Sept. 19, 1967 A. W. REYNOLDS 3,342,399

HINGED LID CARTON

Filed Oct. 1, 1965 3 Sheets-Sheet 1

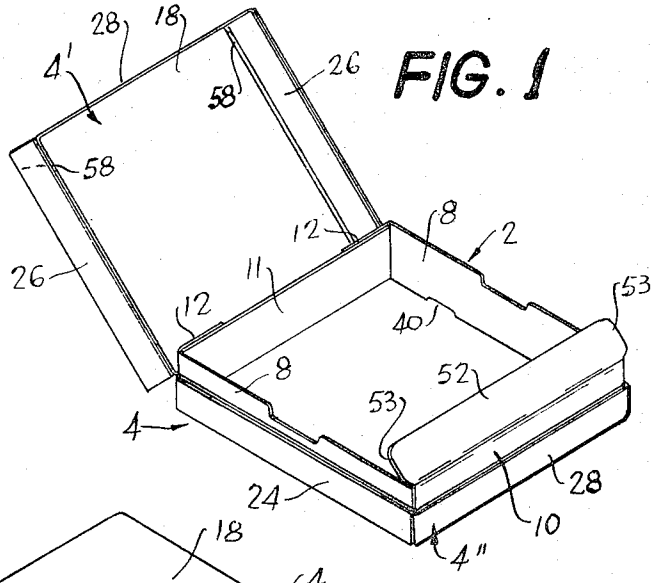

FIG. 1

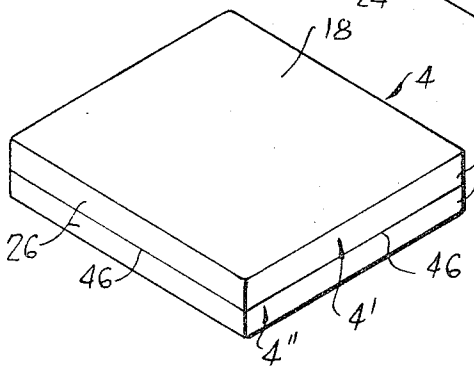

FIG. 2

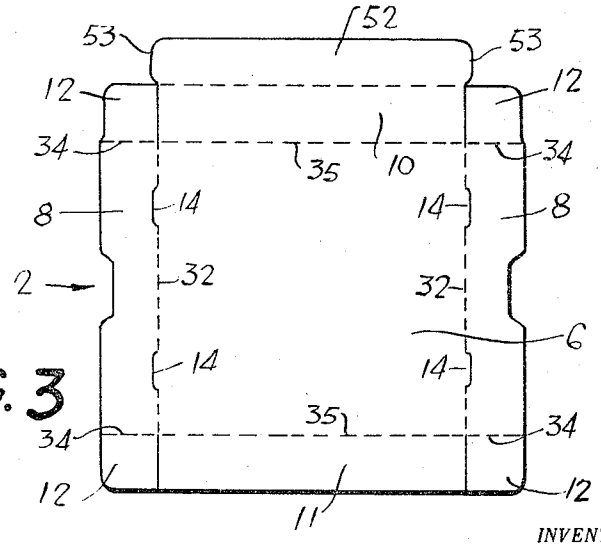

FIG. 3

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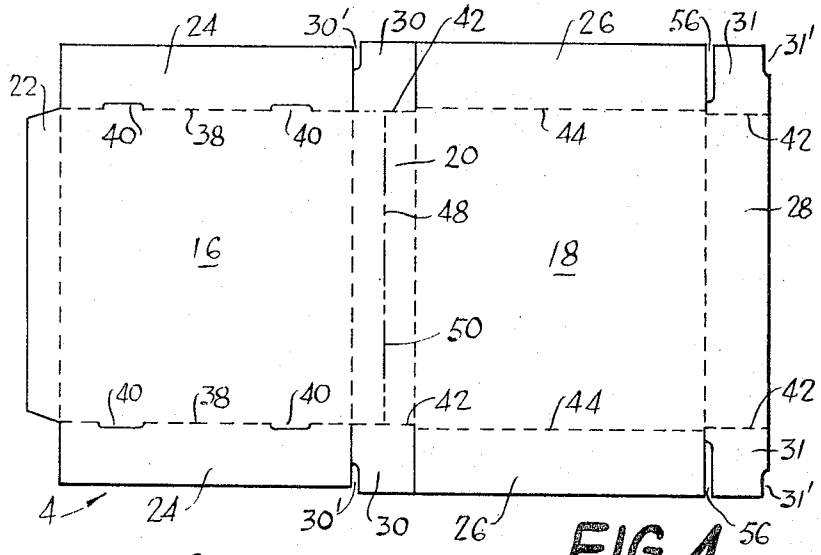

