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P. J. GRAYBILL
DISPENSING CONTAINERS HAVING DOUBLE LAYERED
TUCK-TAB AND OPPOSING MARGINAL TUCK-SLOTS
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3,187,977

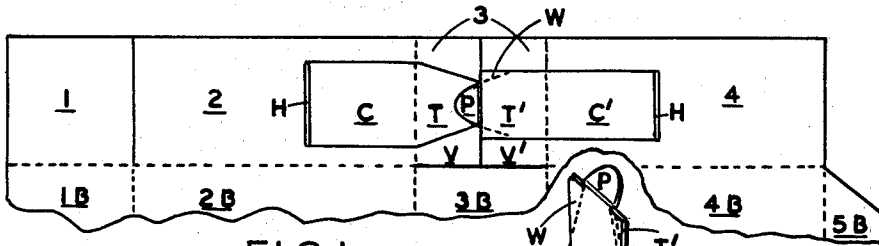


FIG. 1

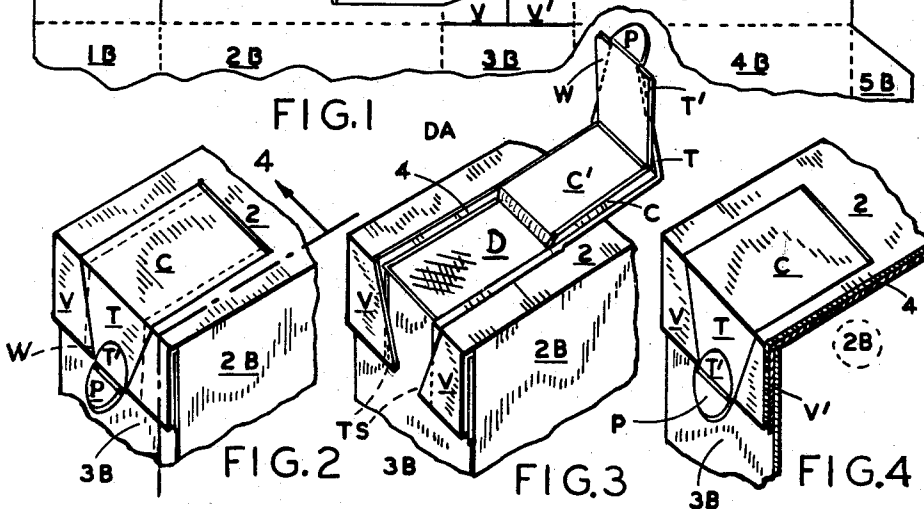


FIG. 2

FIG. 3

FIG. 4

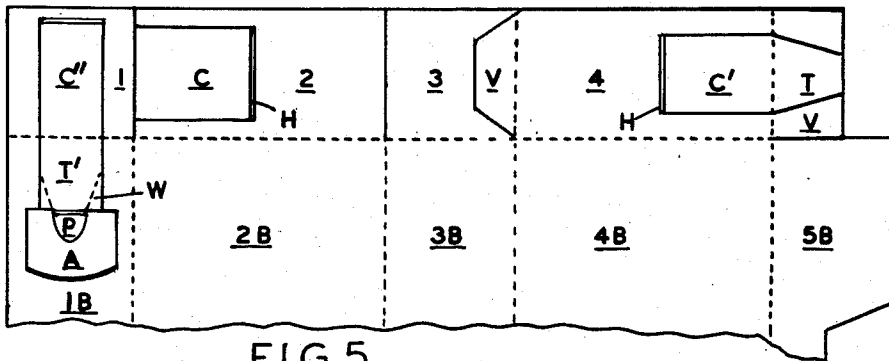


FIG. 5

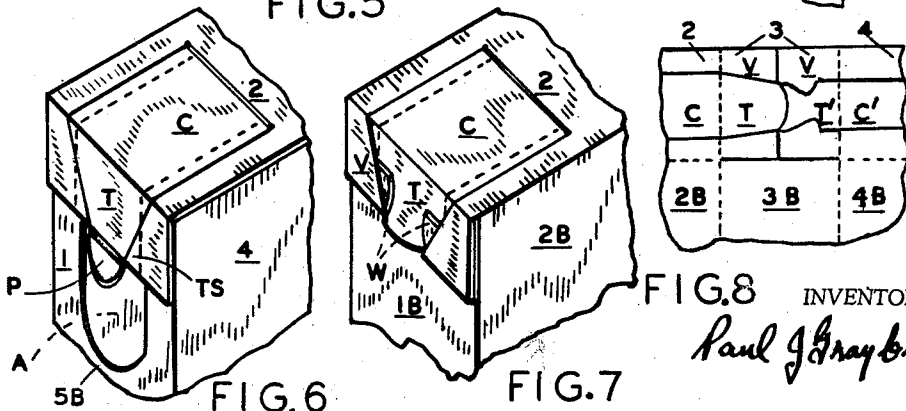


FIG. 6

FIG. 7

FIG. 8

INVENTOR.

Paul J. Graybill

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DISPENSING CONTAINERS HAVING DOUBLE LAYERED TUCK-TAB AND OPPOSING MARGINAL TUCK-SLOTS

Paul J. Graybill, Sunset Hill Drive, Pine Orchard, Conn.
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The present invention relates to dispensing containers in general and to those having opening and reclosing means inherent in the glue-end and the adjacent, at least partial multiple course, side-wall thereof.

This invention is an improvement and variation on the applicant's structures of Patent Number 2,819,127 and allowed application Number 74,041 is now Patent No. 3,096,922, issued July 9, 1963. The improvement relates to the formation of the tuck-tab and the tuck-slot, or securing means, for said tuck-tab. In the instant case the tuck-tab has two layers of stock and the tuck-slots, or securing means for said tuck-tab, consists of opposing laterally marginal tuck-slots. Said securing means being inherent in at least a partial three course side wall, at least one course by which is formed from a Van Buren Ear.

Broad objective

The broad objective of my invention is to provide a one piece container of foldable stock having opening, dispensing, reclosing and securing means inherent in two adjacent, at least partial multiple course walls thereof, at least one of which walls consists of three courses, said means consisting of a dispensing aperture in one of said multiple walls thereof, a hinged cover articulated to said wall, a two course tuck-tab hingedly joined to the free end of said cover, and securing means for said tuck-tab inherent in the adjacent multiple wall thereof; said securing means consisting of at least one tuck-slot positioned externally to at least one of said courses of said multiple