Feb. 4, 1958 B. J. TAMARIN 2,822,120

CIGARETTE PACKAGE

Filed July 29, 1954 2 Sheets-Sheet 1

Fig. 1

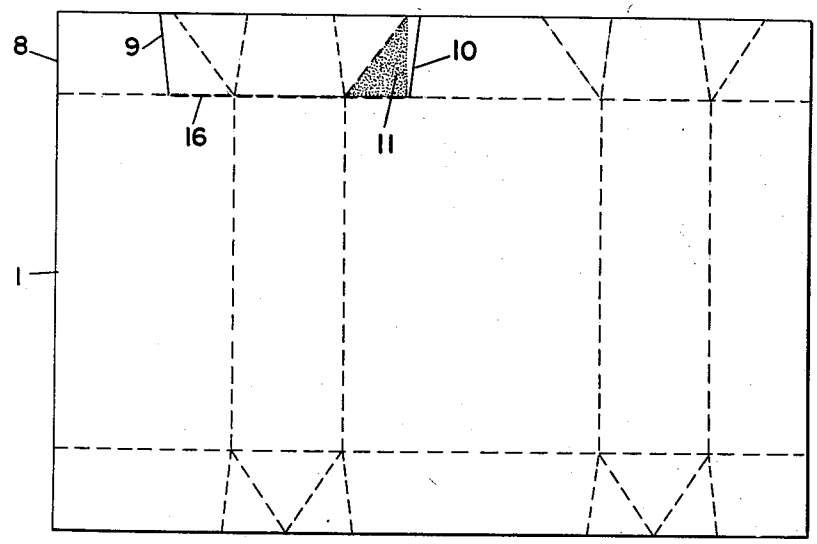



Fig. 2

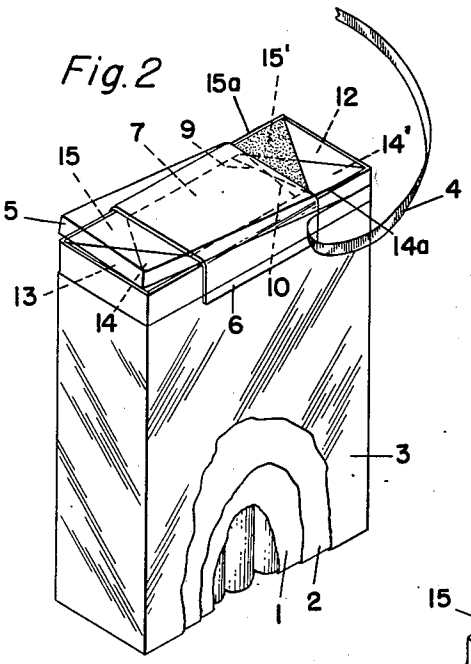



Fig. 3

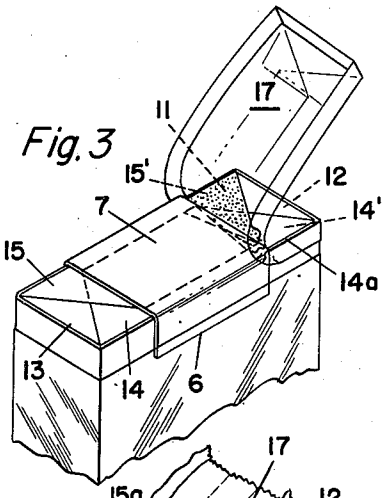



Fig. 4

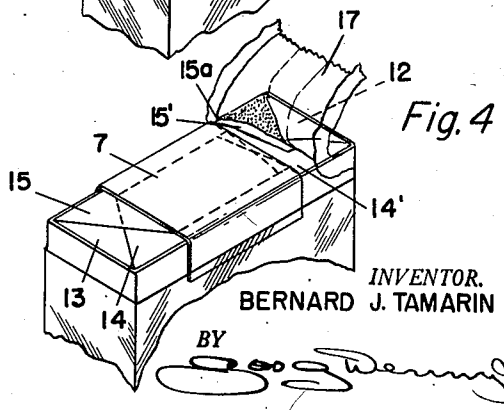
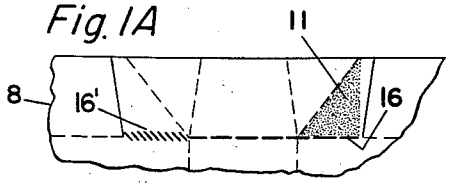



