

April 23, 1957

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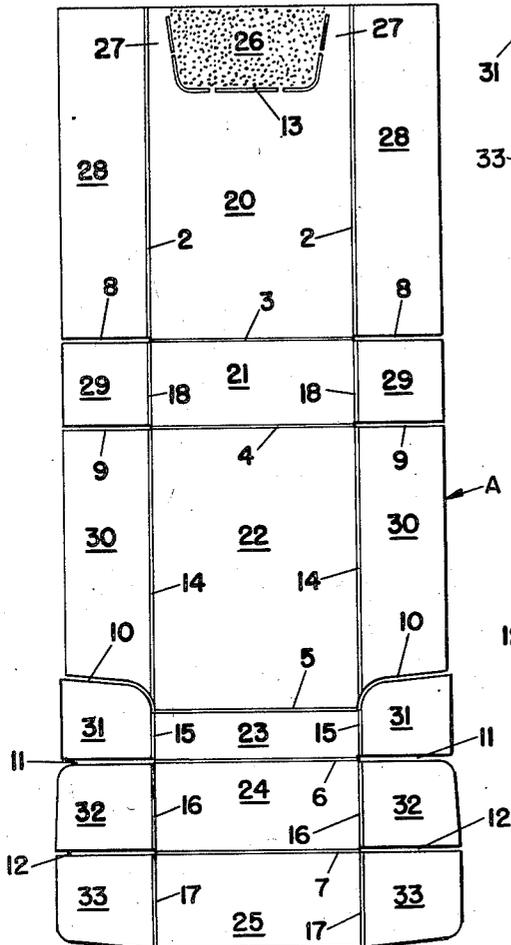
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CARTON

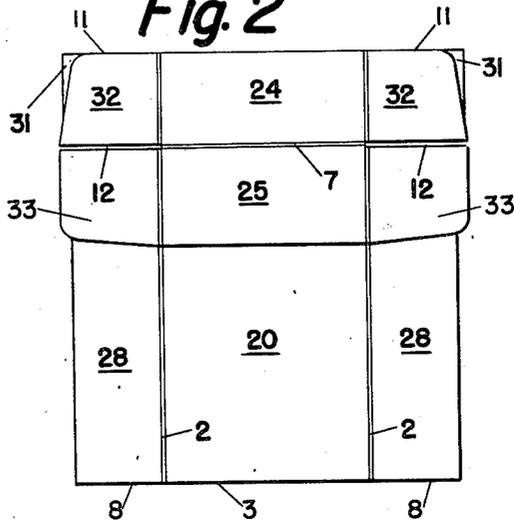
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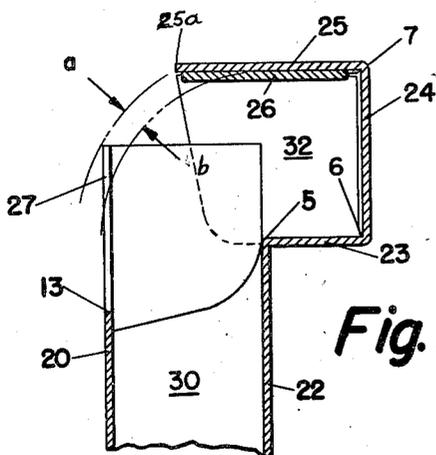
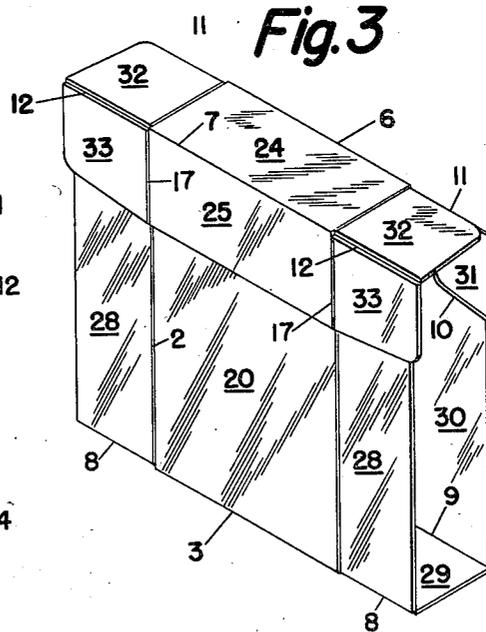
**Fig. 1**



