Jan. 5, 1960 S. A. HACKMYER 2,919,845

CLOSURE MEANS FOR DISPENSING CARTONS

Filed Feb. 4, 1957 4 Sheets-Sheet 1

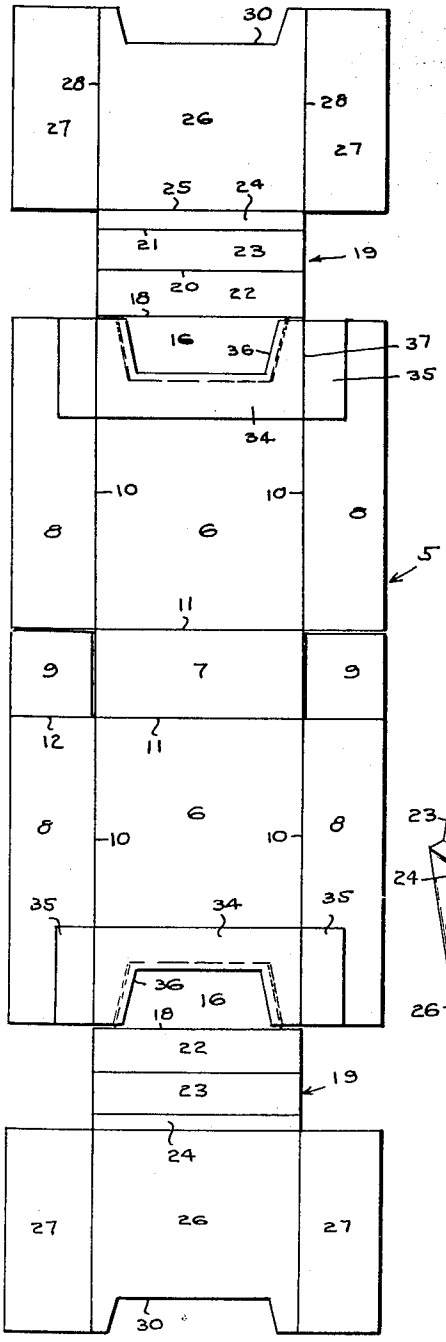


Fig. 1.

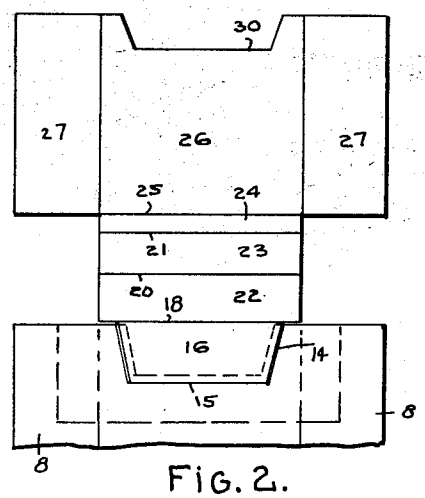


Fig. 2.

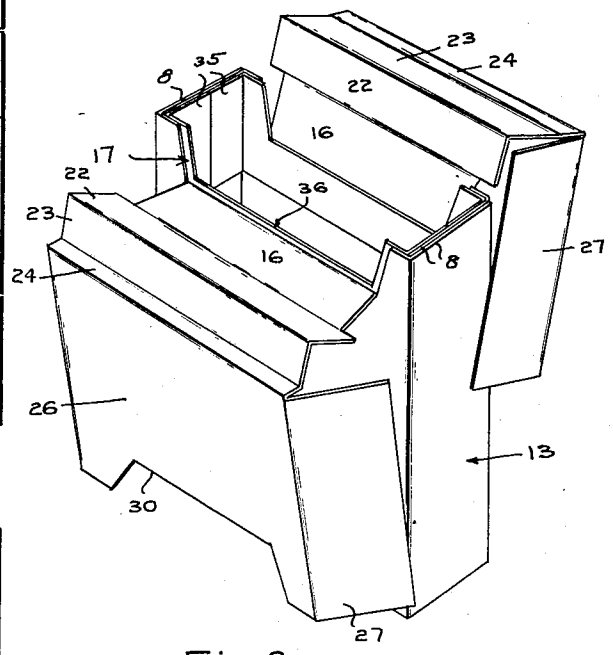


Fig. 3.

