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A. J. WEISS ET AL

2,906,444

HINGED COVER PAPERBOARD CARTON AND BLANK THEREFOR

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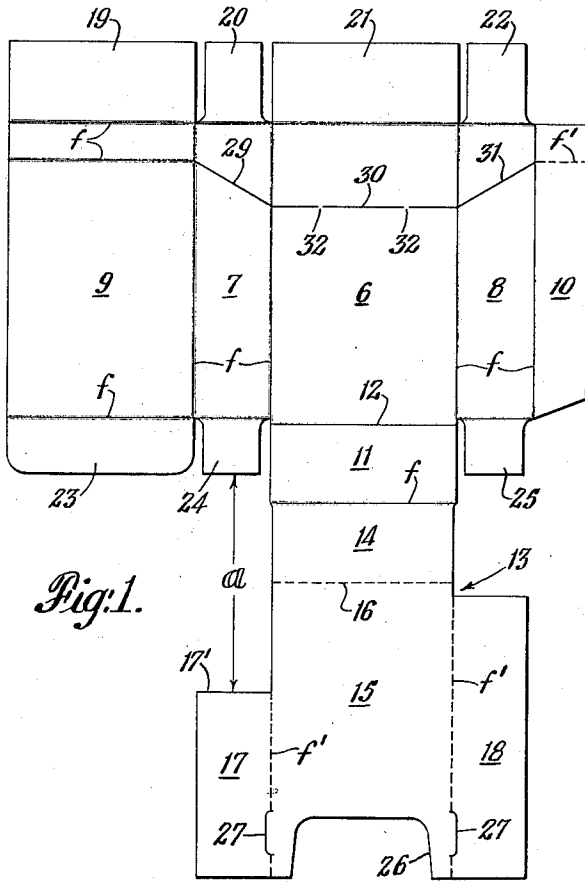


Fig. 1.

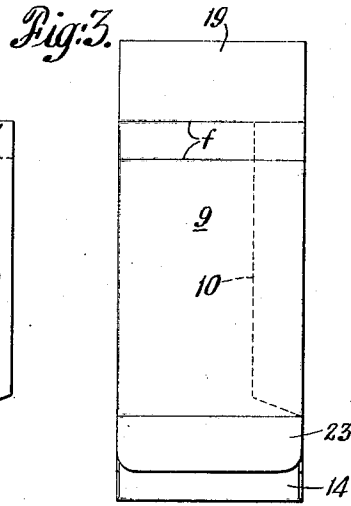


Fig. 3.

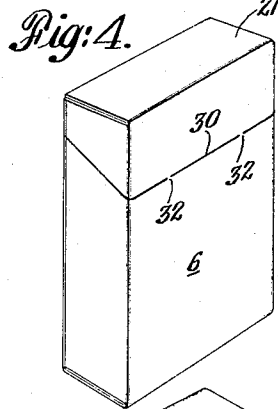


Fig. 4.

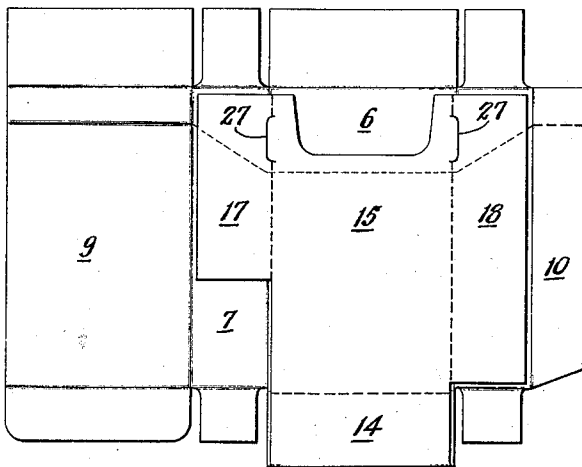


Fig. 2.

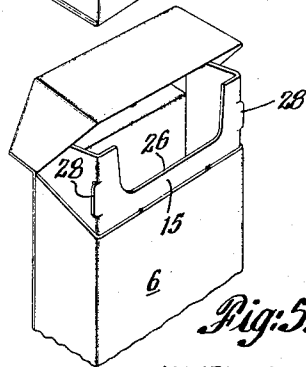


Fig. 5.

