July 22, 1958 B. J. TAMARIN 2,844,298

TAPELESS UNFOLDABLE CLOSURE FOR CIGARETTE PACKAGES

Filed Sept. 3, 1954 2 Sheets-Sheet 1

Fig. 1

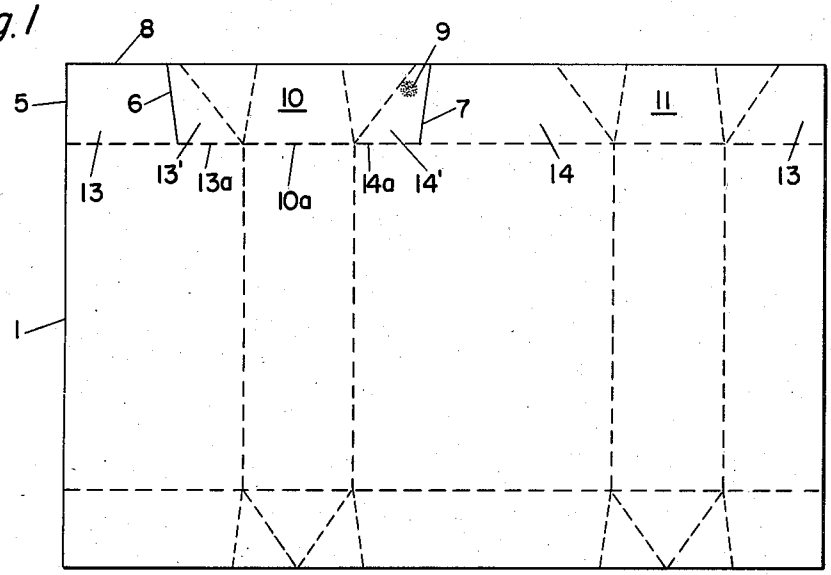


Fig. 2

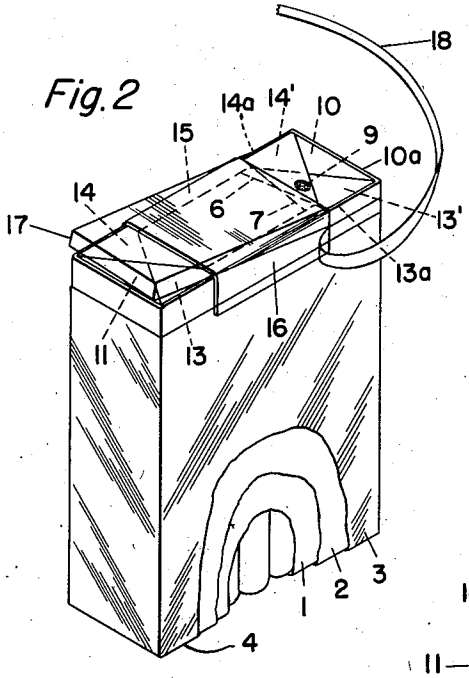


Fig. 3

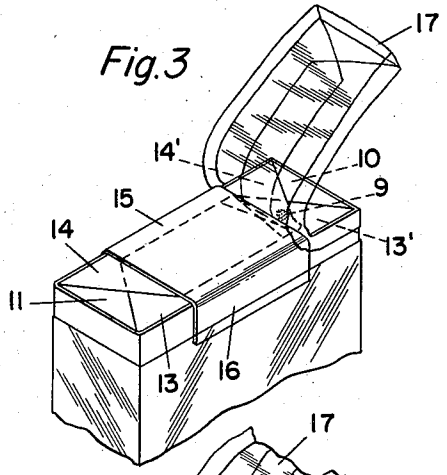
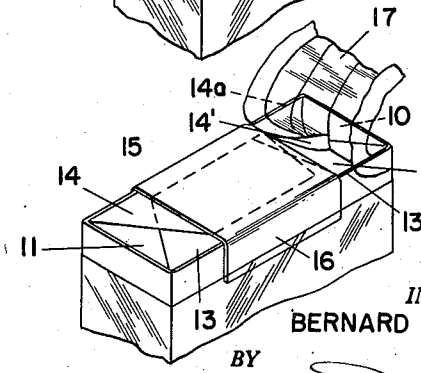