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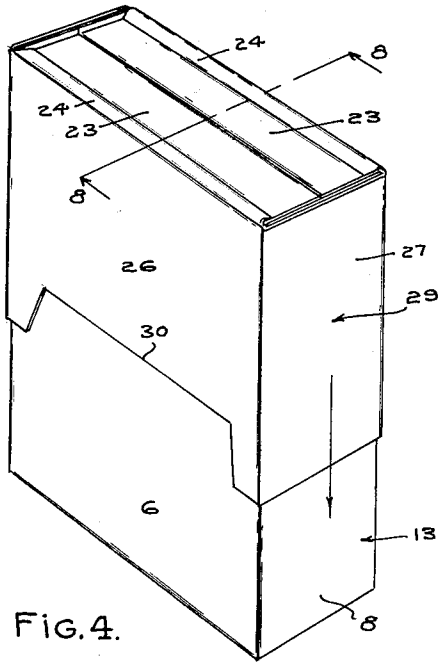


FIG. 4.

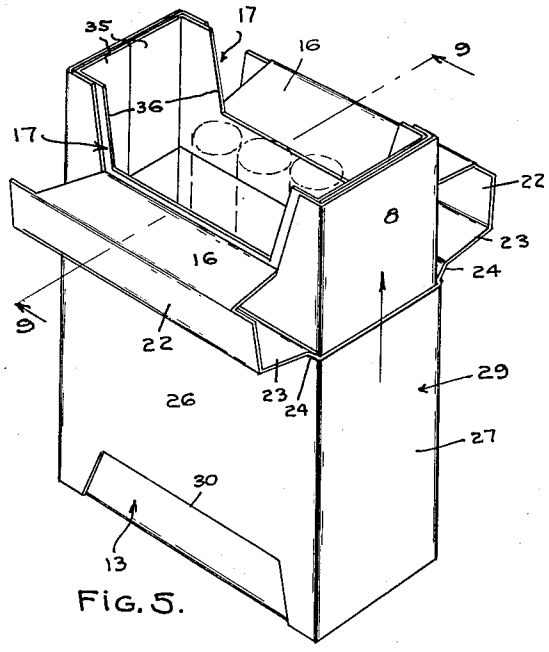


FIG. 5.

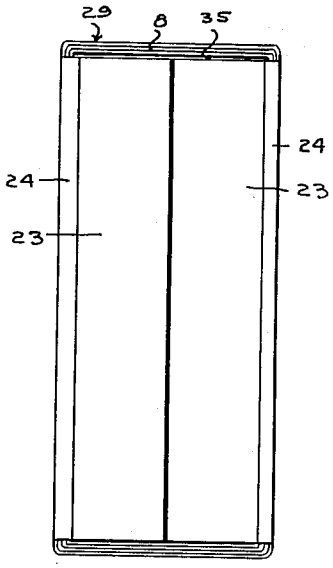


FIG. 6.

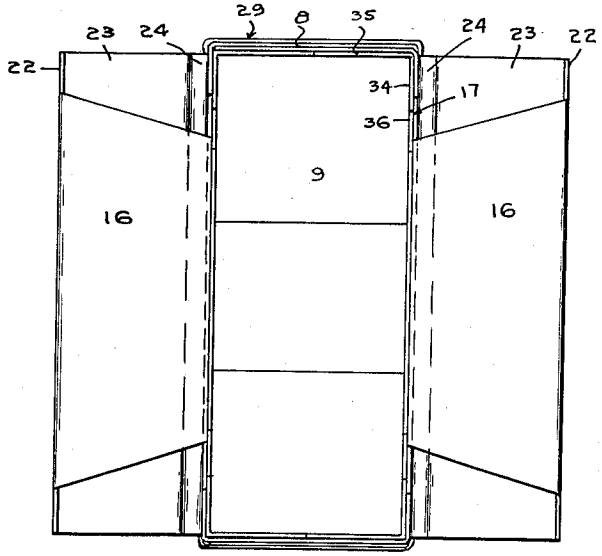


FIG. 7.

