April 6, 1943. R. E. EDMONSON 2,315,947

CARDBOARD BOX TOP CONSTRUCTION

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Fig. 1.

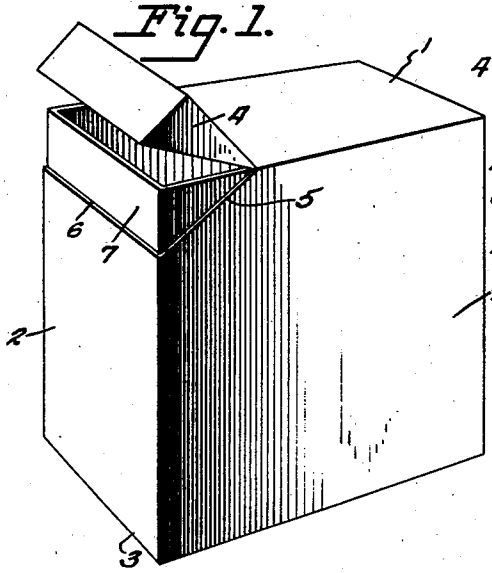


Fig. 2.

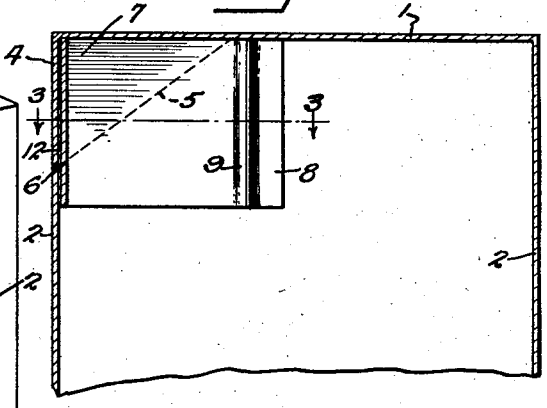


Fig. 3.

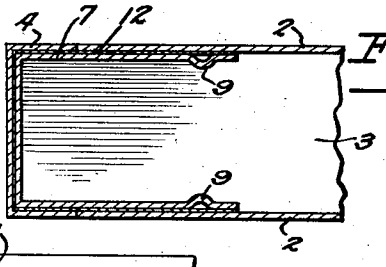


Fig. 4.

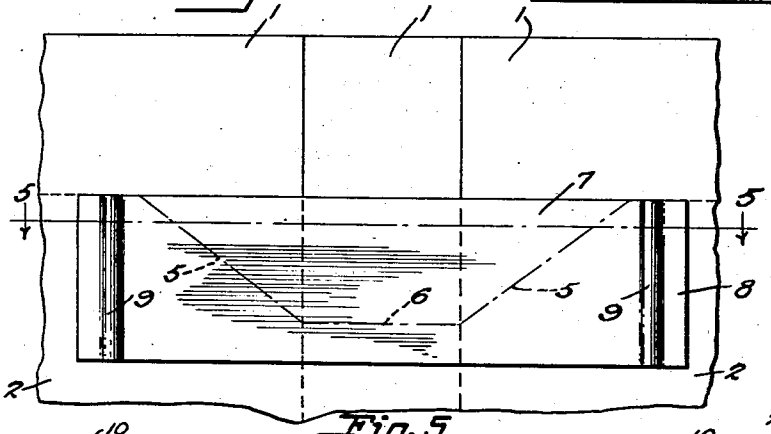


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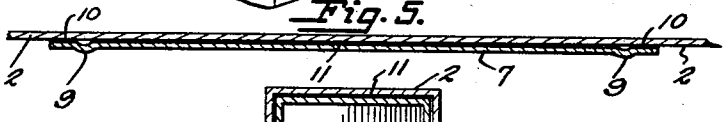


Fig. 6.

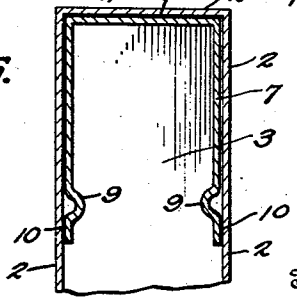
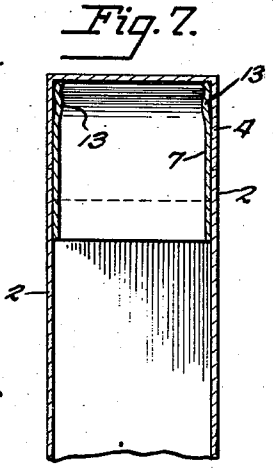


Fig. 7.