**Fig. 2**



**Fig. 3**



**Fig. 10**

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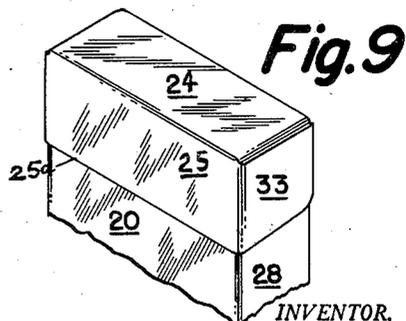
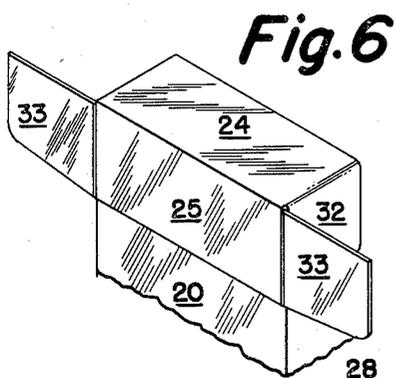
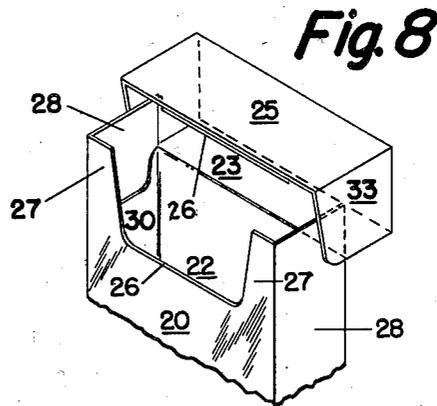
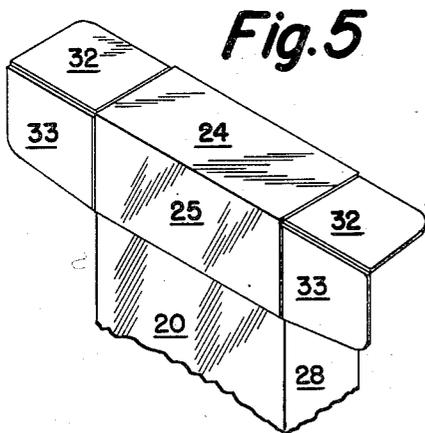
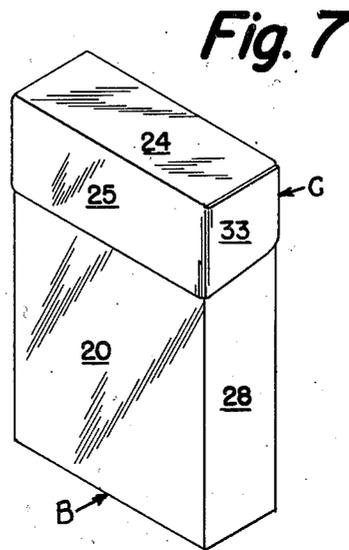
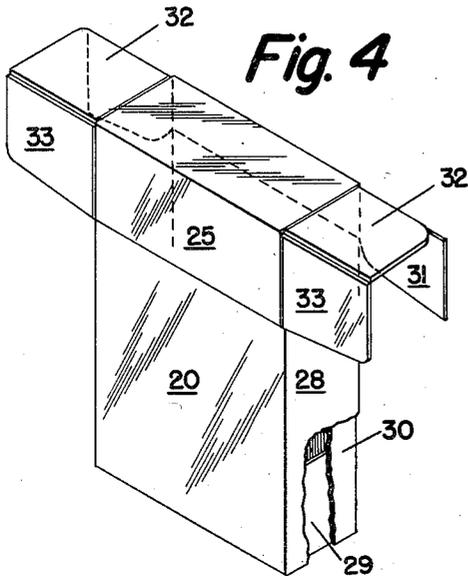
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CARTON

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**CARTON**

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4 Claims. (Cl. 229—16)

This invention relates to a tamperproof, reclosable carton which may be made from a single blank. More specifically, the invention relates to a carton for packaging cigarettes and other articles having a reclosable cover or lid.