Fig. 4



INVENTOR.
BERNARD J. TAMARIN

BY

HIS ATTORNEY

July 22, 1958 B. J. TAMARIN 2,844,298

TAPELESS UNFOLDABLE CLOSURE FOR CIGARETTE PACKAGES

Filed Sept. 3, 1954 2 Sheets-Sheet 2

Fig. 5

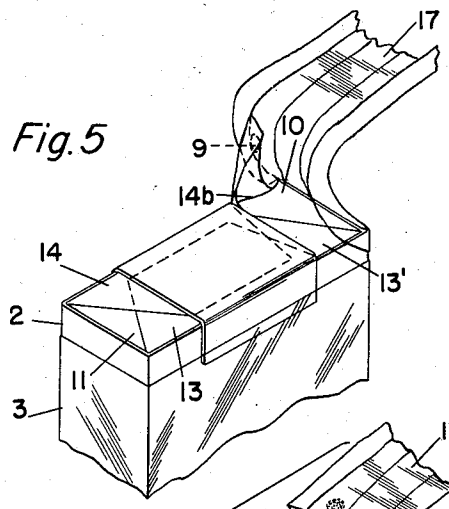


Fig. 6

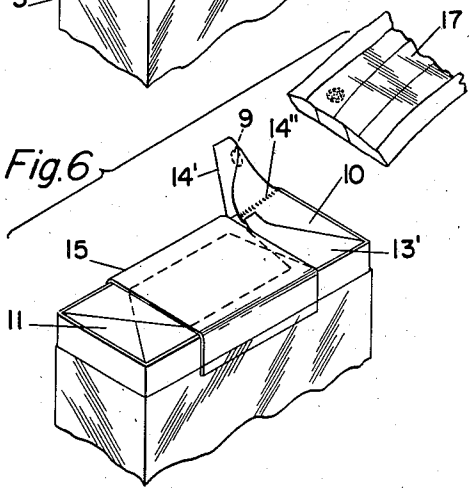


Fig. 7

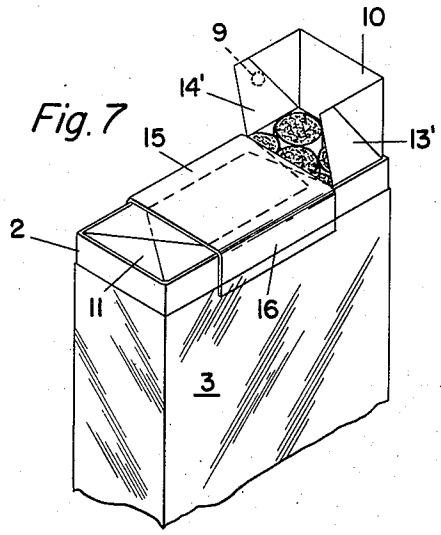


Fig. 9

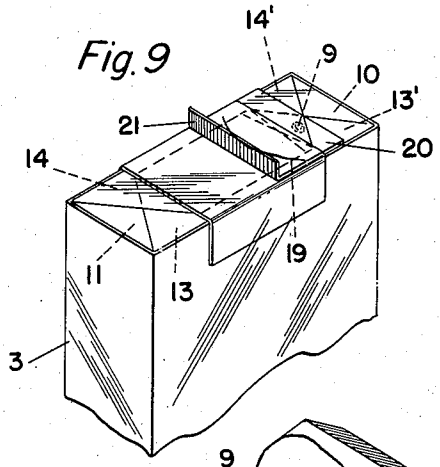


Fig. 10

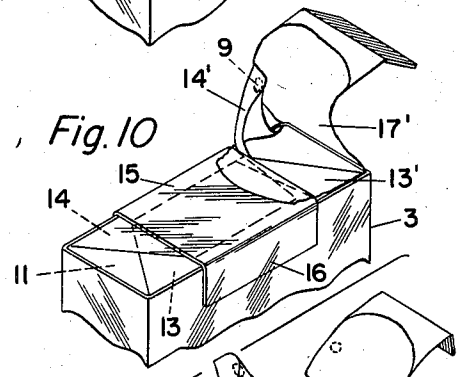


Fig. 11

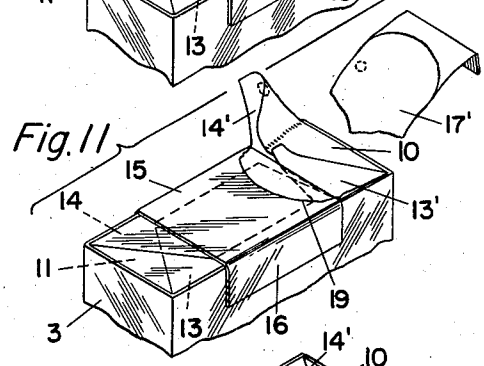
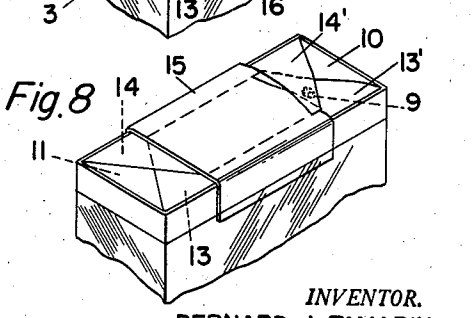


Fig. 8



INVENTOR.
BERNARD J. TAMARIN

BY

HIS ATTORNEY

United States Patent Office

2,844,298

Patented July 22, 1958

2,844,298

TAPELESS UNFOLDABLE CLOSURE FOR CIGARETTE PACKAGES

Bernard J. Tamarin, Flourtown, Pa.

Application September 3, 1954, Serial No. 454,087

5 Claims. (Cl. 229—51)

My invention is a moisture resistant package comprising an inner wrapper having a downfolded tuck and flaps forming an end closure including overlapped unfoldable members, and a sheath including a readily detachable strip overlying and bonded to the outer surface of the outermost of said members and forming a pull through which unfolding stress applied to the pull may be transmitted to such member directly to unfold it and initiate or facilitate the unfolding of the remaining unfoldable members and thereby provide access to the contents of the package.

A leading object of my invention is the simplification of the production and operation of pull-opening cigarette packages by the direct utilization of a sheath strip as a package opening pull and its connection through a single bond with an area of unfoldable closure flap remote from its folding line and at a point where resistance to unfolding is at a minimum.