FIG. 4

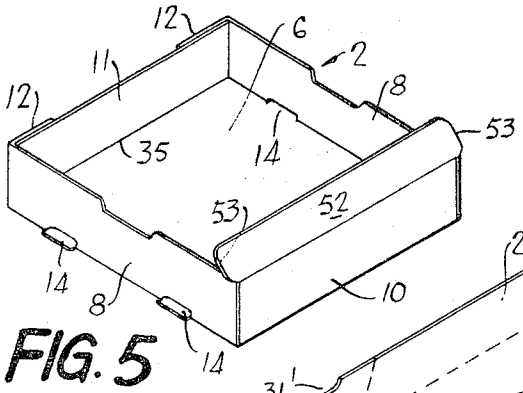

FIG. 5

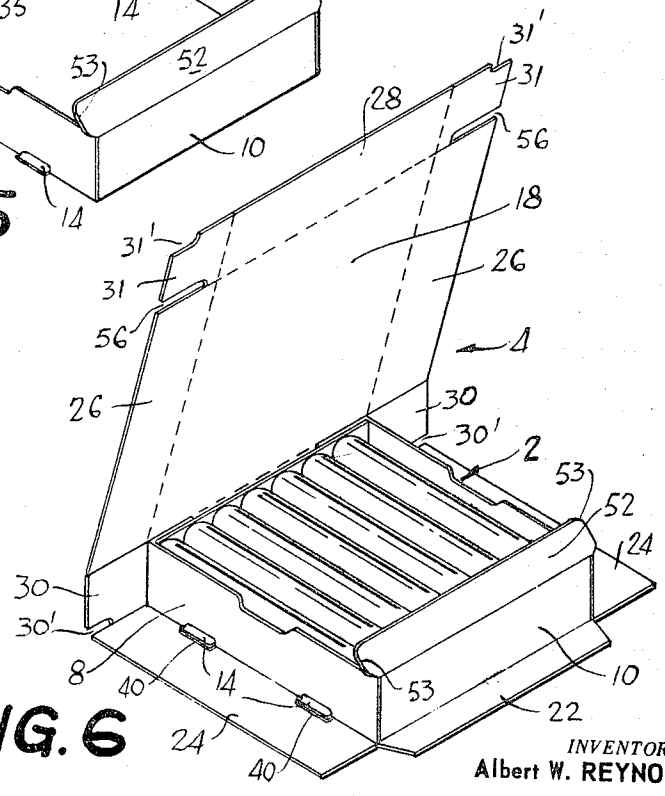

FIG. 6

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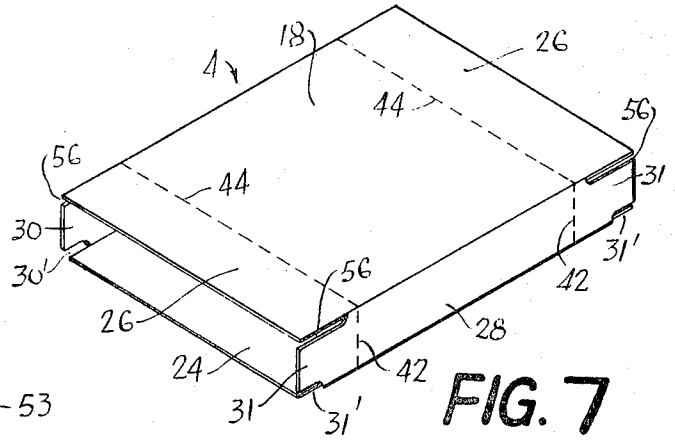