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Fig. 8.

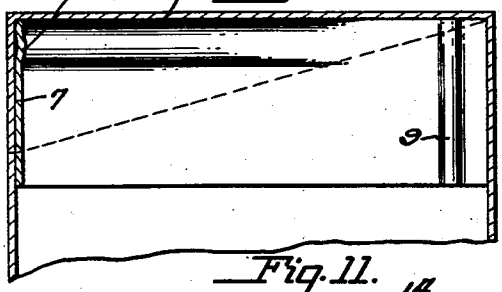


Fig. 9.

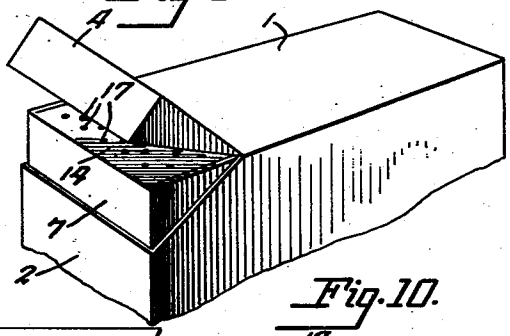


Fig. 11.

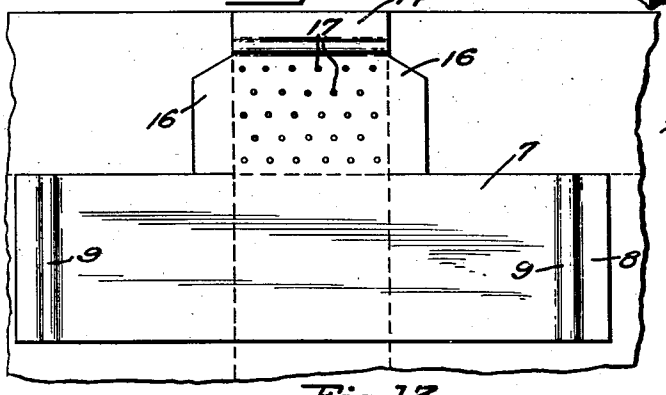


Fig. 10.

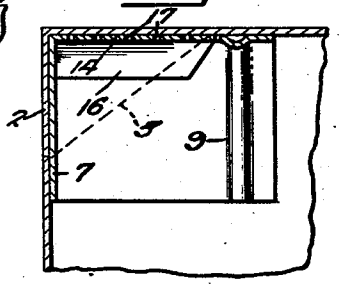


Fig. 13.

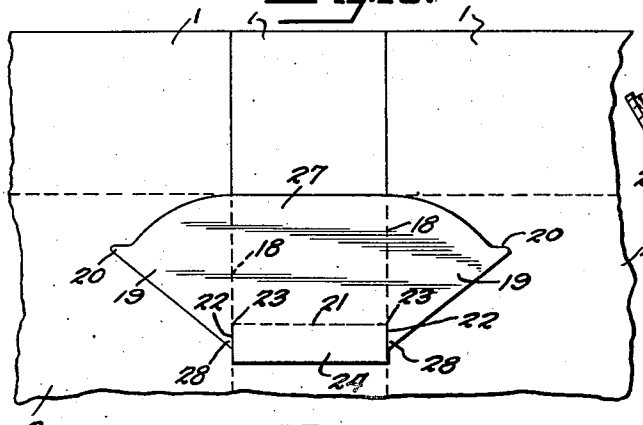


Fig. 12.

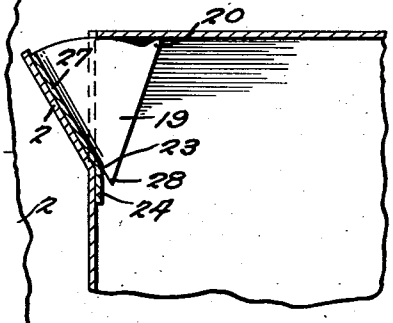
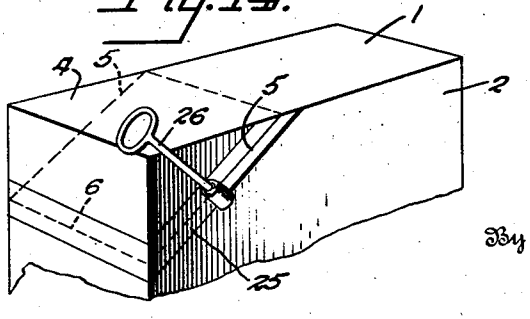


Fig. 14.



