

[54] DISPENSING CARTON	3,158,491	11/1964	Farrell	206/498 X
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[22] Filed: Sept. 5, 1974	3,715,073	2/1973	Gibbs	229/43
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Related U.S. Application Data

[62] Division of Ser. No. 335,707, Feb. 26, 1973, abandoned.

[52] U.S. Cl. 221/63; 206/498 X

[51] Int. Cl.² A47K 10/20

[58] Field of Search 206/494, 498; 227/51 D, 227/17 S, 43; 221/44-63

[56] **References Cited**

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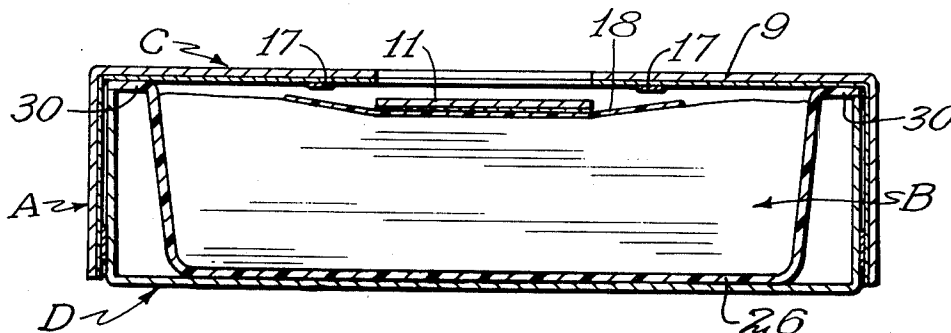
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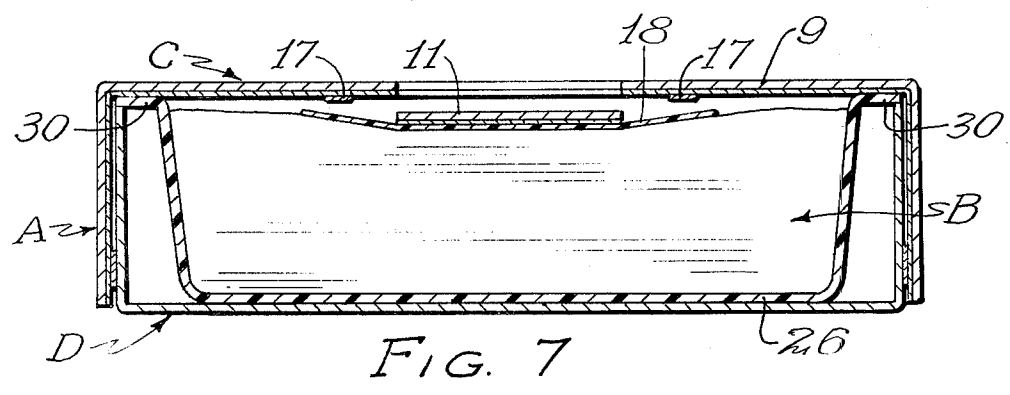
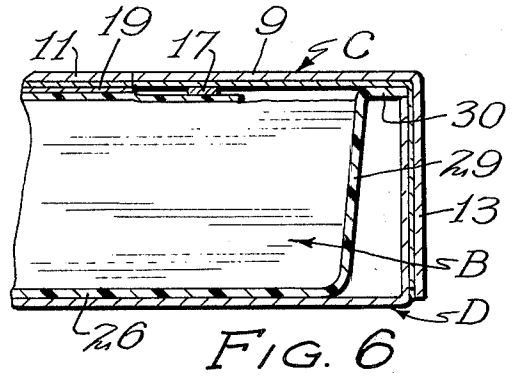
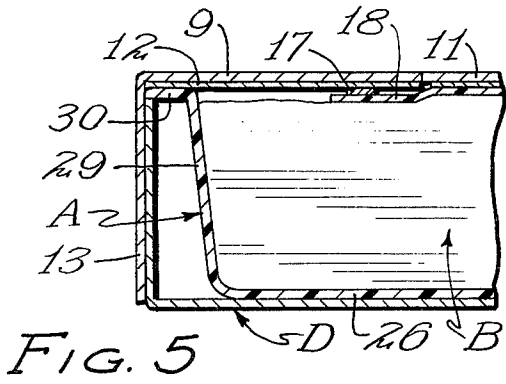
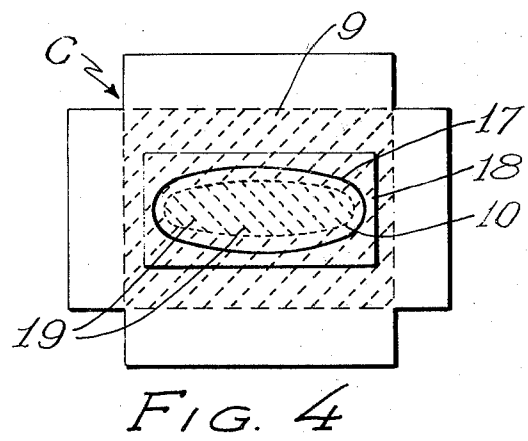
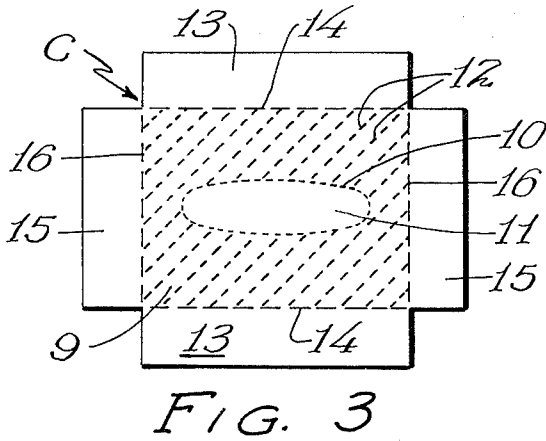
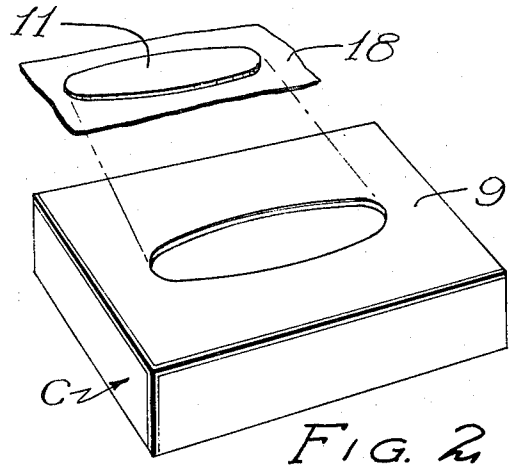
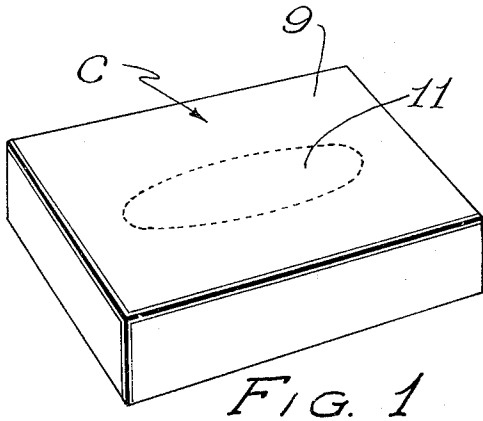
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[57] **ABSTRACT**