Further details and advantages of the invention will be apparent from the following specification and appended drawings, wherein

Figure 1 is a plan view of a single blank suitably cut and scored to form a carton having a reclosable lid,

Figure 2 is a plan view of the blank shown in Figure 1 folded upon itself and having certain superposed portions adhered together as a step in making a carton from the blank,

Figure 3 is a perspective view of the folded blank shown in Figure 2 partially set up,

Figure 4 is a perspective view of the same partially set-up blank at a further stage in being set up,

Figure 5 is a fragmental perspective of the same partially set-up blank at still a further stage,

Figure 6 is a view similar to Figure 5 at a further stage,

Figure 7 is a perspective view of the completed carton showing the lid in closed and sealed condition,

Figure 8 is a fragmental perspective view showing the carton opened and the lid folded back,

Figure 9 is a view of the reclosed carton, and

Figure 10 is a fragmental side view of the carton showing its reclosing feature.

Referring to the drawings, the carton is preferably made of a single foldable blank A, shown in Figure 1, such as of cardboard, from which a receptacle portion B and a hinged box-like lid C are formed with the use of minimum amount of material. The completed carton is shown in Figure 7 wherein the receptacle portion is indicated generally by letter B and the hinged lid by letter C. The blank A is scored along spaced parallel score lines 2 and a scored transverse line 3 to form a rectangular front wall 20 and hinged side panels 28 of the receptacle portion B which is adapted to receive cigarettes or any other commodity to be packaged. The upper portion of the front wall 20 is provided with a line of weakening 13 formed by suitably spaced slits or perforations which extend to the upper edge of the front wall and define a tear-out portion 26. Upon removal of the tear-out portion 26 upwardly extending corner portions 27 will be provided at each of the upper sides of the front wall, as shown in Figure 8. These corner portions 27 are adapted to frictionally engage and retain the hinged lid C as will be explained later.

Spaced parallel score lines 3 and 4 and transversely spaced parallel score lines 18 form the rectangular bottom wall 21 of the receptacle portion B. Cut score lines 8 and 9 which extend at each of the ends of score lines 3 and 4 define a pair of bottom flaps 29 hinged to the bottom wall 21 along score lines 18.

Parallel spaced score lines 14 and transverse spaced score lines 4 and 5 define a rectangular rear wall 22 of

the receptacle portion B. The width of rear wall 22 is the same as that of the front wall 20, but the height of the rear wall as defined by score line 5 is substantially less than the height of the front wall 20. Cut score lines 9 and 10 and parallel spaced score lines 14 define hinged side wall panels 30 which are hinged to the rear wall 22 along score lines 14.

A lid-forming panel is hingedly connected to the upper portion of the rear wall 22 which is suitably cut and scored to form the hinged lid C. The lid-forming panel is hinged to rear wall 22 along score line 5 and is provided with spaced parallel score lines 15 and a transverse score line 6 to form a rear wall 23 of the lid. Cut score lines 10 and 11 form a pair of flaps 31 hingedly connected to the rear wall 23 along score lines 15. Spaced parallel score lines 16 and a transverse score line 7 form a top wall 24 of the lid. Cut score lines 11 and 12 form a pair of flaps 32 hingedly connected to the top wall 24 along score lines 16. Spaced parallel score lines 17 and transverse score line 7 form the front wall 25 of the lid. Cut score lines 12 form a pair of flaps 33 hingedly connected along score lines 17 to the front wall 25 of the lid.