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CLOSURE MEANS FOR DISPENSING CARTONS

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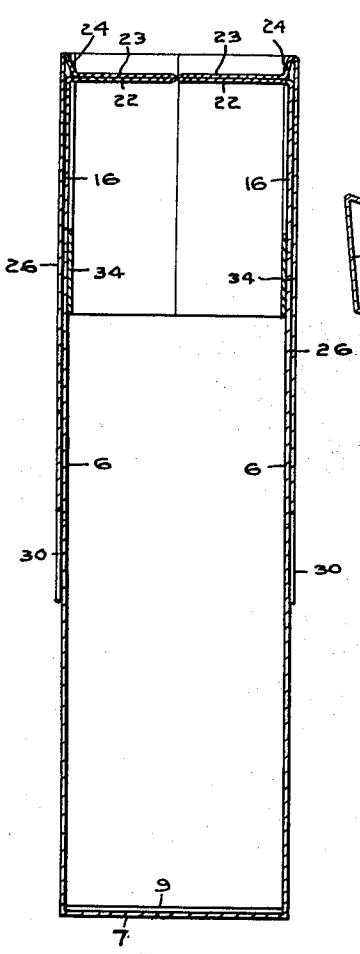


Fig. 8.

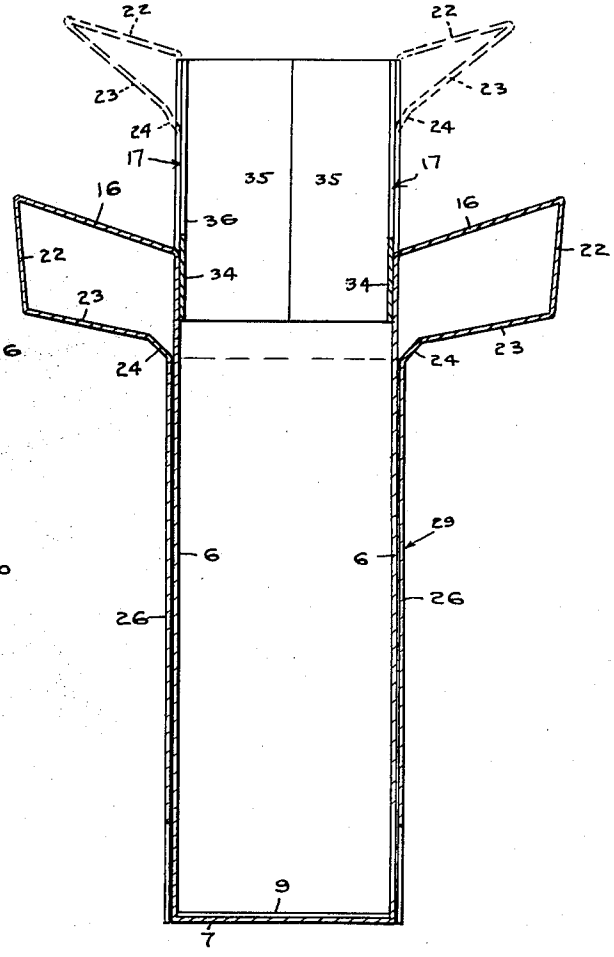


Fig. 9.

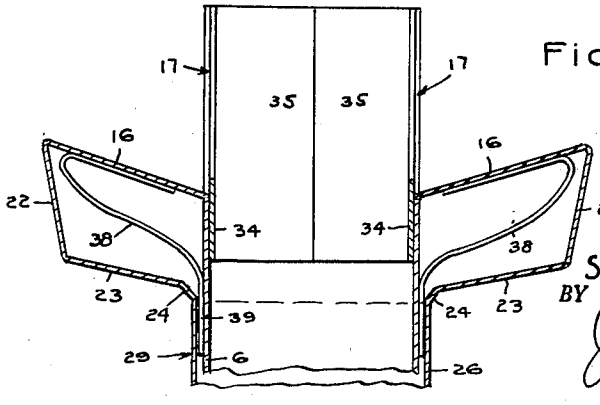


Fig. 10.