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UNITED STATES PATENT OFFICE

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CARDBOARD BOX TOP CONSTRUCTION

Robert E. Edmonson, Beaumont, Tex.

Application April 22, 1941, Serial No. 389,805

6 Claims. (Cl. 221—11)

This invention relates to cartons and more particularly to that class of cardboard cartons generally utilized for merchandising cereals, powdered soap, salt and the like in which the package is completely sealed for merchandising and it is desirable to furnish means by which the housewife can readily open the package but protect the contents during the use of same.

Various expedients are known but subject to various objections either due to the expense involved in their application or lack of utility in use.

The present invention is directed to providing an improved and simplified closure means for such a sealed package which can be readily opened, will not spill the contents in the opening operation and which will remain operative during the normal life of such a package.

A further object of the invention is an improved and simplified construction for such an opening permitting substantial economy in material and increased efficiency in application.

Various other objects will suggest themselves in the course of the following description.

The invention consists in the improved construction, arrangement, combinations of parts and method as hereinafter more particularly described and claimed.

Two sheets of drawings accompany this specification as part thereof, in which like reference characters indicate like parts throughout.

In the drawings:

Figure 1 is a perspective view of a package showing the improved carton in opened position.

Figure 2 is a vertical cross section taken through the top of a carton with one form of the invention in position.

Figure 3 is a fragmentary horizontal cross section taken on line 3—3 of Figure 2.

Figure 4 is a fragmentary view of the top end of a blank for forming a carton showing the invention applied.

Figure 5 is a transverse cross section taken on line 5—5 of Figure 4.

Figure 6 is a fragmentary horizontal cross section through a carton to illustrate the functioning of creases 9—9.

Figure 7 is a vertical cross section through a modified form of the device.

Figure 8 is a vertical cross section through a modified form of the device.

Figure 9 is a perspective view of a modified form of the device applied to a carton.

Figure 10 is a vertical cross section taken through the form of the device illustrated in Figure 9.

Figure 11 is a fragmentary plan view of a carton blank showing the modified form of the invention of Figure 9 applied to the blank.

Figure 12 is a vertical cross section through a further modified form of the device.

Figure 13 is a fragmentary plan of a carton blank showing the device of Figure 12 applied.

Figure 14 is a perspective view of a carton showing a key sealing strip applied.

In accordance with the present invention the usual carton blank formed to provide side walls 2, a top 1 and a bottom 3 is provided with partially scored oblique lines 5—5 diagonally across the front and back wall panels and connected by a weakened line 6 extending transversely of the intermediate end wall by means of which a corner section 4 of the carton can, by cutting through the weakened lines 5—6—5, be bent transversely of the top of the carton 1 to hinge and lift as illustrated in Figure 1. In connection with such a hinged cover it is essential that a lip be provided to prevent the contents of the filled carton from spilling out when the cover is thus opened and also to provide a pouring lip in removing the contents.

In accordance with the present invention this lip portion 7 is made of limited extent thus economizing in the material used and is structurally adapted to be applied to the carton blank preliminary to folding of the latter and thus materially economize in the labor of applying the same.

As illustrated in Figure 4, the lip 7 is formed as a substantially rectangular strip and is creased parallel with and adjacent each of its ends with creases 9—9. The strip is secured to the carton blank by strips of adhesive 10 intermediate the creases 9 and their adjacent end edges and a central strip 11 no wider than the width of the end wall 2 of the carton. Said adhesive strips 10 and 11 preferably extend substantially the full length of the rectangular strip. With the strip 7 thus secured to the carton blank as illustrated in Figures 4 and 5, it will be apparent that when the blank is folded to bend walls 2—2 parallel to each other and perpendicular to the end wall, that the strip 7 will adjust itself as to length by the buckling of the creases 9—9 as illustrated in Figure 6, thus permitting the strip 7 to otherwise maintain close contact with the walls 2 of the carton.

To avoid any access of moisture to the contents of the package through the weakened lines

5—6—5 and where desired, a further strip of Cellophane or other impervious material 12 may be interposed between strip 7 and the walls 2 covering the area of such weakened lines 5—6—5 and this material being extremely thin can be glued throughout its extent to the carton walls.

Where desired, the strip 7 may be provided with longitudinally extending creases 13 parallel with its upper edge, as illustrated in Figures 7 and 8 by means of which an elastic frictional contact will be provided between lip 7 and hinged cover 4.

