece, as well as being more economical in the use of stock in its structure. It retains unusual sturdiness in having three complete walls reinforced by the baffle and all junctures of walls or bottom structures sealed and complete where some others do not, e. g., it affords multiple adhered structure on both the top and bottom closures.

The instant structure has overlapping of stock on three sides only, as some do not, which not only saves stock but simplifies its formation machine wise, still affording complete protection on the side wall seams. Small easily torn perforated lines secure the swing-top from accidental opening, which together with the fact that the container can be packaged and formed on less expensive existing machinery with their speed and economy are among the advantages inherent in this structure.

#### *Summary*

The need for an economical container of the type herein claimed with the swing-top that can be readily opened and readily reclosed, one that can be cut from foldable stock and economically formed and filled on less expensive machinery is currently urgent, especially is this true

since many products are being packaged that lend themselves to such a container. More and more the consumer is demanding a reclosable container for products that heretofore have been either unpackaged or packaged in non-reclosable packages. Many products which require an inner wrap and are presently packaged in non-reclosable packages, could be packaged to advantage in the instant structure, since the container itself is reclosable and effects a very efficient seal, as well as lends itself to the reclosure of the innerwrap itself where one may be used.

Cereals, powdered milk, mixes, cosmetics, electric razors, instruments, crayons, pencils, cigarettes and cigars are a few of the products which could be very efficiently packaged in the instant structure.

The features of the container herein described, used in toto and in various sizes and arrangements solve these urgent problems to a decided degree, and these features, namely either a three or four-sided swing-top in a one-piece construction with a baffle formed by the side glue-laps and extensions thereof, and a tuck-tab articulated to the swing-top to engage in a tuck-slot formed by the baffle and front container wall to thus secure the closure of said swing-top, and the releasable perforated lines which allows the economy of the overlapping of stock on three sides only, together with the simplicity of packaging on existing wrapping machines, are new and constitute a decided advance in the art of swing-top container design; and all are applicable to the embodiments of my invention herein set forth, which of course are only exemplary, and various changes in shape, size and arrangements of parts may be resorted to without departing from the spirit of my invention or the scope of the sub-joined claims.

I claim:

1. A one piece container of foldable material comprised of two pair of opposing walls, the front and rear walls and two side walls, disposed to form the tubular body of said container, each of said four walls having articulated to each end thereof an end closure member; the front and back walls at their bottom end being articulated to the same member, which member forms one course of said bottom end-closure with the side-wall end-closure members forming the other, at least partial, course thereof, said top end-closure being formed by the four inwardly disposed top end-closure members, said four walled container having a baffle partially adhered to the inner surface of the two side-walls and the front-wall thereof, said baffle being of two parts, each part being articulated to the back wall of said container at its juncture with the side-walls, and extending fully across the inner side of the container side-wall and the two together, at least partially across the inner side of the container front wall, said side and front-walls of said container having aligned cut and perforated lines running thereacross, separating said walls into two parts each, the upper parts of said walls being adhesive free from said baffle, and forming three sides of a releasable tray-type swing-top, said swing-top being articulated to said rear wall by a hinge-crease, said swing-top in one position to be rotated about on said rear-wall hinge-crease to open said container-end when said perforated lines have been torn free, and in another position to close said container-end position about said baffle on three sides thereof; said front-wall of said swing-top having adhered to its inner surface a tuck-tab engaged in an adhesive-free tuck slot formed by the front wall of said baffle and said container front-wall which tuck-tab secures said swing-top in its closed position.

2. The container of claim 1 having a finger access notch in the front wall of said baffle to facilitate the removal of the contents thereof.

3. The container of claim 1 having an abbreviated baffle portion allowing ample display of the contents of said container.

4. A reclosable container formed from a single blank suitably cut and scored to form an inner baffle which provides a receptacle portion having an opening at the top, and having a hinged tray-type swing-top telescoped thereover, said container having outer walls covering all wall areas of said receptacle portion not covered by said swing-top, said swing-top having a tuck-tab articulated to the inside surface of the front wall thereof, said tuck-tab being disposed inwardly between said receptacle portion and said outer wall in an adhesive free tuck-slot when said swing-top is in a closed position, said tuck-slot holding said tuck-tab releasable therein, said swing-top portion of said container being formed from a portion of three of said outer walls of said container and a portion of said back wall of said container, said portion being articulated to said back wall by a hinge-crease, said back-wall portion having articulated thereto on each side a hinge-tab, said hinge-tabs being formed from the extended portion of the side-walls of said baffle and being adhered to the inside ends of said swing-top.

5. A one piece container of foldable material comprised of two pair of opposing walls, the front and rear walls and two side walls, disposed to form the tubular body of said container, each pair substantially equal in size and form, parallel to each other and perpendicular to the other pair, each of said four walls having articulated to each end thereof an end closure member, the front and back walls at their bottom end being articulated to the same member, which member forms one course of said bottom end-closure with the side-wall end-closure members forming the other, at least partial, course thereof, said top end-closure being formed by the four top end-closure members, each being disposed inwardly at 90° to said walls forming the adhesively joined multiple course end-closure, said four walled container having a baffle partially adhered to the inner surface of the two side-walls and the front-wall thereof, said baffle being of two parts, each part being articulated to the back wall of said container at its juncture with the side-walls, and extending fully across the inner side of the container side-wall and each at least partially across the inner side of the container front wall, said side and front-walls of said container having a cut and perforated line running thereacross, separating said walls into two releasable parts each, the upper parts of said walls being adhesive free from said baffle, thus forming three sides of a tray-type swing-top, with the upper part of the back wall of said container forming the fourth wall thereof, said swing-top being articulated to said rear wall by a hinge-crease, said baffle being modified by two hinge-tabs articulated to said swing-top rear-wall and cut releasably free from said baffle, said hinge-tabs being adhered to the side walls of said swing-top and so dimensioned as to extend downwardly to said hinge-crease, said swing-top in one position to be rotated about on said rear-wall hinge-crease to open said container-end when said perforated lines have been torn free, and in another position to close said container-end and position about said baffle on three sides thereof; said front-wall of said swing-top having articulated thereto a tuck-tab engaged in an adhesive-free tuck slot between said baffle and said container front-wall securing said swing-top when in its closed position.

#### References Cited in the file of this patent

#### UNITED STATES PATENTS

|    |           |          |               |
|----|-----------|----------|---------------|
| 70 | 149,889   | Smith    | Apr. 21, 1874 |
|    | 643,366   | Stecher  | Feb. 13, 1900 |
|    | 1,822,512 | Tanner   | Sept. 8, 1931 |
|    | 2,361,597 | Buttery  | Oct. 31, 1944 |
|    | 2,361,659 | Smith    | Oct. 31, 1944 |
| 75 | 2,468,543 | Chalmers | Apr. 26, 1949 |