Fig. 1A




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Fig. 5

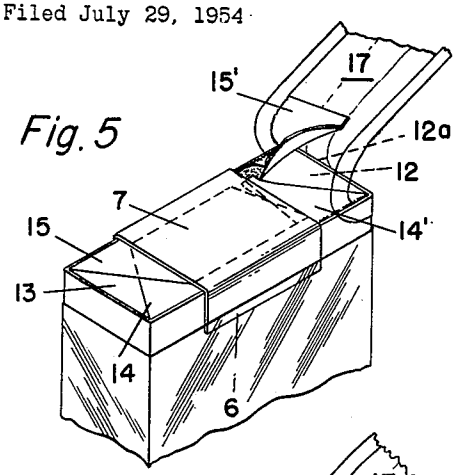



Fig. 8

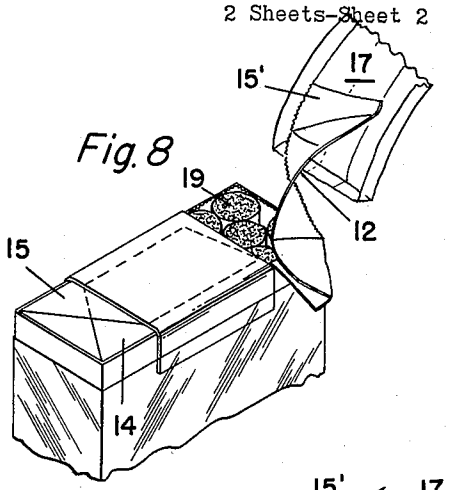



Fig. 6

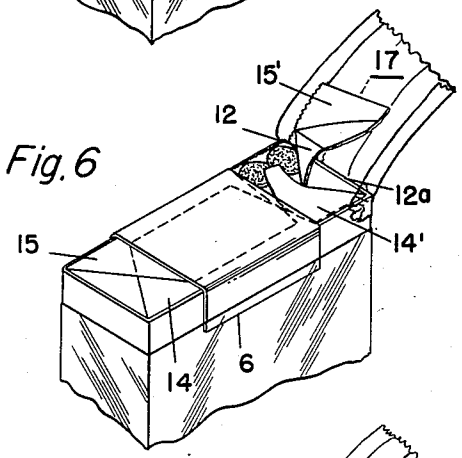



Fig. 9

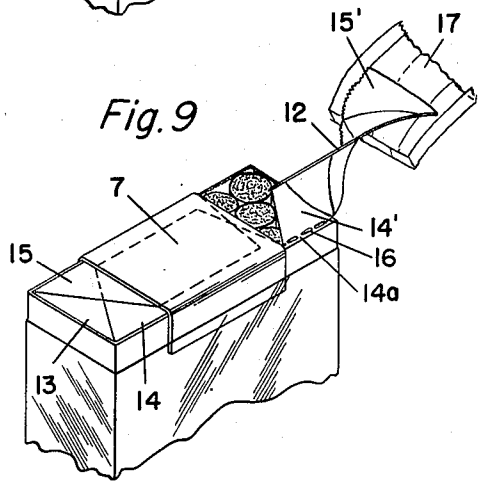



Fig. 7

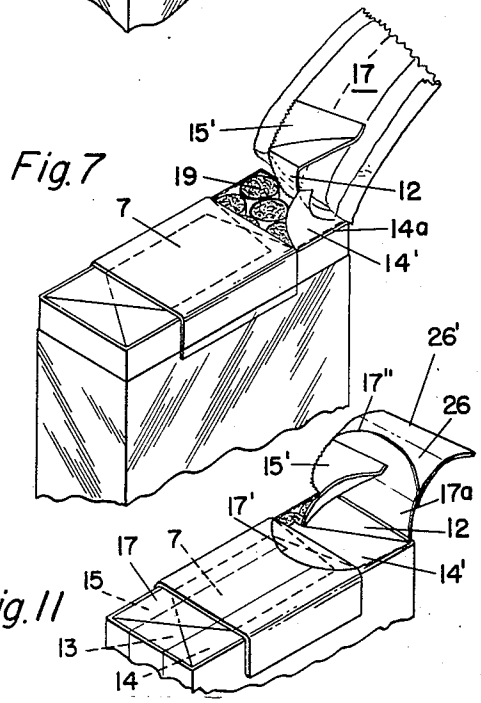



Fig. 10

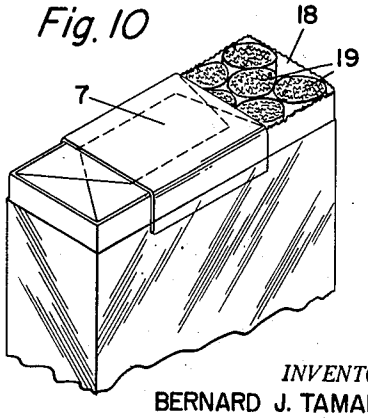



Fig. 11

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# CIGARETTE PACKAGE

Bernard J. Tamarin, Flourtown, Pa.

Application July 29, 1954, Serial No. 446,554

4 Claims. (Cl. 229—51)

My invention is a moisture resistant package comprising an inner wrapper and an outer sheath and having means for facilitating access to the contents of the package by concentrating stress, imparted by a pull on a removable sheath section, at successive points along a tear line of the inner wrapper and preferably along the edge at the juncture of an end closure section and a body wall to which such section is hinged.

A leading object of my invention is the avoidance of the dispersion of stress applied at any given instant over an area, or along a length, of inner wrapper having an aggregate resistance to tear over such area or length greater than the adhesion between the removable sheath section and the inner wrapper section to which such sheath section is bonded.