A dispensing carton is provided with a closure panel having a removable area therein defined by an endless line of perforations or cut score lines forming a weakened line of separation. The weakened line is protected by a patch of film secured to the removable area and to the panel along an endless line of adhesion completely encircling the weakened line of separation.

2 Claims, 13 Drawing Figures





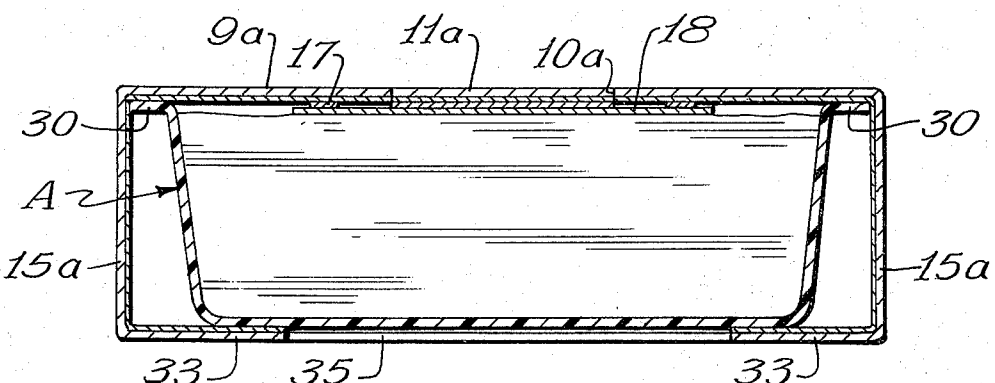
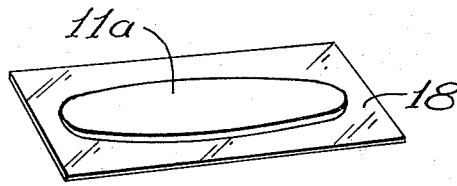
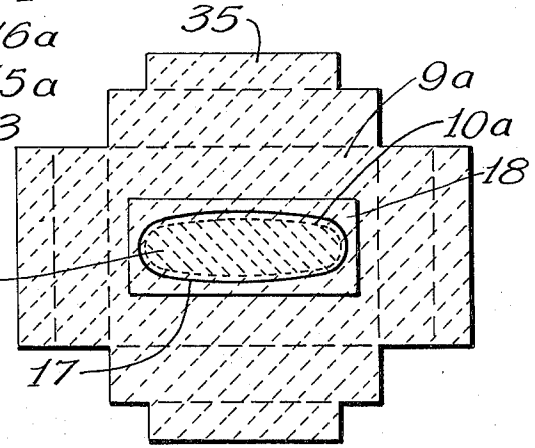
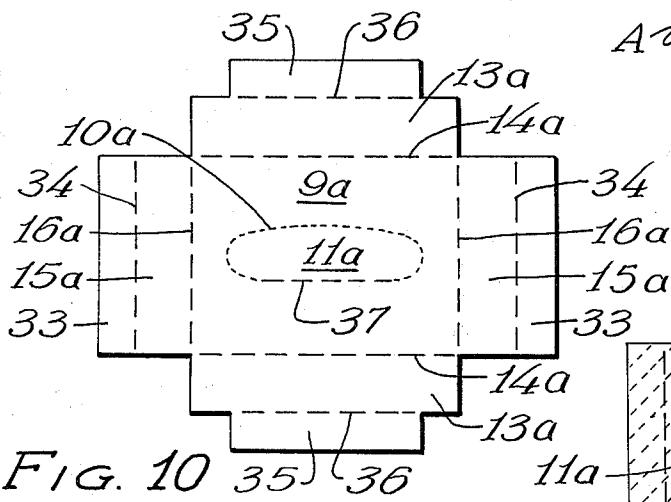
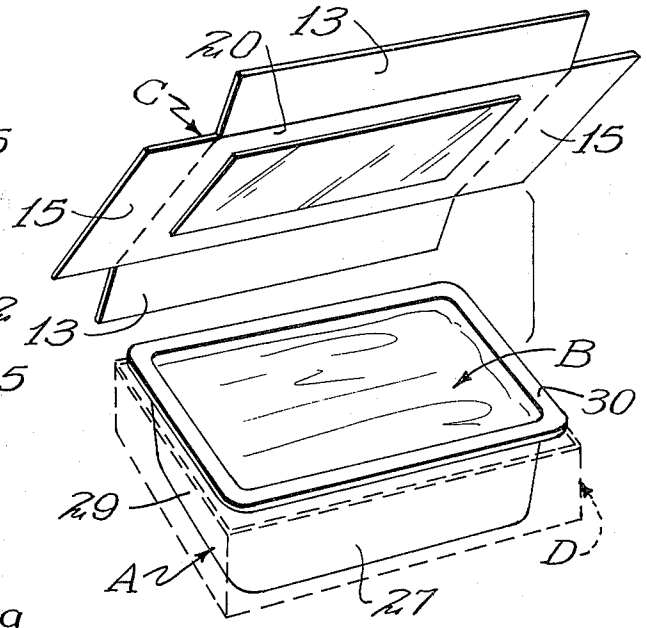
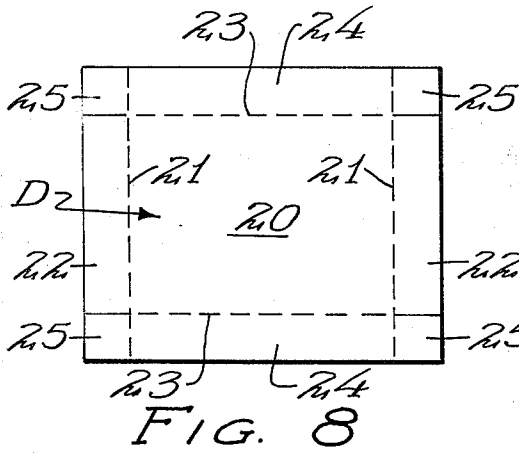