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HINGED COVER PAPERBOARD CARTON AND BLANK THEREFOR

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3 Claims. (Cl. 229—14)

The invention relates to improvements in the construction of paperboard cartons of the type in which a hinged cover closes over an inner liner that projects above the top of the body of the carton; and to an improved paperboard blank for such construction.

For this type of carton it has been proposed heretofore to use a one-piece blank having a body forming section and a liner forming section, the wall panels of the two sections being arranged in line. By wrapping the liner section into rectangular form, and then wrapping the body section around and against the liner there is formed a double walled carton. Or, by folding the liner section over against the body section and wrapping the superimposed sections into rectangular form, again there is formed a double walled carton. Such prior constructions as these, while well suited to applications where double walled cartons with full tubular liners are desired, are not so well suited for use where only partial liners are to be provided. Thus, in a well known contemporary cigarette carton for example, it has been found advantageous to use a liner which extends only across the front and two sides of the carton which then has only a single wall at the back, is lighter and requires less paperboard stock in its manufacture. However, in order to obtain these advantages it apparently was found necessary to use an insert which is initially separate from the body of the carton, requiring a separate blanking operation and subsequent assembly with attendant problems in obtaining proper registry between the body and liner sections, etc.

In accordance with our invention there is provided a paperboard blank for a hinged cover carton comprising a body section having four panels arranged in line and scored for folding to form the body of the carton, and a liner section having three panels arranged in line and scored for folding to form front and side liner panels, the liner section being joined to the body section by a double bottom flap which extends from the bottom edge of the front body panel to the bottom edge of the front liner panel. By folding the blank about a fold line at the center of the double bottom flap, the front and side liner panels are brought into a position overlying the front and side body panels. This construction combines the principal advantages of the several constructions referred to in the preceding paragraph and offers other advantages as well. It utilizes less paperboard stock than the tubular liner cartons, yet provides automatic registry of the body and liner sections and avoids any necessity for separate tacking, or gluing, of the liner to the body. The bottom is strengthened by the double bottom flap, giving extra thickness where this is most advantageous. Moreover our carton is considered to be particularly advantageous from the standpoint that it is more readily adaptable to manufacture on existing equipment for the erection and loading of hinged cover cartons such as is commonly used in the packaging of cigarettes in "soft" paper cartons as distinguished from paperboard "boxes."

Our carton, as produced from the paperboard blank

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described, comprises in essence a one-piece paperboard carton of generally rectangular form comprising a body and a liner in which the liner consists of three panels folded about a double bottom flap extending from the bottom of the body to the bottom of the center one of the three liner panels.

In the drawings wherein we have illustrated the best mode contemplated by us for carrying out our invention:

Fig. 1 is a face view of our improved paperboard blank. The view shows that side of the blank which will form the inside of the carton body.

Fig. 2 shows the same blank as it appears after the first folding operation in which the liner section has been folded so that the front and side liner panels overlie the inside of the front and side body panels.

Fig. 3 is a side elevational view of the partially erected carton after the body and overlying liner have together been folded into generally rectangular form. This form insofar as concerns the body of the carton, is that of a rectangular tube.

Fig. 4 is a perspective view of the completed carton as it appears after loading, and after the top and bottom end flaps have been closed and sealed.

Fig. 5 is a detail perspective view of the upper end of the carton with the cover partly opened (contents not shown).

Referring to Fig. 1, there is shown a paperboard blank for a hinged cover carton comprising a front body panel 6, side body panels 7 and 8 extending from each side of the front body panel, a back body panel 9 extending from side body panel 7, a glue lap 10 extending from side body panel 8, a bottom flap 11 extending from the bottom edge 12 of front body panel 6, and a liner (generally indicated at 13) extending from the bottom flap 11. The liner comprises a bottom panel 14, a front liner panel 15 extending from the front edge 16 of bottom panel 14, and side liner panels 17 and 18 extending from each side of the front liner panel. The liner 13 is foldable about the front edge 16 of the bottom panel so that the front and side liner panels overlie the front and side body panels in the manner illustrated in Fig. 2.