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CLOSURE MEANS FOR DISPENSING CARTONS

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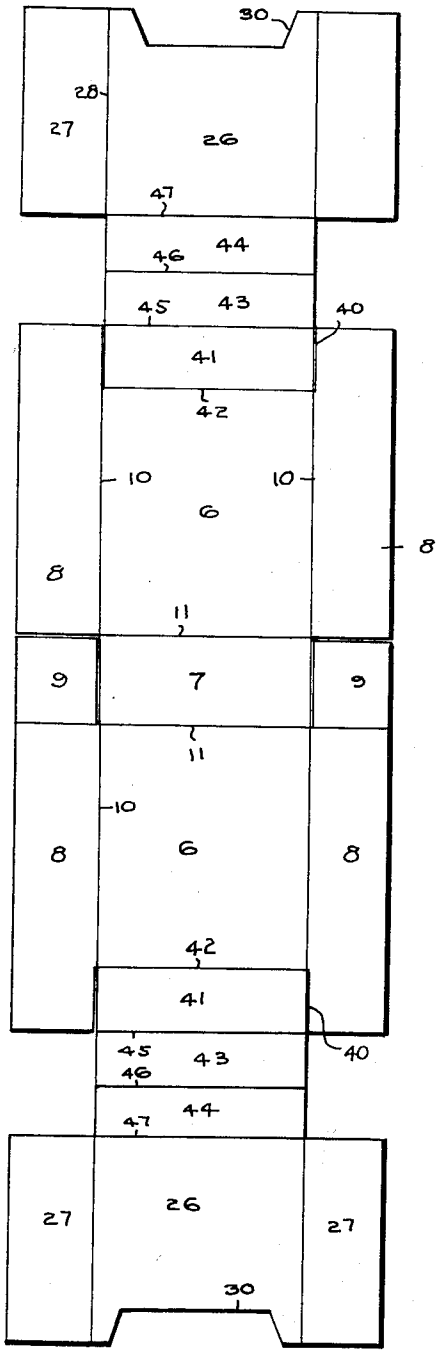


Fig. 11.

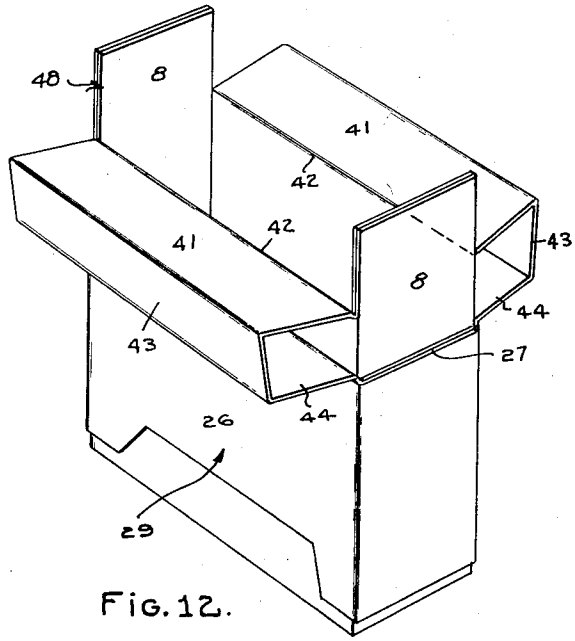


Fig. 12.

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United States Patent Office

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CLOSURE MEANS FOR DISPENSING CARTONS

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Application February 4, 1957, Serial No. 637,938

3 Claims. (Cl. 229—44)

This invention relates to a folded cardboard carton for the reception of cigarettes or similar articles and with the major elements of the carton being formed from a single blank.

The invention contemplates a folded cardboard carton formed from a blank whereby an enclosing receptacle is formed for the conventional number of cigarettes and with the carton being provided with an encompassing band or slide with integral portions that are scored and bent in a manner that constitutes a foldable closure to completely overlie the ends of the cigarettes when the band is shifted upwardly and with the several sections being outfolding when the band is shifted downwardly to completely uncover the cigarettes.

The invention contemplates a carton as above recited that is also cut away upon opposite sides to expose a considerable length of the cigarettes when the slide is in the lower position to facilitate the removal of the cigarettes from the carton.

The invention further contemplates a carton having the above named characteristics wherein the cut away side portions are fully closed by one of the integral sections and with means being provided to prevent the closing means from shifting inwardly of the carton when the slide is shifted upwardly to fold the closure members over the tops of the cigarettes.

The invention further contemplates a carton having the above noted characteristics wherein stop means has been provided to limit the upward sliding movement of the band to the point where the carton is completely closed.

Novel features of construction and operation of the device will be more clearly apparent during the course of the following description, reference being had to the accompanying drawings wherein has been illustrated the preferred forms of the device and wherein like characters of reference are employed to denote like parts throughout the several figures.