FIG. 7

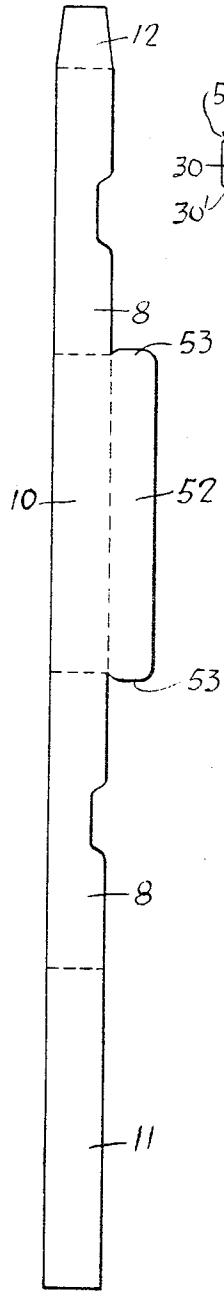

FIG. 9

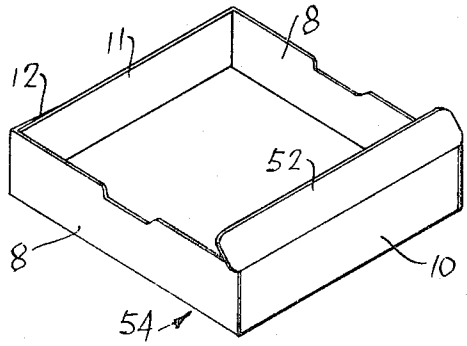

FIG. 8

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3,342,399

HINGED LID CARTON

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Filed Oct. 1, 1965, Ser. No. 492,002
3 Claims. (Cl. 229—23)

ABSTRACT OF THE DISCLOSURE

A hinged-lid carton comprising an inner article-carrying tray and an outer shell completely surrounding the tray. The inner tray is attached to the outer shell by means of tabs projecting from the bottom panel of the tray projecting outwardly past the side panels of the tray and engaging with corresponding slits in the lowermost edge of the side panels of the outer shell.

The present invention relates to a carton having a hinged lid and to the method of constructing such a carton.

The carton of the present invention is particularly useful for the packaging of cigarettes but is equally useful in the packaging of other commodities where a disposable, economical crush resistant package is desired.

Cigarette cartons or packages presently on the market have the disadvantage that they afford very little protection to the cigarettes and it is often difficult to remove cigarettes from the package especially if the package is full. The disadvantages of such paper packages have long been realized and various attempts have been made to provide a package which affords more protection and accessibility to the contents but generally such packages are in disfavour either because of their high cost of production and/or the difficulties involved in filling such packages with cigarettes.

It is an object of the present invention to provide a carton having a hinged lid portion to provide ready access to the contents of the carton, and which is economical in manufacture and yet which provides protection for the contents against accidental damage.

It is another object of the invention to provide a hinged lid carton for the packaging and sale of cigarettes which is economical in manufacture and which is sturdy in construction and crush resistant to protect the cigarettes contained therein against accidental damage, and which may quickly and cheaply be produced and filled by speedy industrial process.

It is a further object to provide a carton having a hinged lid which is easily opened to provide complete access to the contents of the carton and which may be closed again to protect the contents and to remain in the closed position until purposefully opened.

It is an added object to provide a sturdy, economically manufactured, hinged lid carton for cigarettes from cardboard or the like sheet material having an inner tray for holding cigarettes and an outer shell component completely encasing the inner tray to retain the cigarettes within the tray and to prevent accidental damage thereto, and to a method for manufacturing and filling such a carton.

It is another object of the present invention to provide

a hinged lid carton basically comprising two components, an inner article containing tray and an outer protective shell completely encasing said tray, both components being quickly and cheaply manufactured from identical or similar sheet material and assembled to provide a sturdy crush resistant package. The package of the invention may also be manufactured in any desired size, and due to the construction design there is always guaranteed a perfect registration between the tray component and the section of the shell component which functions as the lid.

The invention will now be more specifically described with reference to the accompanying drawings wherein:

FIGURE 1 illustrates the package or carton of the invention in perspective view showing the lid portion in open position,

FIGURE 2 illustrates the completed carton in closed position,

FIGURE 3 illustrates in plan view a blank from which the inner tray component of the carton is made,

FIGURE 4 illustrates in plan view a blank from which the outer shell component of the carton is made,

FIGURE 5 illustrates in perspective view the folding of the inner component of FIGURE 3 to form an article receiving tray,

FIGURE 6 illustrates in perspective view the outer shell component being wrapped around the inner tray component which in this drawing contains cigarettes,

FIGURE 7 illustrates the outer shell component encasing the inner component and showing the panels and flaps on the outer shell component ready to be folded to completely enclose the inner component,

FIGURE 8 is an alternative construction of the inner tray component shown in perspective view,

FIGURE 9 illustrates a blank in plan view for making the alternative inner tray component of FIGURE 8.