wall together with at least one friction wing articulated to said tuck-tab. Said partial triple side-wall may be formed in either of two ways (1) from an extended glue flap portion or (2) from double Van Buren Ears, together with the side wall of the container. The use of the extended glue-flap when used instead of a second Van Buren Ear, affords some stability to the side wall in the closing operation and as such may be advantageous, even though requiring more stock in its construction. This instant structure is especially advantageous and desirable, as are the two previously mentioned structures, being easily opened, reclosed and reopened and does not require special machinery in cutting, forming or filling. It is also useful in packaging a wide variety of products when a reclosure is desirable. This new structure is a refinement over the previously mentioned structures and has the advantage of having a double course tuck-tab which is stronger and, more especially, is more positive in the opening process since two courses of said cover are directly articulated to two courses of the tuck-tab and thus assuring its positive opening, which feature was not provided in the previous structures. Also, the instant structure permits the use of (at least one) two opposing lateral side slots which engage the marginal edges (friction wings) of at least one of the courses of the two course tuck-tab; hence after opening and reclosing in one embodiment of said structure, the position of all parts of said reclosing means are in the same relationship to each other as even before opening, and the container has the exact unopened appearance. In one modification of the structure when protrusions from the medial layer are employed, small side protrusions or wings are visible after reclosing. Also, in the instant structure the inner course of said tuck-tab may have

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articulated to its free end a pull-tab which further facilitates the opening and closing thereof.

This container thus in various sizes and arrangements is unusually well adapted for any and all fast pouring granular, seed, or powdered products where controlled dispensing is advantageous and a reclosure is required or desired.