In the drawings:

Figure 1 is a plan view of a blank constituting a complete carton and its associated operating slide,

Figure 2 is a fragmentary plan view of one end of the blank taken from the opposite side to that illustrated in Figure 1,

Figure 3 is a perspective view illustrating the initial assembly of the carton and an encompassing operating slide,

Figure 4 is a perspective view of a completed carton in the fully closed position,

Figure 5 is a perspective view of the fully completed carton in the open position,

Figure 6 is a top plan view of the carton in the fully closed position,

Figure 7 is a top plan view of the carton in the open position,

Figure 8 is a vertical section taken substantially on line 8—8 of Figure 4,

Figure 9 is a vertical section taken on line 9—9 of Figure 5,

Figure 10 is a fragmentary vertical section similar to Figure 9 but illustrating a stop means for the slide,

Figure 11 is a plan view of a modified form of blank wherein the complete carton and its associated slide is integrally formed and,

Figure 12 is a perspective view of the completed carton and associated slide in the open position and formed from the blank of Figure 11.

Referring particularly to Figure 1, there has been illustrated a cardboard blank illustrated as a whole by the numeral **5**. The blank includes carton forming sections that comprises side walls **6**, a bottom **7** and infolding flaps **8** together with the tabs **9**. The blank is scored at **10**, **11** and **12** whereby to facilitate the folding in of the flaps **8** and **9** with respect to the side walls **6** and bottom **7** to form a generally rectangular carton **13**, see particularly Figure 3. It will be apparent, that the flaps in their folded assembled position will be cemented together, while the flaps **9** will be cemented to the bottom wall **7**. The side walls **6** of the carton have been cut, as at **14** and scored as at **15** to form a generally V-shaped tongue portion **16** that is bendable along the line **15** in a manner to be presently described. The cut **14** forms a generally V-shaped opening **17** at the upper extremity of each side wall **6** and whereby to expose a considerable portion of the upper ends of the cigarettes, as shown more clearly in Figure 5. The tongue **16** is also scored along the line **18** and a section of the blank **5** at opposite ends, illustrated at **19** is scored along the lines **20** and **21** to be foldable and to constitute an overlying cover for the upper ends of the cigarettes. The score lines **20** and **21** define strips **22** and **23** together with a strip **24** that is connected at a line of scoring **25** with a slide forming section **26**. As will be apparent, the blank is identical at opposite ends. The section **26** corresponds in width to the outer width of the carton **13**. The section **26** carries wing portions **27** that are bendable along score lines **28** and with the wings **27** being folded upon the wings **27** of the opposite end of the blank and cemented together whereby to form a slide band **29**.

As illustrated in Figure 3, the assembly of the carton will be entirely apparent, while the slide has been illustrated in the initial step of assembly, with the flaps **27** adapted to be overlapped and cemented to each other as before noted. The sections **26** are cut away at **30**, forming an opening whereby to expose a portion of the carton that may be engaged by the fingers of the operator to assist in holding the carton while the slide is operated. It may be found however that this opening is not essential.

In assembling the device, the carton is first formed by bending the flaps **8** inwardly along their score lines **10**. Then bending the flaps **9** inwardly so that they overlie the bottom **7** when the side walls are bent upwardly along their score lines **11**. After the flaps have been cemented to the bottom **7** and the flaps **8** cemented with respect to each other, a carton has been formed having the dimensions corresponding generally to the dimensions of a conventional cigarette package and wherein to receive the usual 20 cigarettes. The sections **22** and **23** and the section **24** are then folded along their score lines **20**, **21** and **25** and also along the score line **18** to take a relatively accordion-like shape. The section **16** is bent outwardly from the cut **14**, with the section **22** bent in a reverse direction while the sections **23** and **24** are each reversely bent along their score lines. The sections **22**, **23** and **24** as before stated, constitute the closure means for the top of the carton and are infolding from opposite sides so that the closure at each side extends inwardly to overlie the end of the cigarettes and to terminate in substantial abutment along the center line of