The carton of the invention, shown in open position in FIGURE 1 and in closed position in FIGURE 2, comprises basically two components, an inner article containing component shown in the drawings at **2**, and an outer shell component shown in the drawings at **4**.

The blanks from which these two components **2** and **4** are made are shown in plan view in FIGURES 3 and 4.

The inner component **2** (see FIGURE 3) consists of a bottom portion **6** having side panels **8**, and front and rear panels **10** and **11** respectively. Each side panel **8** is provided with flaps **12** which are glued or otherwise affixed to the front and rear panels when the inner component is folded to the tray configuration shown in FIGURE 5. In FIGURE 3 the broken lines represent crease lines upon which the blank is folded to form the tray and the solid lines represent the lines upon which the blank is severed or cut. The bottom portion **6** of the inner component is provided with tab portions **14** which project outwardly past the side panels **8** when the latter are in folded position to assist in maintaining the tray within the outer shell component, as will also be explained in more detail hereafter.

FIGURE 4 illustrates in plan view the blank from which the outer shell component is made. The outer component consists of a bottom surface **16** and a top surface **18** joined by rear panel **20**. The bottom surface **16** is provided with a glueing flap **22** and two side panels **24**. Top surface **18** is provided with two side panels **26**, and front panel **28** to which flap **22** is adhesively attached

during assembly. Two glueing tabs **30** are provided on rear panel **20** and two glueing tabs **31** are provided on front panel **28**. As in FIGURE 3 the broken lines represent crease lines along which the blank is folded and the solid lines represent lines along which the blank is cut.

Cut-outs **30'** and **31'** in tabs **30** and **31**, respectively, provide clearance for properly forming the carton corners during assembly. The purpose of cut-outs **56** in tabs **31** will be more fully explained later.

In the preparation of the carton illustrated in open position in FIGURE 1 and closed position in FIGURE 2, an inner component blank shown in FIGURE 3 and an outer shell component blank shown in FIGURE 4 are cut from sheet material and the blanks creased or scored along the dotted lines to facilitate folding.

In FIGURE 5 the folding of the blank shown in FIGURE 3 to form the inner tray component **2** is illustrated. After the inner tray blank is cut and creased for folding the two side panels **8** are folded along lines **32** to an upright position and the four glueing flaps **12** are folded inwardly along lines **34**, and front and rear panels **10** and **11**, respectively, are folded to an upright position along lines **35** and the glueing flaps **12** are affixed to the front and rear panels to provide a tray component as shown in FIGURE 5. The flaps **12** may be glued to the panels **10** and **11** by the application of a glue during assembly, or the flaps may be precoated with a heat and pressure curing adhesive during the blank stage to facilitate assembly.

The articles which are to be packaged may then be inserted into the inner tray component as shown in FIGURE 6.

The outer shell component **4**, the blank of which is shown in FIGURE 4, is then folded along the fold lines and wrapped completely around the inner tray and the packaged articles, which may be cigarettes, in the manner shown in FIGURE 6, and flap **22** is attached (as by glue or adhesive) to the inner surface of front panel **28** to partially enclose the inner tray as shown in FIGURE 7.

Side panels **24** (see FIGURE 4) are then folded along lines **38** to lie flat against the side panels **8** of the inner tray, at which time tabs **14** will engage in slits **40** to secure inner tray **2** within shell **4**. Flaps **30** are then folded along lines **42** and affixed to the outer surface of panels **24**. Panels **26** are then folded along lines **44** and affixed to flaps **30** and panels **24** to completely enclose tray **2**. In a preferred construction both sides of flaps **30** are precoated with a heat and pressure curing adhesive, and the application of heat and pressure to the outer surface of panels **24** will adhesively unite panels **26**, flaps **30** and panels **24** securely together.

Front panel **28** and side panels **24** and **26** and the intervening flaps **30** are then completely severed along a longitudinal continuous line **46** (see FIGURE 2) to divide the outer shell **4** into upper and lower sections **4'** and **4''**, respectively, to enable the upper section **4'** to hinge along line **48** of panel **20** (see FIGURE 4) to act as a cover or lid for the tray **2**. Shell component **4** is severed around three sides, to enable the upper section **4'** to act as a hinged lid, to a depth sufficient only to penetrate the panels of shell **4**. The panels of the inner tray **2** are not cut or scored in any way.

