July 29, 1952 W. J. WELLS 2,605,038

ARTICLE DISPENSING PAPER CARTON

Filed Feb. 14, 1948

Fig. 1.

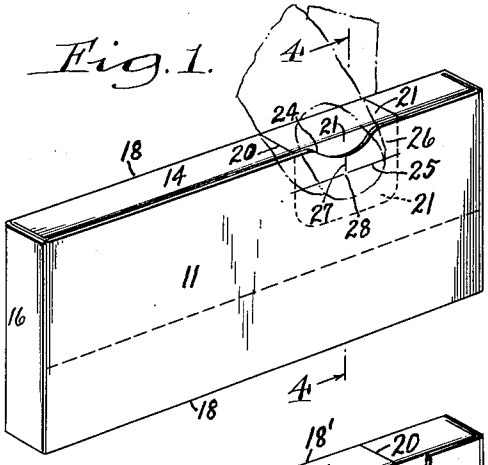
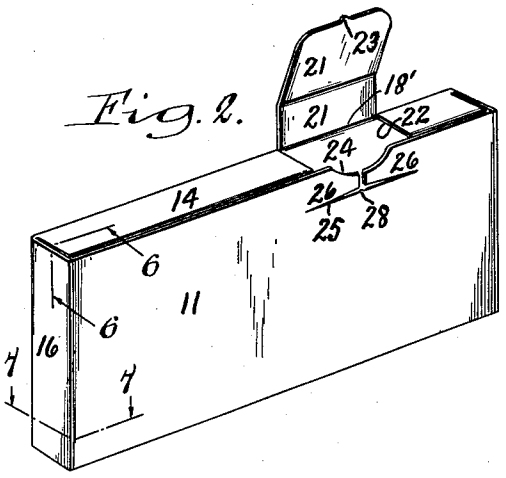


Fig. 2.



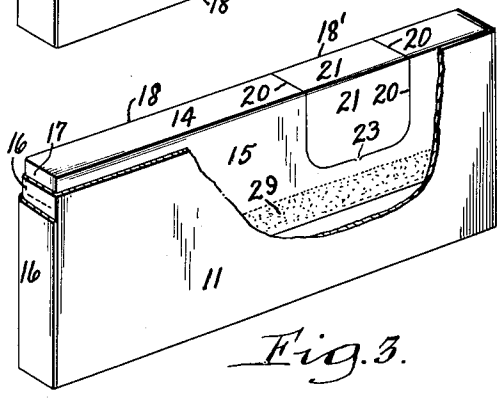


Fig. 3.

Fig. 6.

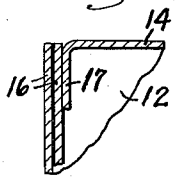


Fig. 5.

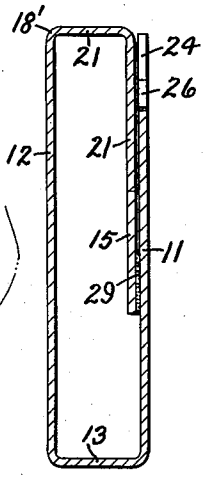


Fig. 4.

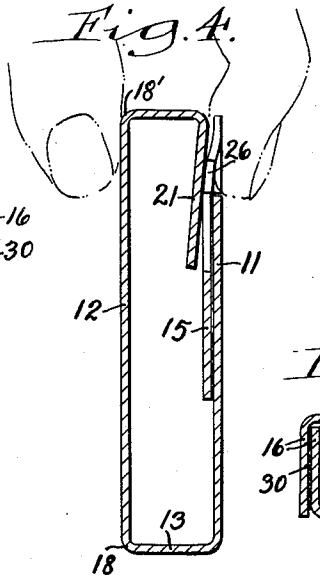


Fig. 8.

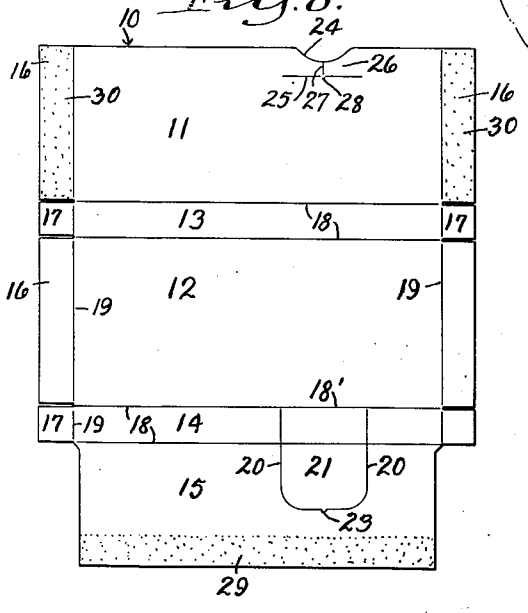
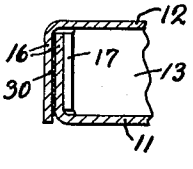


Fig. 7.