A further object of my invention is the facilitation of an access to the contents of the package without the detachment or defacement to any part of the inner wrapper, and the refolding of the unfoldable closure members to reclose the package.

A further object of my invention is the production of pull-opening cigarette packages on standard types of A. M. & F. 3–79 cigarette packers without substantial modifications thereof or additions thereto and without appreciable increase in the cost of the package.

The principles of my invention and the best mode I have contemplated of applying such principles will further appear from the following description and the accompanying drawings in illustration thereof.

In the drawings, Fig. 1 is a plan view of an unfolded inner wrapper used in the production of a package embodying my invention; Fig. 2 is a perspective view of a partly opened cigarette package embodying my invention, parts being broken away to indicate the interior construction; Figs. 3 to 6 inclusive are fragmentary perspective views illustrating sequential stages in the opening of the package of Fig. 2; Fig. 7 is a fragmentary perspective view of a package which has been opened in accordance with my invention; Fig. 8 is a fragmentary perspective view showing the reclosing of the package shown in Fig. 7; Fig. 9 is a fragmentary perspective view of a modified form of cigarette package embodying my invention; Figs. 10 and 11 are fragmentary perspective views illustrating sequential stages in the opening of the package shown in Fig. 9.

In the drawings, my invention is shown embodied in a usual type of cigarette package comprising an inner wrapper **1**, a usual jacket **2**, and a hermetically sealed sheath **3**.

Bottom extensions of the inner wrapper and jacket may be folded in any usual way to form a bottom closure **4**.