the carton. The sections 26 having been bent downwardly and the flaps 27 bent inwardly, with the side walls of the carton with the flaps 27 in overlapping relation and in such position they are cemented together. With the flaps 27 in fixed engagement with each other, the slide 29 may now be shifted in the vertical plane to cover and uncover the opening of the carton. As the slide 29 is shifted downwardly, it pulls upon the strips 24, causing the strips 23 and 22 to swing upwardly and outwardly in an unfolding manner, as illustrated in Figure 9, and as the sliding is continued in a downward movement, the section 16 moves away from the opening 17 and in a completely lower position of the slide, the sections 16 will be angularly disposed outwardly from the sides of the carton to fully uncover the openings 17 and expose the cigarettes at each side for ready removal. When the device is to be closed, the operator grasps the lower end of the carton 13 through the cut-out of the slide and then shifts the slide in an upward direction forcing the strips 24 and 23 upwardly, swinging the sections 16 into recessed and flush engagement with the opening 17 and a continued upward movement causes the strips 23 and 22 to hinge over the top of the carton to the point where the strips 22 and 23 are folded together in overlying parallel relation to each other and with the strip 24 likewise extending partially over and downwardly into the opening of the carton and whereby to slightly recess the covers into the carton.

Since the opening 17 is for the major width of the upper end of the carton, means are desirable to prevent the shifting inwardly of the tongues 16 beyond their normal closure position when relatively few cigarettes are left in the carton. The means to prevent the inner movement of the tongues 16 comprises strips 34 that are cemented to the inner sides of the side walls 6. The strips 34 carry flaps 35 and the strips have been cut away at 36 to form a generally V-shaped opening that is slightly smaller than the opening 17 and whereby to extend over the marginal edges of the opening, thus forming an abutment flange across the bottom end along the sides of the opening 17, and forming a stop against which the tongues 16 abut when the slide is shifted to fully cover the carton. The flaps 35 are scored along the lines 37 so that they may be folded inwardly with the flaps 8 to be cemented upon the inner sides of the innermost flap 8, as shown clearly in Figure 3.

In Figure 10, there has been illustrated a slightly modified form of the invention wherein stop means has been provided to limit the sliding movement of the slide 49. The construction of this form of dispenser is substantially identical to that illustrated in Figures 1–9 inclusive. Since it would be possible for a person to force the slide upwardly and above its normal range of travel, there has been provided flexible stop strips 38, having one end cemented at 39 to the outer side walls 6 of the carton intermediate their widths. The strips 38 at the opposite ends are cemented to the web portions 16 and with the strips 38 being of such length as to permit the slide to be shifted upwardly for fully closing the upper end of the carton to the point illustrated in Figure 8 and, in this position, the strips 38 will prevent further upward movement of the slide. It will be recognized, that the entire structure described will be formed of a suitable cardboard recognized for its ability to bend at frequent intervals, such as the necessary opening and closing of a carton of the type for dispensing cigarettes. It is also contemplated that the carton shall be dimensioned to accommodate the recognized standard lengths of cigarettes and, while the device has been illustrated primarily as a cigarette dispensing carton, that the construction may readily be adapted to cartons containing other articles of the type whereby their upper extremities shall be exposed upon opposite sides of the carton to facilitate their removal and the invention is in no sense restricted to the dispensing of cigarettes.

In Figures 11 and 12, a further modified form of the invention has been disclosed. The structure is substantially identical to that previously described, embodying the carton forming walls 16, bottom 7, side flaps 8 and infolding flaps 9, all scored as before pointed out to facilitate their folding and interlocking engagement. In this form of the invention, the wall forming blanks 6 have been cut along the lines 40, being an extension of the score lines 10. Such cuts 40 provide closure flaps 41 that are scored at 42 to be bendable outwardly to expose openings at opposite sides of the carton for the full width. The flaps 41 are formed integral with the slide forming members 26 through the medium of flaps 43 and 44 that constitutes the closure means for the top of the carton. The flaps 43 and 44 are bendable along score lines 45, 46 and 47, all being folded in the same manner as that previously described. In this form of the invention, the extra strips 24 have been omitted and the opening 48 extending from the end walls 8 of the carton, shown clearly in Figure 12. In this form of the invention, when the slide 29 is shifted upwardly, the flaps 41 swing upwardly to abutting engagement with the edges of the end walls 8 of the carton, thus preventing the flaps 41 from moving inwardly against the sides of the cigarettes or, in situations where the major numbers of cigarettes have been removed, the flaps 41 could conceivably collapse into the carton unless they were stopped in their swinging movement, and in such case it would destroy the closing action of the flaps 43 and 44. Since the end walls 8 obviously are relatively flexible, they will be held against outward spreading as the slide 29 moves upwardly, since the slide 29 will effectively engage and prevent the outward movement of the end walls and maintain their edges in the path of movement of the flaps 41. In this form of the invention, the entire width of the package is exposed at opposite sides of the carton and results in a structure having no separately installed strips, such as that illustrated in the first form of the invention.