My improvements are particularly applicable to a soft shell or pouch type cigarette package comprising an heremetically sealed sheath of cellophane, or the like, which encloses an open-top jacket and an inner wrapper. The inner wrapper has an end closure which includes a tuck and flaps partially overlying such tuck and readily unfoldable therefrom and from one another.

In accordance with my invention, a readily removable top section of the sheath is securely bonded to a section of the topmost flap comprised in the end closure of the inner wrapper so that an upward or outward pull on the removable sheath section unfolds the attached flap section and concentrates a tearing stress at the innermost point of juncture between such flap section and the sidewall of the wrapper. As the flap tears along its line of juncture with the body wall, the tuck is lifted by the continued pulling and lifts the other flap so that the continuous tearing stress is concentrated and applied at sequential points along the respective joints between the unfolded upper flap, the unfolded tuck and the unfolded inner flap and the body walls to which they are respectively hinged.

The unfoldable flap sections are preferably hinged sections cut from the closure and are normally held in downfolded position by the engagement of their inner edges under an edge of a bight spanning the jacket top opening. The desired tear line may be sufficiently weakened for tearing by creasing or scoring, but preferably the desired tear line is weakened by spaced perforations or slits and the terminal section of the tear line is made weakest to facilitate the tearing thereof contra to the direction of pulling on the sheath section 7.