In forming the carton from the blank A cut and scored as described, the flap blank is first folded on itself along score line 3 so that the front wall 20 is superimposed in flat face contact with the rear wall 22 and side wall panels 28 are superimposed on side wall panels 30, as shown in Figure 2. Adhesive is applied to the removable tear-out portion 26 which is defined by the line of weakening 13. The combined front lid wall 25 and top lid wall 24 are then folded flatwise on score line 6 so that the front lid wall 25 overlies the removable tear-out portion 26 and is adhered thereto by application of suitable pressure. The carton blanks may be shipped flat in this condition to the user for packaging articles therein and completing the package as will be further described.

When it is desired to package cigarettes or any other commodity, such commodity may be previously pre-packaged for convenience of handling or sanitation in a separate wrapper or container made of any suitable materials, such as metal foil, paper, cellophane and the like, to form a packet which will fill the receptacle space B of the carton. The glued blank as shown in Figure 2 is then set up by any suitable means to assume the condition shown in Figure 3 so as to position the front wall 20, rear wall 22 and bottom wall 21 of the receptacle portion B into right-angular relationship. Likewise the front lid wall 25, top lid wall 24 and rear lid wall 23 are also set up in right-angular relationship. The panels and flaps hinged to these respective walls will extend outwardly as shown in Figure 3 so as to leave both sides of the receptacle portion B open. The commodity to be packaged can then be positioned within the receptacle portion by inserting same through one of the open sides of the carton. The bottom flaps 29 are then folded upwardly and side panels 30 are folded inwardly at right angles to their respectively hinged adjacent walls as shown in Figure 4. Adhesive may then be applied to the outer surfaces of side panels 30 or to the inner surface of side panels 28. Side panels 28 are then folded over side panels 30 and adhered thereto to complete the receptacle portion B. Flaps 31 of the lid are then folded down on side panels 28 but without adhering them together, leaving flaps 32 and 33 extending as shown in Figure 5. Flaps 32 are then folded over and adhered to flaps 31 by adhesive previously applied to either of these flaps, as shown in Figure 6. Flaps 33 are adhered to flaps 32 by adhesive applied to either of these flaps, as shown in Figure 7. These superimposed flaps are of substantially the same contour and dimensions so that they form when adhered

together side walls for the lid C. This completes the package as shown in Figure 7.

In order to remove the contents in the carton, it is merely necessary to pull upwardly on the free edge 25a (Figure 9) of front lid wall 25 of the lid C, whereby the tear-out portion 26 will be torn from the front wall 20 of the receptacle portion and will adhere to the inner face of the front wall 25 of the lid C, as shown in Figures 8 and 10, leaving lid-retaining corner portions 27 extending upwardly at the sides of the upper portion of front wall 20 of the receptacle portion B. When it is desired to reclose the carton, the lid C is merely hinged to closed position, as shown in Figure 9. The friction of the inner flaps 31 of the side walls of the lid against the overlapped upper portions of side panels 28 and the frictional contact of the corner portions 27 against the adjacent inner faces of the corner portions of the front lid wall 25 of the lid are sufficient to resist opening of the lid and to retain it in closed position. The front lid wall 25 is so dimensioned that during the closing of the lid the lower or free edge 25a of the front wall of the lid passes clear of the tops of the corner portions 27 and of the front wall 20 of the receptacle portion B and also the tops of the side walls 23, together with the contents of the carton, as shown by arc *a* having its center on the hinge line 5 in Figure 10. The score line 5 which forms the hinge line for the lid C is positioned a substantial distance below the upper free edges of the corner portions 27, as shown in Figure 10. The corner portions intersect the arc *b* having its center at the hinge line 5, as shown in Figure 10, which defines the path swept out by the inner surface of the front lid wall 25, so that during closure of lid C, the corner portions 27 will be slightly compressed inwardly of the carton but will resiliently return to original position upon completion of the closure action, to provide a positive, though resiliently releasable, lid closure. When the lid is closed, the free edge 25a will extend downwardly below the hinge line 5. The requirement for releasable closure of the lid is provided by the construction wherein hinge 5 is below the tops of shoulders or corner portions 27, but is so below by a distance at least slightly less than one-half the distance by which the lower edge 25a of wall 25 extends below shoulders 27 in the carton-closed condition of Figures 7 and 9.