FIG. 8

FIG. 9

FIG. 10

FIG. 11

FIG. 12

FIG. 13

DISPENSING CARTON

This is a division, of application Ser. No. 335,707, filed Feb. 26, 1973 now abandoned.

This invention relates to an improvement in dispensing carton, and deals particularly with a carton of the type used to dispense tissues and the like.

BACKGROUND OF THE INVENTION

For a considerable number of years cartons have been produced for containing facial tissues and the like. Many of these cartons are provided with an elongated aperture in the upper panel through which the tissues may be removed one at a time. The apertures are usually defined by weakened lines of separation so that the tissues are completely enclosed until the time the area defined by the weakened lines is removed. The dispensing apertures are normally large enough to permit the insertion of a finger and thumb into the carton to grasp the uppermost tissue. Alternatively, the tissues are interleaved together so that the removal of one tissue would pull a portion of the next tissue partially from the carton.

During recent years, it has been proposed to provide tissues which are impregnated or saturated with solutions of one type or another so that the tissues may be used in the cleaning or polishing of various objects. Certain of these tissues are impregnated or saturated with an oily material which would wick into the paperboard and cause discoloration thereof. Accordingly, a package has been proposed which includes a plastic tray formed of a material into which the oily substance will not penetrate. In order to provide a dispensing opening for dispensing the tissues one at a time, the tray is provided with a paperboard panel, the under surface of which is coated with a film through which the oily substances will not penetrate. However, in providing the potential opening for dispensing the product, it is necessary to perforate the cover panel, or to at least cut score the cover panel from opposite surfaces so that an area of the panel may be detached. This area of perforations or cut score lines will permit the oily material to penetrate the paperboard and cause staining or deterioration of the board. It is an object of the present invention to provide a means of preventing the penetration of the oily substance into the paperboard in the area of the perforations or cut score lines.

SUMMARY OF THE INVENTION

I have found that if a layer or film such a plastic is adhered to the inner surface of the removable area of the paperboard, and is further adhered to a narrow area of the inner surface of the panel completely encircling the removable area, the oily liquid cannot wick into the paperboard in the area of perforations previous to removing the plug-like area which is detachable. Due to the fact that the protecting patch or film is secured to the cover panel only along a narrow band of connection, the patch will detach from the portion of the cover panel outward of the detachable plug when the plug is moved out of the plane of the remainder of the panel. For example, by pressing the detachable area downwardly into the carton, the protective patch will become detached from the cover panel outwardly of the plug, so that the plug and patch may be readily withdrawn through the dispensing opening thus produced.