In accordance with the preferred practice of my invention, the inner wrapper **1** has an upper extension **5** containing converging slits **6** and **7** extending inwardly from the top edge **8**. A small area of the outer foil surface of the wrapper **1** adjacent to the intersection of the slit **7** and edge **8**, but preferably spaced slightly therefrom, is coated with a bonding material **9** or an activator of bonding material. The bonding material **9** may be conveniently applied by printing on the metallic foil surface of the wrapper, before or after the downfolding of the extension **5**, a solution or dispersion of a thermoplastic adherent material, such, for example, as a vinyl compound in a volatile solvent, which, on drying, leaves a small patch of non-tacky thermally activatable bonding material adapted to bond metallic foil and cellophane together. Suitable bonding material is marketed under the name "Hermatite 911b."

After the inner wrapper **1** and jacket **2** have been respectively folded to form an open mouth receptacle, and filled with cigarettes, the extension **5** is bent transversely to the body walls of the inner wrapper so as to form a top closure composed of tucks **10** and **11** and flap sections **13**, **13'**, **14**, **14'**. The flap section **13'** has the shape of a truncated triangle and partially overlies but is free from the surface of the tuck **10** and from the surface of the flap section **14'**. The topmost flap section **14'** has the shape of a truncated triangle and partially overlies but is free from the surface of the tuck **10** and flap section **13'**. The areas of the flap sections **13'** and **14'** adjacent to the slits **6** and **7** are overlaid by the bight **15** of a stamp **16** whose extremities are bonded to the front and back walls of the jacket **2**. The bight **15** leaves the adhesive area **9** exposed, but normally holds the flap sections **13'** and **14'** in downfolded position, but the areas of these flaps engaged by the bight may be readily drawn from beneath the bight for unfolding along the creases **13*a***, **14*a*** which connect such flap sections with the front and rear walls formed by the inner wrapper **1**. When the flap sections **13'**, **14'** are unfolded, the tuck **10** is readily unfoldable along the crease **10*a*** which connects the tuck with a side wall formed by the inner wrapper **1**. All of the surfaces of the tuck **10** and flap sections **13'**, **14'** are free of bonding material excepting the area **9** of the flap section **14**, which area is remote from the crease **14*a*** and adjacent to the apex of the flap section **14'** where resistance to withdraw from beneath the bight **15** is at a minimum.

After the extension **5** has been downfolded to form an end closure and the stamp **16** has been attached to the jacket **2**, the jacket and inner wrapper are enclosed in the cellophane sheath **3** which has end extensions tucked and folded to form a bottom closure and a top closure **17**.

A usual zip tape **18** may be provided between the jacket **2** and cellophane **3** to facilitate the severance of the top **17** from the body of the sheath **3**, as shown in Fig. 2, or the zip tape may be omitted and the top section of the cellophane provided with a transverse slit **19** sealed by an adhesive tab **20** having an upturned lip **21** as shown in Figs. 9 and 11 and as more fully described in my application Serial No. 360,789.

The joints formed by the tucking and folding of the top **17** of the sheath **3** are hermetically sealed by the action of heat and/or pressure and/or solvent on the cellophone or on a coating applied to the surface thereof. The instrumentality (not shown) for effecting the sealing of the joints of the top closure **17** simultaneously thermally bonds such top closure **17** securely to the exposed pretreated area **9** adjacent to the apex of the outermost flap section **14'**, but not to the remainder of the closure formed by the tucks **10**, **11**, flaps **13**, **13'**, **14**, **14'**, nor to the bight **15**.

Consequently when the top section **17** of the sheath **3** is severed from the remainder of the sheath to form a

pull, as for instance, by pulling the zip tape **18** (Fig. 2), the top **17** may be lifted (Fig. 3) and pulled upward and/or toward the right. The flap section **14'** is thereby pulled out from under the bight **15** and unfolded along the crease **14***a* (Figs. 4 and 5). As the flap **14'** is connected along a crease **14***b* (Fig. 5) with the tuck **10**, and as the tuck **10** underlies the flap section **13'**, continued pulling on the top section **17** will usually partly unfold the tuck **10** and flap section **13'** before the top section **17** parts from the bonded area **9** adjacent to the apex of the flap section **14'**. The extent and strength of the bonding material are preferably so proportioned as to permit the detachment of the section **17** from the flap section **14'** after the latter has been fully unfolded but before it starts to tear along the crease **14***a*.