The bottom flap 11 and the adjoining bottom panel 14 may be considered as a double bottom flap extending from the bottom edge of the front body panel to the bottom edge of the front liner panel. It will be seen that the body section has four panels arranged in line and scored for folding to form the body of the carton, and that the liner section has three panels arranged in line and scored for folding to form front and side liner panels. The several fold lines are formed by conventional cutting and scoring and/or perforating dies as customarily performed in the operation of cutting out the blank. The several scored fold lines are indicated at *f* in Fig. 1, and the perforated fold lines at *f'*. The score lines at the top and bottom of the body portion of the blank form fold lines for end flaps 19 to 25 inclusive. Front liner panel 15 may be recessed as at 26 to allow ready access for removal of the contents of the carton. Also, if desired, cut lines 27 slightly offset from the vertical fold lines *f'* may be provided to form projecting tabs 28 (Fig. 5) designed for frictional engagement with the inside of the hinged cover to lightly restrain it in its closed position.

The hinged cover is formed by the overlapping end flaps 19, 20, 21 and 22 together with the upper portions of front body panel 6 and side body panels 7 and 8 as defined by cut lines 29, 30 and 31 in such panels. The fold lines *f*, *f'* which extend from the ends of cut lines 29 and 31, form the "hinge" of the cover. If desired, cut line 30 may be interrupted at points 32 which serve to lock the cover in its closed position until the uncut portions 32 have been ruptured upon first opening the carton.

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We prefer that side liner panel 17 be cut away at its lower end 17' so as to provide a clearance *a* between it and the end of flap 24 (Fig. 1) at least equal to the remaining length of panel 17. The purpose of this is to provide economy of paperboard stock through reduction in the amount of waste trimmings when a series of blanks are cut from a large rectangular sheet of paperboard. The blank adjacent to the one shown in Fig. 1 will be inverted so that its corresponding panel 17 occupies space *a*.

In forming the carton from the blank, it will be understood that glue will be applied to glue lap 18 or to the adjacent portion of back panel 9, and that the end flaps will be glued up, or at least that glue will be used between the meeting faces of the outer end flaps 19, 21 and 23, 14. We prefer that the end flaps at the top of the carton be folded with the small flaps 20 and 22 toward the inside, flap 19 in intermediate position, and flap 21 to the outside. Similarly, at the bottom of the carton, we prefer that the end flaps be folded with the small flaps 24 and 25 toward the inside, flap 23 in intermediate position, and the double bottom flap 11, 14 to the outside. However, the particular order of folding of these flaps is not essential to a realization of the principal advantages of the invention and may be varied in accordance with the requirements of a particular application or as may best be adapted to the carton forming and loading machine.

The terms and expressions which we have employed are used in a descriptive and not a limiting sense, and we have no intention of excluding such equivalents of the invention described, or of portions thereof, as fall within the scope of the claims.

We claim:

1. A paperboard blank for a hinged cover carton comprising a front body panel having two short sides and two long sides, side body panels of less width than said front body panel extending from each long side of said front body panel, a back body panel extending from one side of one of said side body panels, a bottom flap extending from the bottom edge of said front body panel, the width of said bottom flap being substantially the same as the width of said side panels, a liner extending from said bottom flap, said liner comprising a bottom panel of a width sub-

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stantially the same as the width of said bottom flap, a front liner panel extending from the front edge of said bottom panel, and side liner panels extending from each side of said front liner panel, said liner being foldable about the front edge of said bottom panel so that the front and side liner panels overlie the front and side body panels, and a bottom flap separate from the liner extending from the bottom edge of one of the body panels other than the front body panel.

2. A one-piece paperboard carton comprising a front body panel, side body panels extending from each side of said front body panel, a back body panel extending from one side of one of said side body panels, a bottom flap extending from the bottom edge of said front body panel, and a liner extending from said bottom flap, said liner comprising a bottom panel, a front liner panel extending from the front edge of said bottom panel, and side liner panels extending from each side of said front liner panel, said bottom flap and said bottom panel each extending from said front body panel to said back body panel.

3. A one-piece paperboard carton comprising a body having four panels adjoining one another at vertical fold lines and forming front and back body panels, and a liner having three panels adjoining one another at vertical fold lines and forming front and side liner panels, said body and liner joined by an integral double bottom flap joining the bottom edge of the front body panel to the bottom edge of the front liner panel with the front body and liner panels in juxtaposed relation, said double bottom flap extending from said front body panel to said back body panel.

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Notice of Adverse Decision in Interference

In Interference No. 91,317 involving Patent No. 2,906,444, A. J. Weiss, O. W. Stone and D. P. Doran, HINGED COVER PAPERBOARD CARTON AND BLANK THEREFOR, final judgment adverse to the patentees was rendered May 29, 1962, as to claims 1, 2 and 3.

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