For best results, the adhesive connecting the plastic film or patch to the portion of the cover panel out-

wardly of the potential opening should be an adhesive which tends to flow such as, for example, a pressure sensitive adhesive. It is also desirable that the film be more firmly bonded to the area of the plug or removable portion more securely than to the portion of the cover outwardly of the removable area. This may be accomplished either by securing the patch to the plug over a relatively wide area of adhesive connection, and securing the patch to the portion of the cover panel outwardly of the removable area along a continuous line of adhesion which is just wide enough to be continuous and forming a continuous barrier, or else by leaving the under surface of the plug portion uncoated, and using an adhesive which will secure the patch much more firmly to the uncoated plug than to the coated inner surface of the cover panel. Many adhesives will secure a plastic film to the surface of uncoated paperboard to provide a tearing bond, but will provide a much less effective bond with coated paperboard. In any event, the patch is secured to the plug with a bond which is sufficient to detach the patch from the portions of the cover panel externally of the removable area when the removable area is either pressed downwardly into the carton or pulled upwardly therefrom.

In its preferred form, the package comprises a tray form of rigid plastic sheet and having outwardly extending peripheral flanges along its upper edges. A paperboard panel is heat sealed to the upper surfaces of the flanges to form a cover. This paperboard cover panel is coated or film laminated with a film compatible with the plastic forming the tray for heat sealing purposes, and which is imperious to the solution which has been impregnated or saturated into the tissues. A potential opening is provided in the cover panel usually in the form of a continuous line of perforations defining a plug or removable area. A patch is secured to the under surface of the panel, the patch being secured to the removable area and to the under surface of the cover panel along a narrow band of adhesion continuously and completely encircling the removable area. The adhesion of the patch to the plug is much stronger than the adhesion of the patch to the portion of the cover panel outwardly of the patch. As a result, as the plug is detached from the cover panel by severing the paperboard along the perforation, the film will become detached from the area of the cover panel outwardly of the plug, and the plug may be removed with the film attached thereto.

It is a feature of the present invention that the package may include flanges hingedly connected to the edges thereof, and the plastic tray may be placed in a paperboard tray having upstanding side walls to which the cover panel flanges may be secured. The package may also comprise a series of flanges hingedly connected to the edges of the cover panel which may be folded downwardly and sealed to the under surface of the plastic tray.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is perspective view of the preferred form of the package in completed form.

FIG. 2 is a perspective view of the package after the plug and patch have been removed therefrom.

FIG. 3 is a bottom plan view of the cover panel showing a protective coating pattern applied thereto.

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FIG. 4 is a view similar to FIG. 3 after the adhesive has been applied and the patch attached.

FIG. 5 is a partial section through the package showing the patch adhered to the uncoated plug and to a narrow area of the coated portion of the cover panel.

FIG. 6 is a view similar to FIG. 5 showing a construction in which the entire inner surface of the cover panel is coated.

FIG. 7 is a diagrammatic sectional view showing the plug in depressed position, and the patch detached from the surface of the cover panel externally of the removable area.

FIG. 8 is a diagrammatic view from which the outer paperboard tray may be formed.

FIG. 9 illustrates the cover panel about to be applied to the plastic tray, and showing in dotted outline the position of the outer paperboard tray into which the covered plastic tray is inserted.

FIG. 10 is a diagrammatic view of the modified form of enclosing carton.

FIG. 11 shows the carton of FIG. 10 after coating has been applied thereon.

FIG. 12 is a perspective view of the patch and plug after removal from the carton.

FIG. 13 is a sectional view through a modified form of construction.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the simplest form of the invention, the package comprises a tray which is indicated in general by the letter A and which is formed of a material such as rigid plastic film capable of supporting a series of tissues such as B impregnated with a material which would normally be absorbed into paperboard. In the particular combination described, the tissues are impregnated or saturated in an oily substance which would normally penetrate into, and stain, uncoated paperboard. The package also includes a cover panel which is indicated in general by the letter C. As will be described the cover panel C may be provided with peripheral flanges which may be sealed to an outer paperboard tray D or which may be secured to the bottom of the plastic tray A so as to enclose or partially enclose the tray A.