Specific objectives

The more specific objectives of my invention are as follows:

(1) To provide a one piece glue-end container having inherent opening, reclosing and securing means in said multiple glue-end and the adjacent, at least partially multiple, side wall thereof, said means consisting of an aperture, a multiple course cover therefor, a multiple course tuck-tab and at least one external tuck-slot so positioned on the multiple side wall thereof to receive and hold said tuck-tab by engaging lateral friction wings thereon.

(2) To provide such a container in which at least the multiple container side wall portion consists of three layers of stock, at least one of which may be provided by a Van Buren Ear.

(3) To provide such a container in which said cover is cut releasably free on three sides thereof from said multiple end-wall and is articulated by a hinged connection on the fourth side thereof providing free rotation of said cover.

(4) To provide such a container in which said cover has articulated to its free end a multiple course tuck-tab.

(5) To provide such a container in which said multiple course tuck-tab has on its lateral margins securing means to engage itself with at least one of the two outer layers of the three course multiple wall from which said tab has been formed.

(6) To provide such a container in which said lateral securing means in one embodiment consists of a laterally protruding tab or wing on at least one side of the inner of the two courses of said tuck-tab positioned so as to engage under the lateral edges of the adjoining outer course of said side wall in a tongue and groove action, thus forming a laterally vertical tuck-slot, said wing being formed and positioned to pull free from said tuck-slot due to the natural proclivity of the stock to bend or give sufficiently to free said wing when outward pressure is exerted in the original opening process, said tuck-slot being so positioned as to receive said wing when said tuck-tab is brought back into its original position by a downward sliding motion when said cover is being reclosed thus affording a reseal and securing said cover by the frictional contact of said wing in said tuck-slot. Said wing may be weakened by a cut-score or a crease to facilitate its operation if desired.

(7) To provide such a container in which in an alternate embodiment said securing means may be at least one protrusion tab articulated to the medial layer of the three layered wall, said protrusion tab or wing being formed from the inner layer of the two course tuck-tab, said protrusion tab being adhesive free on its back surface to ostensibly form a lateral tuck-slot together with the container side wall and be so positioned as to receive the two course tuck-tab as it is slid downwardly in the reclosing operation thus holding said tab in a friction tight position.

(8) To provide such a container in which said three layered adjacent side-wall is formed by the use of two superimposed and at least partially adhered Van Buren Ears together with the container side wall, said Van Buren Ears being articulated glue-flap extensions.

(9) To provide such a container in which, in a modified embodiment, one of the layers is formed by an extended glue-flap preferably the inner layer of the three layered side wall being thus formed, with the medial layer being

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formed by the container side wall and the outer layer by a Van Buren Ear. (This order may be altered.) When this modified embodiment is used an access aperture may be cut in the medial layer (the container side wall) to facilitate access to the tuck-tab or pull-tab in the opening and closing operation.

(10) To provide a container in which said two course tuck-tab may have a pull-tab articulated to its free end to facilitate the opening and closing operation.

(11) To provide such a container in one modified embodiment of which said two course tuck-tab may have at least one sawtooth on a lateral edge thereof to engage under an overhanging portion of at least one of the courses of the triple side wall (this structure not shown).

(12) Finally to provide a one piece container formed from foldable material having opening, reclosing and securing means inherent in the glue-end and the adjacent, at least partially three layered, side wall thereof, said dispensing means consisting of an aperture in said glue-end, formed by the displacement of a hingedly joined cover, together with said cover itself which is cut releasably free on three sides thereof from said glue-end and hingedly joined thereto on the fourth side. In one position, said cover being an integral part of said glue-end, sealing said container, in another position said cover being torn free from said glue-end and rotated about on said hinged connection thus opening said aperture, and still in a third position said cover being reclosed and secured by a multiple layered tuck-tab articulated to the free end thereof, said tuck-tab being secured by lateral tuck-slots engaging in a tongue and groove like action therewith, said lateral vertical tuck-slots being formed from the outer two of the three layered container side wall. Said tuck-tab may have a pull-tab articulated thereto to facilitate said opening and closing.