It will be apparent from the foregoing that an extremely novel form of carton device has been provided, the structure is extremely simple, being stamped from a single blank and folded in a novel manner to constitute a fixed carton, and an encompassing slide device and flap means connected with the carton and the slide that jointly fold over and upon the tops of the cigarettes within the carton. Much thought has been given to cigarette packages having a definite closing cover and whereby to protect the cigarettes and prevent the spilling of tobacco in the pockets or purses of the users. The device as heretofore employed having closure covers are relatively expensive to manufacture and fail to a high degree in functioning properly to permit the cover to swing to and from the closed position without the flexing of the upper ends of the carton. The device of this invention provides a very novel form of slide that is shiftable upon the outer side of the carton in a snug sliding action and whereby to additionally support the carton against distortion and quickly and easily opens the upper end of the carton to expose a substantial length of the cigarettes at opposite sides and with the exposed lengths of the cigarettes being such as to permit their individual withdrawal with a minimum of effort.

It is to be understood that the invention is not limited to the precise construction shown, but that changes are contemplated as readily fall within the spirit of the invention as shall be determined by the scope of the subjoined claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A dispensing carton and closure means therefor that is stamped and folded to assembled form from an integral cardboard blank, the carton having side walls, a bottom and end walls, the side walls each being cut downwardly to form outwardly bendable flaps to form

side openings to expose a considerable length of articles to be dispensed from opposite sides of the carton, a plurality of bendable flaps connected to and extending from the first-named flaps, slide forming flaps extending from the outermost flaps of the second named flaps to be bendable and connected to embrace the carton to be slidable in a vertical direction on the carton, the said plurality of bendable flaps being foldable under the influence of an upward sliding movement of the slide to be folded over the upper end of the carton from opposite sides to form a closure cover, the said first-named flaps being foldable under the influence of the upper sliding movement of the slide to fully cover the open sides of the carton and stop means connected to the inner side of the carton and that partially overlies the side openings to limit the movement of the first named flaps to a full closure position.

2. A dispensing package and closure means therefor that is formed from a stamped cardboard blank to provide a relatively rigid carton open at its top, the said carton embodying side walls, end walls and a bottom and with the carton being open at its top, the carton being provided with a plurality of foldable flaps that are shiftable and foldable to overlie the open end of the carton, an encompassing slide device that is shiftable upon the side and end walls of the carton, the upper end of the slide device being integral with the foldable flaps and with the foldable flaps being integral with the side walls of the carton, the side walls at their upper portions being cut away to expose the upper end of articles supported in the carton, the flaps being foldable inwardly when the slide is shifted upwardly and to move the flaps into covering position with respect to the open upper end of the carton and means carried by the inner upper end of the carton and forming a stop against the shifting of the flaps into the carton, the said slide when shifted downwardly

causing the flaps to swing outwardly to expose the upper end of the articles disposed therein.

3. A package for the dispensing reception of slender articles such as cigarettes and that is formed from a single cardboard blank, the carton having side walls, end walls and a bottom, the carton being open at its top and with the side walls cut away to expose a substantial length of the articles supported therein, a slide device formed integral with the blank and that encompasses the carton to be slidable in a vertical plane, the slide device engaging the sides and ends of the carton, a plurality of integral flaps connecting the carton and the slide, certain of the flaps being foldable upwardly and inwardly when the slide is shifted upwardly to close the openings of the side walls, the flaps also embodying foldable sections that are shifted upwardly and over the top of the carton to completely cover articles supported therein when the slide partakes of an additional upward movement and stop means connected within the carton at its upper portion and that overlies the marginal portions of the openings and constituting a stop for the first named flap against movement into the carton.

References Cited in the file of this patent

UNITED STATES PATENTS

149,889	Smith	Apr. 21, 1874
664,141	Fredrikson	Dec. 18, 1900
1,185,560	Walcutt	May 30, 1916
1,822,512	Tanner	Sept. 8, 1931
2,011,438	Daller	Aug. 13, 1935
2,169,572	Tanzi	Aug. 15, 1939
2,776,081	Ringler	Jan. 1, 1957

FOREIGN PATENTS

386,577	Great Britain	Jan. 19, 1933