Where it is desired to use the cartons as sifters, the strip 7 may be provided on its upper edge with a medially positioned extension 14 formed with side wing portions 16—16 and with a plurality of spaced perforations 17. With this construction, when the carton is assembled the wings 16—16 will be folded to a vertical position and the extension 14 proper to a horizontal, forming a perforated cover extending under the hinged cover 4 of the carton through which the contents can be sifted.

A modified form of the device as illustrated in Figures 12 and 13 shows a strip 27 which corresponds to the strip 7 in the other figures provided with lateral wing parts 19—19 having their upper edges arcuate and struck from centers at the lower corners 23. The wings 19—19 are defined further by the fold lines 18—18 which are connected by a transverse fold line 21. The points 23—23 are defined by through-cut lines 22—22 which constitute extensions of the fold lines 18—18.

The outer corners of the wings are provided with horns 20—20.

In this latter form of the device the portion 24 is secured by adhesive to the end wall of the carton and the wings 19—19 folded into parallel relationship to each other and the other side walls. The major portion of the blank 27 is adhesively secured to the upper portion of the end wall of the carton and this upper portion of the end wall is provided with marginal weakened lines by means of which its top and side edges can be readily separated from the carton. As illustrated in Figure 12, when the upper part of the end wall is thus freed and bent outwardly, the wings 19—19 will follow until the horns 20—20 contact the top of the carton and when conversely the end wall is folded back into position, the points 28—28 will form stops to limit the inward motion of the cover.

In Figure 4 a sealing strip 25 is illustrated covering the weakened lines 5—6—5 which sealing strip may be removed when desired by conventional key 26.

Various modifications in the precise construction of the parts will readily suggest themselves to those skilled in the art but within the scope of the present invention as claimed.

Having thus fully described my invention, I claim:

1. In a carton having its walls weakened along predetermined lines to form a hinged closure, a lip forming strip of sufficient size to embrace the inner faces of the walls having said weakened lines to mask said lines and have its upper edge extend to lie in a plane adjacent and parallel with that of the top of the carton, said strip having means to permit of its contraction when folded to dispose the portions thereof in embracing relationship to said walls.

2. In a carton having its walls weakened along predetermined lines to form hinged closure, a lip forming strip of sufficient size to embrace the inner faces of the walls having said weakened lines to mask said lines, and having its upper edge extending to lie in a plane adjacent to and parallel with that of the top of the carton, said strip being formed of a substantially rectangular piece of cardboard and provided with transverse creased ridges parallel with and spaced slightly from its end edges and secured to the inner walls of the carton by strips of adhesive between said ridges and the adjacent end edges and substantially medially of the strip.

3. In a carton having its walls weakened along predetermined lines to form a hinged closure, a lip forming strip of sufficient size to embrace the inner faces of the walls having said weakened lines to mask said line, and having its upper edge extending to lie in a plane adjacent to and parallel with that of the top of the carton, said strip being provided with corrugated creases parallel with and adjacent its upper edge adapted to sealingly contact adjacent walls of the hinged top part of the carton.

4. In a carton having its walls weakened along predetermined lines to form a hinged closure, a lip forming a strip of sufficient size to embrace the inner faces of the walls having said weakened lines to mask said lines, and having its upper edge extending to lie in a plane adjacent to and parallel with that of the top of the carton, said strip being provided with yielding projections parallel with and adjacent to its upper edge co-extensive in length with the walls of the closure and adapted to frictionally engage said closure when closed.

5. In a carton adapted to be completely sealed and having weakened lines in portions of its side walls and the intermediate end wall adapted when broken through to define in association with the embraced part of the top a cover portion which may be hingedly lifted by bending the top, a lip forming strip secured to the inner face of said side wall and end walls and arranged to mask said weakened lines and to extend to the top of said side and end walls to form a barrier at that level when said cover portion is lifted, said strip being provided with a projecting portion extending from its upper edge, said projecting portion having perforations and side wing parts whereby it can be positioned as a sifter top within the carton and parallel with the carton top.

6. In a carton having its walls weakened along predetermined lines to form a hinged closure, a lip forming strip of sufficient size to embrace the inner sides of the walls having said weakened lines to mask said lines, and having its upper edge extending in a plane adjacent to and parallel with that of the top of the carton, said strip being formed of a substantially rectangular piece of cardboard and provided with transverse creased ridges parallel with and spaced slightly from its end edges, and secured to the inner walls of the carton by lines of adhesive between said ridges and the adjacent end edges and substantially medially of the strip, said strip being also provided with yielding projections parallel with and adjacent to its upper edge co-extensive in length with the walls of the closure and adapted to frictionally engage said closure when closed.

ROBERT E. EDMONSON.