Designation 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, in which certain modes of carrying out the use of a two-course cover and tuck-tab, with inherent lateral securing means is employed, in conjunction with a multiple course glue-end and an adjacent three-course side wall. The use of these specific modes are for illustrational purposes only and does not limit, to these, the application of the essential features of my invention which are (1) a multiple course glue-end wall with an aperture and a cover, (2) a multiple course tuck-tab with lateral securing means, (3) a triple course side wall so formed and positioned as to provide interlocking frictional securing means for said tuck-tab, and (4) a pull tab articulated to said tuck-tab to facilitate the opening and closing operation.

FIG. 1 is a partial view of the inside surface of the blank of my preferred structure when the double Van Buren Ear together with the container side wall form the triple wall; this shows the essential features, the aperture, the cover, the tuck-tab, the pull-tab and the lateral articulated friction wings,

FIG. 2 is an isometric view of a portion of the container of FIG. 1 in its pre-opened condition showing especially well the cover and the two course tuck-tab,

FIG. 3 is an isometric view of a portion of the container in its open position,

FIG. 4 is an angular cross sectional view of the container of FIG. 2 showing the triple side wall construction,

FIG. 5 is a view of a portion of the inside of a modified blank showing the essential features of the structure when a three course side-wall is formed by the use of an extended glue-flap together with one Van Buren Ear and the container side wall. This shows especially well the access aperture for the two course tuck-tab, said aperture being formed in the container side wall,

FIG. 6 is an isometric view of a portion of the modified

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container of FIG. 5 in its preopened condition showing the essential features of the container,

FIG. 7 is an isometric view of a portion of a further modified container in a reclosed condition when the lateral tuck-slots are made from protrusions formed from the innermost Van Buren Ear. In this embodiment no pull-tab is employed.

FIG. 8 is a view of a small section of the inside of the blank showing how the container of FIG. 7 is laid out.

Description and manufacturing procedure

Referring then to the drawings, in which the same or similar parts in the several drawings are indicated by the same number or letter for ease in identification, FIG. 1 is a view of a portion of the inside surface of the blank of my preferred embodiment of this structure, showing container side walls 1B, 2B, 3B and 4B and the side glue flap 5B which are articulated to each other in the usual way to form a four walled container having as shown in FIG. 1 the usual glue-flap 1, 2, 3 and 4 articulated thereto respectively. Three of these flaps 2, 3 and 4 are modified by cuts and creases to form the various members of the novel dispensing and reclosing means claimed herein. No alteration is made in glue-flap 1. Glue-flap 2, which forms the outer course of the glue-end of the container, is modified by releasable lateral cuts and a crease to form the aperture D and the outer course of the cover C. This flap is articulated to a Van Buren Ear V which is formed from glue-flap 3. Likewise glue-flap 4 is modified to form the inner course of the cover C¹ and is articulated to a Van Buren Ear V¹ which is also formed from glue-flap 3.

Glue-flap 3 thus forms two Van Buren Ears, or end glue-flap extensions V and V¹ and is further modified by releasable cuts to form the double course tuck-tab T and T¹ and the pull-tab P which is articulated to the free end of T¹ by hinge crease H. T¹ is modified by two diagonal across-the-corner creases to form wings W.

The container as shown in FIG. 2 is formed in the usual way, having adhesive and color applied in the proper areas to facilitate the functioning of the dispensing means, which facts are known to those skilled in the art of container construction.

This container is die cut and glued in the usual manner and can be formed on any machine which can form containers with Van Buren Ears; when the container is filled and closed it is in all respect similar to any full glue-end container.