In the arrangement illustrated in FIGS. 1 through 5 of the drawings, the cover C includes a top panel 9 which is generally rectangular in form and includes a continuous line of perforations 10 which are, in the particular form illustrated, of generally oval shape to define a removable area or plug 11 which, when removed, forms a dispensing opening in the cover panel. In this form of construction, the under surface of the top panel 9 is processed with a coating indicated by the broken lines 12, this area coating the entire under surface of the panel 9 with the exception of the area outlined by the perforated lines 10. The coating must prevent absorption of the oily material into paperboard and which preferably may be heat sealed to the tray flange. Elongated flanges 13 which may be considered side flanges are hingedly connected to the panel 9 along parallel fold lines 14. End flanges 15 are hingedly connected to the remaining opposite sides of the cover panel 9 along parallel fold lines 16. As indicated in FIG. 4 of the drawings, a rectangular strip of plastic film, which, for the purpose of description, may be considered a "patch" overlies the entire area defined by the perforated line 10. A band 17 of adhesive completely encircles the removable area defined by the perforated line

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10 to provide a narrow area of adhesive connection between the patch and the cover panel 9. As indicated by the dotted lines 19, the major portion of the plug 11 is coated with adhesive for adhering the patch 18 to the under surface of the plug 11. The adhesive which provides a movable bond between the lid and the patch such as pressure sensitive adhesive which is compatible with the product in the tray. In view of the fact that the patch is made of flexible material, and the bond between the patch and the uncoated surface of the plug 11 provides a much better bond with the film than the encircling band of adhesive 17, the deflection of the plug 11 out of the plan of the cover panel 9 will pull the patch free of connection with the portion of the cover panel outwardly of the perforated line 10, and the film will remain attached to the patch.

While not limiting the patch to a particular material, it usually comprises a flexible film of polypropylene, polyethylene, mylar, PVC or the like. It could also be a co-extruded film such as PVC and PVDC. A film or laminated foil and paper has also been successfully used.

FIG. 8 of the drawings shows a tray of paperboard or the like which may be used to enclose the plastic tray A. The tray D includes a bottom panel 20 hingedly connected along parallel fold lines 21 to end walls 22. The panel 20 is also connected along the remaining edges by fold lines 23 to side walls 24. Corner flaps 25 are foldably connected to the ends of the side walls 24 along extensions of the fold line 21. The tray is formed by securing the corner flaps 25 to the end walls 22. Obviously, this can be done by adhering the corner flaps in place, or by providing locking tabs for connecting the side and end walls in right angular relation to the bottom panel 20.

The trays A include a bottom panel 26, upwardly and outwardly inclined side and end walls such as 27 and 29, and an outwardly projecting peripheral flange 30 about the entire periphery of the side and end walls 27 and 29. The tray is filled with tissues or other product B. The cover D is placed upon the flange 30 so that the periphery of the flange substantially coincides with the fold lines 23 and 21 which define the edges of the top panel 20. A heating die is applied to heat sealing the marginal edges of the cover panel to the underlying flange 30.

The cover D, together with the tray A and its contents B then placed in the tray D in the manner indicated in dotted outline in FIG. 9 of the drawings. The tray D is shown in dotted outline in FIG. 9 because of the fact that the tray A is not placed therein until after the cover C has been attached by heat sealing to the tray A. Adhesive is then applied either to the under surfaces of the cover flanges 13 and 15, or to the side walls of the tray D, and the flanges 13 and 15 are secured in face contact with the walls of the paperboard tray D. Alternatively, if the entire surface of the cover C is coated, it may be heat sealed to the walls of the tray D.

The sealed container as shown in FIG. 1 is shipped and stored in the usual manner. During this time, the patch 18 prevents contact between the contents of the tray A and the perforated areas of the cover C. The narrow band of adhesive 17 is continuous, and thus unaffected by the substance with which the tissues are impregnated. Thus the liquid cannot come in contact with the perforated areas by passage between the edges of the patch 18 and the top panel 9 of the cover C.