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. 1A is a fragmentary view of a part of the wrapper shown in Fig. 1 showing the accentuated weakening of the terminal portion of the tear line: 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 9, inclusive, are fragmentary perspective views illustrating sequential stages in the opening of the package of Fig. 2: Fig. 10 is a perspective view of a package which has been opened in accordance with my invention: and Fig. 11 is a fragmentary perspective view showing a modified detachable sheath section for opening the package.

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 an hermetically sealed sheath 3. As shown in Fig. 2, the sheath may be provided with a usual zip tape 4 by which the top 5 of the sheath may be severed from the body thereof.

Bottom extensions of the inner wrapper and jacket may be folded in any usual way to form a bottom closure, and a stamp 6 may be affixed to upper portions of the front and rear walls of the jacket 2 to form a bight 7 across the open top of the jacket.

In accordance with the preferred practice of my invention, the inner wrapper 1 has an upper extension 8 containing converging slits 9 and 10, and a small area adjacent to, but spaced slightly from the slit 10, is coated with a bonding material 11 or an activator of bonding material. The bonding material may be conveniently applied by printing on the metallic foil surface of the wrapper 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 triangular patch of non-tacky, thermally activatable bonding material adapted to bond metallic foil and cellophane together. A suitable bonding material is marketed under the name Hermatite 911*b*.

The extension 8 is bent transversely to the body walls of the inner wrapper 1 so as to form a top closure composed of the tucks 12 and 13 and the flap sections 14, 14′ and 15, 15′. The flap section 14′ partially overlies but is free from the surface of the tuck 12 and the flap section 15′ partially overlies but is free from the surfaces of the tuck 12 and flap section 14′. The areas of the flap sections adjacent to the slits 9 and 10 are overlaid by the bight 7 which normally holds the flap sections in downfolded position, but such areas of the flap sections 14′, 15′ may be readily drawn from beneath the bight for unfolding along the creases 14*a*, 15*a* connecting the flap sections 14′, 15′ with the front and rear walls formed by the inner wrapper 1. The margin of the flap section 15′ which goes under the bight 7 is adjacent to the patch of bonding material 11 but is devoid of bonding material. The creases 14*a*, 15*a*, and the crease 12*a* connecting the tuck 12 with a side wall formed by the inner wrapper 1, may be weakened along part or all of their lengths by perforations 16 as shown in Fig. 1. The crease 14*a* may be weakened by cross slits 16′ as shown in Fig. 1A, which facilitate tearing of such crease from the crease 12*a* toward the inner end of the slit 9.

The cellophane sheath 3 has extensions which are tucked and folded to form a bottom closure and a top closure 17. The joints formed by such tucks and folds are hermetically sealed by the action of heat and/or pressure and/or solvent on the cellophane or on a coating applied to the surface thereof. The instrumentality (not shown) for effecting the sealing of the joints of the sheath top closure simultaneously thermally bonds such closure 17 securely to the exposed, pretreated flap section 15′ but not to the remainder of the closure formed by the tucks 12, 13, flaps 14, 14′, 15 and bight 7.

Consequently when the top section 17 of the sheath 3 is severed from the remainder of the sheath, as for instance, by pulling the zip tape 4 (Fig. 2), the top 17 may be lifted (Fig. 3) and pulled upward and/or toward the right, and the flap section 15′ thereby pulled out from under the bight 7 and up until the stress is resisted

by the juncture of the base of the flap 15' with the front wall formed by the wrapper 1. Since the flap 15' is free to turn along the crease 15*a*, continued pulling of the top 17 concentrates stress at the innermost point of the crease 15*a* to start a tear (Fig. 4), which is continued, through a single thickness of the wrapper 1, from point to point along the crease 15*a* (Fig. 5). The pulling on the top section 17 causes the flap section 15' to unfold the tuck 12 and concentrate tearing stress at the juncture of the crease 15*a* with the crease 12*a* and start a tear along the latter (Fig. 6), which is continued progressively, through a single thickness of the wrapper 1, from point to point along the crease 12*a* (Fig. 7).