The section of the outer shell forming the lid **4'** of the carton is hinged along crease line **48** formed in panel **20**, and this line **48** may be severed intermittently along its length as at **50** to facilitate the hinging action.

The inner tray **2** is snugly positioned within shell **4** and is retained therein by tabs **14** engaging within slits **40**. It is not usually necessary otherwise to employ adhesive or other fixing means to hold tray **2** within the shell **4**, but such means may be employed if required.

Front panel **10** of the inner tray blank shown in FIGURE 3 may be provided with a flap **52** to form a closing flap along the front edge of the carton as clearly shown in FIGURE 1.

The side edges of flap **52** are extended outwardly to form tab portions **53**, as shown in the figures. The outward extension of each tab **53** is approximately equal to the sheet material thickness of the blank of outer shell **4**. The additional cut-out portions **56**, formed on tabs **31**, provides recesses **58** in the front corners of lid portion **4'** (shown in FIGURE 1) when the carton is assembled. Tab portions **53** are adapted to extend into recesses **58**, when the carton lid is in the closed position, and to provide a positive means for locking lid **4'** in the closed position. Due to the flexible nature of the blank sheet material, tabs **53** will deflect and slip out of recesses **58**, when lid **4'** is opened, and will snap back into recesses **58**, when lid **4'** is closed. Such a means for locking lid **4'** in a closed position will function with complete effectiveness far beyond even the most extended service life of cartons containing cigarettes or like articles. It will be realized that other means for locking the lid in a closed position may be incorporated without departing from the scope of this invention.

FIGURE 8 illustrates in perspective view an alternative construction **54** of the inner tray component. In this alternate construction the tray is formed without a bottom portion and is cut from a blank as shown in FIGURE 9. After the blank is cut it is folded along the dotted lines and flap **12** adhesively secured to panel **11** to form the structure shown in FIGURE 8. The tray of FIGURE 8 is then filled with the articles to be packaged and completely enclosed by the outer shell as previously recited. Three side panels of the outer shell component **4** are then severed to form a hinged lid carton. In this alternative execution inner tray **54** may be adhesively secured within outer shell **4**, or tab portions **14** (as shown in FIGURE 3) may be formed on the lower edge of the blank and folded to engage in slits **40** in outer shell **4**.

In the foregoing description specific procedural steps in the manufacture of the hinged lid carton have been recited, but it will be appreciated that other folding flap glueing sequences may be employed without departing from the scope of the invention. Moreover, while cardboard is the most economical material from which the carton may be produced, other sheet material may successfully be employed and other flap securing methods, in addition to adhesives, may be utilized.

What I claim is:

1. A hinged lid carton comprising an outer shell component having top and bottom surfaces and front, rear and side panels, and an inner article carrying tray component positioned completely within the outer shell, and having front, side, rear and bottom panels, said tray being interengaged with said shell by means of tabs integral with said bottom panel of said tray projecting outwardly past the side panels of said tray, said tabs engaging with corresponding slits positioned along the lowermost edge of the side panels of the outer shell, with the front and side panels of the outer shell being severed longitudinally in a continuous line to divide the outer shell into upper and lower portions, and a longitudinal line scored in the rear panel of the outer shell forming a hinge whereby the upper portion of the outer shell may be opened to provide access to the articles carried by the tray.

2. A hinged-lid carton comprising an inner article-carrying tray having front, side, rear and bottom panels and an outer shell completely enclosing said tray and having top and bottom panels and front, side and rear panels, tabs integral with said bottom panel of said tray projecting outwardly past the side panels of said tray, said tabs engaging with corresponding slits positioned along the lowermost edge of the side panels of the outer shell, and with said shell being severed longitudinally in a continuous line to divide the outer shell into upper and lower portions and permit hinging of said upper portion along a line longitudinally positioned in the rear panel of the shell.

3. A carton according to claim **2** wherein the upper edge of the front panel of the inner tray is provided with a flap hingedly connected thereto to close upon the articles

within the tray, the side edges of said flap extending outwardly to form locking tab portions, said locking tab portions adapted to engage in recesses formed in the upper portion of said outer shell to provide a means for releasably locking said upper portion adjacent said lower portion.

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