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When it is desired to dispense the contents of the package, the plug 11 is pressed downwardly to detach the plug 11 from the remainder of the top panel 9. As the plug is moved out of the plane of the cover panel 9, the patch 18 pulls away from the cover panel along the narrow band of attachments 17. The detached plug and patch may be removed from the package through the opening formed by the removal of the plug 11. Alternatively, a portion of the plug 11 may be pushed downwardly so that it may be engaged by the fingers, and the plug and patch may be pulled upwardly through the dispensing opening as the patch becomes detached from the cover panel.

It has been found that in many instances it is not necessary to leave the area of the covered panel within the perforated outline 10 uncoated. This is particularly true where the plug is separated by pressing the plug portion downwardly to detach the patch 18 from the portions of the cover panel 9 surrounding the perforated line 10. FIG. 6 indicates a structure of this type in which the entire surface of the blank is coated. Because of the fact that the plug is moved out of the plane of the remainder of the top panel 9, and normally because of the fact that the patch 18 is attached to the surface of the plug over a greater area of attachment than is used to connect the patch to the portion of the cover panel externally of the perforated line 9, the patch will remain attached to the plug 11, and can be removed in the same manner as has been described.

FIGS. 10, 11 and 12 disclose a modified form of construction in which the tray D is eliminated. Because of the similarity of the structure, similar identifying numerals will be used. As indicated in FIG. 10, the cover for the tray A includes a main cover panel 9a having an endless line of perforations or other weakened lines of separation 10a which define a removable plug 11a. The panel 9a is connected along parallel fold lines 14a to side wall panels 13a and the panel is connected along the remaining parallel edges as defined by fold lines 16a to end wall panels 15a. The difference between the cover shown in FIG. 10 and that shown in FIG. 3 lies in the fact that anchoring flanges 33 are hingedly connected to the end panels 15a along fold lines 34, and anchoring flanges 35 are connected to the side wall panels 13a along fold lines 36. With this arrangement, the anchoring flanges 33 and 35 may be heat sealed or otherwise secured to the under surface of the tray A. The manner in which this is accomplished is indicated in FIG. 13 of the drawings.

As in the previous construction, the patch 18 of plastic film or the like is adhered to the under surface of the panel 9a by adhesive extending over the surface of the plug 11a, and along a continuous line of adhesion 17 which completely encircles the perforated line 10a. In other words, the structure is similar to that shown in FIG. 6 with the exception of the fact that anchoring flanges are hinged to the side walls of the cover mem-

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ber so that the tray D may be eliminated. It will be noted that the anchoring flanges 35 are shorter than the side walls 13a so as to fit between the anchoring flanges 33.

As is indicated in FIG. 10, the perforated line 10a may be interrupted by a fold line 37 extending along one side of the plug 11a. As a result, the plug 11a is hingedly connected to the top panel so that it may be detached only along the opposite side and the ends of the plug. As a result, instead of being completely detached from the cover panel, it may be hinged up, pulling a portion of the patch through the aperture thus formed. The marginal edges of the patch may be re-folded back into the carton if desired to reseal the opening when the dispensing operation is completed.

In any event, the arrangement is such that the patch remains attached to the plug, and may be either removed in its entirety from the cover of the top panel 9 or 9a, and is detached throughout at least the major portion of its periphery from the under surface of the cover panel as the plug is removed. The patch remains attached to the plug either due to the larger area of adhesion or because the adhesion is more effective when used between the uncoated paperboard and the film.

In accordance with the Patent Statutes, I have described the principles of construction and operation of my improvement in DISPENSING CARTON; and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A dispensing carton for a product including: a closure panel, an open topped tray including said closure panel and marginally secured thereto, a removable area spaced from the edges of said panel and defined by an endless weakened line of separation, a film underlying said panel and secured to said removable area and portions of said panel outwardly of said removable area, an endless line of adhesive outwardly of said weakened line of separation completely encircling the same, said cover panel including opposed side walls hinged to opposite sides thereof, and anchoring flanges hinged to said opposed side walls and secured to the under surface of said open topped tray.
2. The structure of claim 1 and in which the cover panel is rectangular, and including end walls hingedly connected to the ends of said cover panel, and anchoring flanges hinged to said end walls and secured to the under surface of said open topped tray.

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