The unfolding and tearing of the tuck 12 causes the unfolding of the flap section 14' and continued pulling on the top section 17 causes a concentration of tearing stress at the juncture of the crease 12*a* with the crease 14*a* (Fig. 8) and starts a tear along the latter, which is preferably weaker than the other creases. The tear through the weakened single thickness of the inner wrapper 1 continues until the flap section 14' is completely detached, and the package is provided with an aperture for access to the cigarettes 19 contained therein.

The weakening of the material of the inner wrapper 1 by the creases 12*a*, 14*a* and 15*a* and/or apertures 16, 16', and the peripheral reinforcement provided by the top edge of the jacket 2 adjacent to such creases tends to confine the tear line to the creases and provide a substantially smooth edged opening.

Instead of using a zip tape 4 to facilitate detachment of the top section 17, I may, as indicated in Fig. 11, omit the zip tape and slit the top section 17 to form the edges 17', 17'' which are normally covered by and sealed by a thermotropic tab 26 having its body bonded to the top 17 on both sides of the slit, and provided with an upturned reenforced lip 26', as shown in my copending application Serial No. 360,789, filed June 10, 1953. When it is desired to open the package, the lip 26' is pulled upward and toward the right (Fig. 11). This loosens the tab 26 from the sheath top section adjacent to the edge 17' and tears the sheath top section from the termini of the edge 17'', along the top edges of the jacket. The consequent lifting of the sheath top section 17*a* bonded to the flap section 15' unfolds and tears the flap section 15', tuck 12 and flap section 14' in sequence as above described.

Having described my invention I claim:

1. A package comprising an inner wrapper and an outer sheath, said inner wrapper being bent to form an end closure including a tuck having a free inner edge extending across a major portion of the width of said package and flap sections partially overlying one another and said tuck, said flap sections being respectively hinged to said tuck adjacent to the opposite top edges of said package and having edges lying along said free inner edge, said flap sections being readily unfoldable from said tuck and from one another, and said sheath having a detachable top section bonded to the outermost of said flap sections and said outermost flap section being unfoldable along its hinged connection with said tuck by the removal of said detachable top section and the unfolding of said outermost flap section consecutively unfolding said tuck and other flap section, and said outermost flap section, tuck and other flap section being consecutively tearable by stress applied to said outermost flap section.



2. A package set forth in claim 1 in which the bonding of the detachable top section to the outermost flap section is at least to some portion of the outermost flap section which overlies the inner flap section.

3. A package comprising an inner wrapped and an outer sheath, said inner wrapper being bent along weakened lines to form an end closure including a tuck having a free inner edge extending across a major portion of the width of said package and flap sections partially overlying one another and said tuck, said flap sections being respectively hinged to said tuck adjacent to the opposite top edges of said package and having edges lying along said free inner edge, said flap sections being readily unfoldable from said tuck and from one another, and said sheath having a detachable top section bonded to the outermost of said flap sections and said outermost flap section being unfoldable along its hinged connection with said tuck by the removal of said detachable top section, and said outermost flap section, tuck and other flap section being consecutively tearable along said weakened lines by stress applied to said outermost flap section by the removal of said detachable top section, the strength of the bond between said detachable top section and the outermost flap section being so proportionate to the weakening of the inner wrapper along said weakened lines that wrapper will tear along said weakened lines under stress insufficient to rupture the bond between said detachable top section and the outermost flap section.

4. A package having side walls and parallel front and back walls wider than said side walls and a closure comprising members folded down from said walls, one of said members consisting of a tuck hinged to a side wall and another of said members being laminated and substantially triangular, said last named member having one of its laminations hinged to one of said parallel walls and another of its laminations hinged to said tuck, and a sheath having a detachable top section bonded to a lamination hinged to said parallel wall, said laminations being unfoldable and unfolding said tuck by the removal of said detachable top section of said sheath from the package.

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