The present invention provides a carton construction which requires a minimum amount of cardboard stock. The carton can be readily set up, filled with the commodity to be packaged, and sealed by automatic machinery. The carton is tamperproof because it cannot be opened without revealing the removal of the tear-out portion 26 which adheres to the lid when it is opened. The lid can be opened and reclosed numerous times without losing its frictional reclosing action.

The carton blank, cut and scored as shown in Figure 1, may also be formed into a sealed carton by first forming a receptacle portion by folding the blank along score lines 3 and 4 so as to position front wall 20 and rear wall 22 at right angles to the bottom wall 21, at the same time folding side panels 30 inwardly and bottom flaps 29 upwardly. Side panels 23 are then folded inwardly over side panels 30 and adhered thereto, thus forming an open-ended receptacle portion. The article to be packaged is then positioned into the receptacle portion from its upper open end. Adhesive is then applied either to the tear-out portion 26 of the front wall of the receptacle portion or to the overlapped inner face of the front lid wall 25 which are then adhered together. The lid is then completed by folding wall 24 perpendicular to wall 23, and wall 25 perpendicular to wall 24, and then folding flaps 31, 32 and 33 in sequence and adhering them together by adhesive applied thereto. This re-

sults in a sealed package identical with that shown in Figure 7.

It is to be understood that the description of the carton construction given herein is merely illustrative of the essential features of the invention and is not limited to the specific dimensions or contours which may be greatly varied or modified and which variations are intended to be included within the scope of the appended claims.

I claim:

1. A tamperproof reclosable carton formed of a single blank suitably cut and scored to provide a receptacle portion having an opening at the top thereof and a hinged box-like lid telescoped over the open top of the receptacle portion, said receptacle portion comprising a front wall, a bottom wall, a rear wall and side walls hingedly connected, said rear wall being of less height than the height of said front wall, lines of weakening defining a tear-out portion at the upper edge of said front wall and also a pair of spaced lid-retaining corner portions at the upper edge of said front wall upon removal of said tear-out portion, a lid-forming panel hinged to the upper portion of said rear wall, said lid-forming panel comprising a rear lid wall, a top lid wall and a front lid wall, and side flaps hinged to said lid walls providing side walls for said lid, said front wall and side walls of said hinged lid being positioned in overlapping position over the upper portions of the front wall and side walls of the receptacle portion, said hinged lid having the inner surface of its front wall panel adhesively secured to the adjacent overlapped tear-out portion of the front wall of said receptacle portion, said tear-out portion being adapted to adhere to the inner face of the front wall of said lid portion upon hinging said lid open for removing contents from said receptacle portion and thereby forming said lid-retaining corner portions extending upwardly at each upper side of the front wall of the receptacle portion, which corner portions extend for a substantial distance above the hinge line of the lid and engage the front corners of the lid when closed to resist opening of the lid, said corner portions, together with the contents of the receptacle portion being arranged within the surfaces swept out by the leading edges of the side walls of the lid during closing of the latter, the front wall of the lid being so dimensioned that during closing of the lid the free edge of such front wall passes clear of the tops of said corner portions and of the front wall of the receptacle portion, while the front corners of the lid, when the latter is closed, extend downwardly below the hinge line of the lid.

2. A carton formed of a single blank as defined in claim 1, wherein the receptacle portion is of oblong four-sided rectilinear shape and cross-section.

3. A carton formed of a single blank as defined in claim 1, wherein the front and rear walls of the receptacle portion are provided with hinged side panels adapted to be overlapped to form the side walls of the receptacle portion.

4. A carton formed of a single blank as defined in claim 1, wherein the hinge line of the lid is positioned below the upper edges of said corner portions by a distance at least slightly less than one-half the distance by which, in carton-closed condition, the free edge of said lid front wall extends below said upper edges of the corner portions.

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

##### UNITED STATES PATENTS

354,726 Meyer ..... Dec. 21, 1886  
1,988,582 Weiss ..... Jan. 22, 1935

##### FOREIGN PATENTS

507,998 Great Britain ..... June 22, 1939