After the top section **17** has been pulled free, from the unfolded section **14'** and thrown away, the tuck **10** and flap section **13'** may be readily unfolded by the use of the finger to form a chute (Fig. 7) through which a desired number of cigarettes may be extracted. If less than the whole number of cigarettes are extracted, the tuck **10** and flap sections **13'**, **14'** may be refolded to close the package as shown in Fig. 8, and if desired the edges of the flap sections may be tucked under the bight **15**.

In the form of the invention shown in Figs. 9 to 11, the package may be opened by pulling on the lip **21** to separate the adjacent portion of the tab **20** from the top section **17** and cause the top section **17** to tear along its corners from the ends of the slit **19** toward the right (Fig. 9) and thus form a pull **17'** which transmits stress through the bonded area **9** to the flap section **14'** and unfolds it and partially unfolds the tuck **10** and flap section **13'** before the bond **9** breaks, as hereinbefore described.

It will thus be seen that the severance of a sheath section **17** or **17'** forms a pull bonded by a single bond directly to an unfoldable flap section **14'** cut from the top closure formed by the inner wrapper and that such pull may be used to apply stress to such section at a point of minimum resistance to withdrawal and unfolding with consequent unfolding of the flap section **14'** along its hinge connection to the body of the wrapper and to the tuck **10**.

Having described my invention I claim:

1. A moisture resistant package comprising an inner wrapper bent to form an end closure having unfoldable flap sections precut therefrom, means forming a bight normally holding said unfoldable flap sections in downfolded position by the engagement of their inner edges under an edge of the bight, and a sheath having a readily severable strip bonded to one of said unfoldable flap sections at an area remote from its unfolding line and where resistance to the withdrawal and unfolding thereof is relatively low.

2. A package comprising an inner wrapper having a downfolded tuck and flaps forming an end closure including overlapped unfoldable members, a sheath having a readily severable section bonded directly to one of said flaps, and a zip tape underlying said sheath and, when pulled, severing the section of said sheath bonded to said flap, and said severed section, when pulled, unfolding said flap.

3. A moisture resistant package comprising an inner wrapper forming a body having down folded tucks and flaps forming an end closure including overlapped unfoldable members hinged along parallel edges of said body, and a sheath including a readily detachable strip overlying and bonded to the apex of the outer surface of the outermost edge of said flap members and severable adjacent to the side edges of said tuck and flap members to form a pull through which unfolding stress applied to the pull is transmitted directly to the outermost flap member to unfold it and initiate or facilitate the unfolding of the remaining unfoldable members and thereby provide access to the contents of the package.

4. A moisture resistant package comprising an inner wrapper and an outer sealed sheath of flexible, thin sheet material, said inner wrapper having an upper extension which is bent to form an end closure including a tuck and flap sections partially overlying said tuck, said flap sections being readily unfoldable from one another and from said tuck, said sheath having a top section readily severable from the remainder thereof adjacent to said upper extension and being bonded to one of said flap sections to transmit unfolding stress to said last named flap section.

5. A package comprising an inner wrapper having an upper extension which is bent to form an end closure having unfoldable hinged flaps cut therefrom, said flaps being of substantially triangular shape and each having its base extending along and unfoldable along an edge of the closure in parallelism with one another, and a sheath having a readily severable section bonded to one of said hinged flaps adjacent to the apex thereof, said bonded flap being unfolded by stress transmitted through said section when said section is severed and pulled.

References Cited in the file of this patent

UNITED STATES PATENTS

1,516,455	Panza	Nov. 18, 1924
1,882,094	Rauber et al.	Oct. 11, 1932
1,915,503	Schmidt	June 27, 1933
2,415,117	Tamarin	Feb. 4, 1947
2,588,996	Snyder	Mar. 11, 1952
2,593,778	McGinnis	Apr. 22, 1952
2,675,169	Tamarin	Apr. 13, 1954