The opening process is made simple and easy, pull tab P is drawn outwardly from the container side wall 3B which in turn also draws tuck-tab T and T¹ also outwardly, separating its releasable articulations from the adjoined Van Buren Ears V and V¹. Friction wings W flex sufficiently to withdraw from behind the protruding portions of Van Buren Ear V, thus freeing the two layered tuck-tab T and T¹. This in turn releases the cover C and C¹ as pressure is further applied, opening the dispensing aperture D. The cover can then be held against the box end with one finger as the contents are poured. When the container is to be reclosed tuck T and T¹ is rotated about and positioned against the container end and pressed downwardly until the cover closes the aperture. Side wings W will then be in their original position securely holding the opening and closing means in a tightly sealed condition. The container can be reopened again by merely sliding the tuck-tab T and T¹ upwardly with mild pressure, moving the friction side wings W out of the lateral tuck-slots TS in a sliding tongue and groove manner.

The container of FIG. 6 which is identical except that one of the three courses of the triple wall is formed from the extended side-glue flap 5B, is opened and closed in the same manner.

The container of FIG. 7 is also similar except that it pulls freely outwardly from the container wall since there is no overlay of stock to be overcome. It is closed by

inserting both courses of tuck-tab T¹ and T² behind protrusion wings W, FIG. 7.

The containers here described can be used with caulk seal equipment and afford very efficient closures which can be easily opened for dispensing and as easily reclosed to insure against accidental spilling or contamination.

Summary and novelty

It should be noted at this point how the novelty of this construction affords several beneficial results. (1) The container as described is formed from a standard full glue-end blank. The only changes are minor alterations in the steel-rule cutting die; no additional stock or other appendage is necessary, (2) the blank is glued in a standard straight line gluer, (3) the container is set up and filled on any standard filling machine which forms containers having Van Buren Ears. The only alteration is a split glue wheel on one of the side glue-flaps. (4) The container affords a very effective closure. (5) The container can be easily opened by grasping the pull-tab with the fingers; no special instrument is necessary. (6) The container affords ready access to and dispensing of the contained products. (7) The container is readily and securely reclosed by tucking the tuck-tab into the tuck-slots, accidental opening being thus prevented. (8) The container is readily and easily reopened by pulling the pull-tab upwardly and sliding the friction wings out of the vertical tuck-slots.

The container then in its essential form affords a very efficient and economical package for a great number of foods and other products which require an efficient closure and a handy dispensing and reclosing means, this without the cost of special machinery or additional stock (except when the extended glue-flap is used), or additional appendages such as metal spouts. The container is a decided advance in packaging, meeting an urgent need in the reclosure field.

It is understood then that the embodiment shown is only an example and various changes in shape, size or 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 dispensing container formed of foldable stock having opening, dispensing, closing and securing means inherent in two adjacent multiple walls thereof, at least one of said walls having at least three layers of said stock, said means consisting of a dispensing aperture, a hingedly joined cover thereto, a double layered tuck-tab hingedly joined to the free end of said cover, said tuck-tab having lateral friction wings articulated thereto, said container also having at least one essentially vertical tuck-slot so positioned externally on the side wall thereof adjacent to said aperture to frictionally engage in a tongue and groove relationship said laterally protruding friction wings when said container is in a closed condition, said tuck-tab may also have articulated thereto an adhesive free pull-tab.

2. The dispensing container of claim 1 in which said side friction wing is weakened along its articulation by a crease or cut-score to facilitate its flexing as it is being drawn outwardly from the container side wall and from said tuck-slot.

3. The container of claim 1 in which said securing means are essentially vertical tuck-slots formed by lateral friction wings or protrusions articulated to the medial layer of the triple container wall and in which tuck-slot said tuck-tab is positioned when in a closed position.

4. The container of claim 1 in which one of the multiple walls is formed from an extended end glue-flap, the container side-wall and an extended side glue-flap, said medial layer of said wall having an access aperture therein so positioned as to facilitate the access to said pull-tab.

References Cited by the Examiner

UNITED STATES PATENTS

1,523,039	1/25	Reed	229—17	X
1,988,582	1/35	Weiss	229—17	X
2,812,126	11/57	Graybill	229—17	
2,812,127	11/57	Graybill	229—17	
3,096,922	7/63	Graybill	229—17	

FRANKLIN T. GARRETT, *Primary Examiner*.