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ARTICLE DISPENSING PAPER CARTON

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7 Claims. (Cl. 229—17)

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This invention relates to improvements in dispensing cartons particularly designed for dispensing articles one or more at a time, such as particles or tablets of chewing gum, candy, medicated tablets and the like. More particularly, the invention relates to such cartons constructed of cardboard, fiberboard, paperboard, plastics or similar sheet material that can be readily fabricated and bent or folded to form the completed carton.

It is a general object of the invention to provide a carton of the class mentioned that can be economically manufactured in large quantities from single integral blanks of sheet material, and having an improved dispensing structure whereby the articles contained in the carton can be easily dispensed, one or more at a time, and the dispensing operation easily controlled by the user.

Another object of the invention is to provide a dispensing carton of the class mentioned having an improved arrangement of the dispensing opening at one side of the carton whereby the dispensing of the articles can be easily controlled by the user, the dispensing opening being preferably spaced from both ends of the carton and positioned nearer to one end than to the other so as to add to the convenience of the dispensing operation.

According to another feature of improvement, the closure flap for the dispensing opening is positioned in the side and attaching panels of the carton, and is formed by slitting the blank and leaving the closure flap initially in its original position in the blank, and held in this position by a short integral tie which is readily severable by external pressure exerted by the user upon the closure flap, thus permitting the flap to be swung into open or dispensing position.

Another object is to provide for cartons of the class mentioned, an improved attachment for the carton panel in which the closure flap is initially positioned and held by the severable tie, so as to provide a support or resistance to aid in severing the tie when external pressure is applied.

Still another object of the invention is to provide for cartons of the class mentioned, an improved supporting arrangement for supporting the closure flap in its closed position following each dispensing operation, and embodying a flap receiving slot or cut in one panel wall positioned to provide a flexible flap retaining band arranged to guide the flap into its final retaining position in the slot.

Other objects of the invention will be in part pointed out in the following detailed description

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of an illustrative but preferred embodiment of the invention, and will become in part apparent as the disclosure proceeds.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts, which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a more complete disclosure of the nature, objects and advantages of the invention, reference is had to the following detailed disclosure of the illustrative embodiment, and to the accompanying drawings, in which:

Fig. 1 is a perspective view of a completed carton shown as resting on one side or edge;

Fig. 2 is a perspective view similar to that of Fig. 1 and showing the construction and arrangement of the dispensing opening and the closure flap therefor in its open position;

Fig. 3 is a perspective view similar to Figs. 1 and 2, parts being broken away and in section to show the construction and arrangement more clearly;

Fig. 4 is an enlarged transverse section of the carton taken substantially on the line 4—4 of Fig. 1, looking in the direction of the arrows and showing the manner of releasing and opening the closure flap;

Fig. 5 is a transverse sectional view similar to that of Fig. 4, but showing the closure flap in its original position in the completed carton and before release thereof;

Fig. 6 is an enlarged detail sectional view taken substantially on the line 6—6 of Fig. 2 looking in the direction of the arrows;

Fig. 7 is an enlarged detailed sectional view taken substantially on the line 7—7 of Fig. 2 looking in the direction of the arrows; and

Fig. 8 is a plan view on a smaller scale of a blank of sheet material constructed and arranged to be folded or set up to form the completed carton.

Referring to the drawing for a detailed description of the illustrative embodiment of the invention, the improved carton is shown as being constructed of sheet material, preferably of cardboard or fiberboard, although it may be made of other sheet materials as suggested above. The cardboard is of sufficient thickness and strength so that the carton is maintained in its expanded set up condition, as shown, by virtue of the strength or stiffness of the sheet material. The carton is particularly designed to contain particles or pellets of chewing gum or other material

as above suggested, the pellets ordinarily being sugar-coated to provide a smooth, hard, non-tacky surface. In the embodiment shown, the pellets are of sufficient thickness so as to be maintained by the carton walls in a single layer in the carton and arranged in two or three longitudinal rows, and of a size or length so that only one pellet may pass at one time through the dispensing opening. In other words the dispensing opening may be sized in accordance with the size and shape of the pellets to restrict dispensing thereof to one pellet at a time.

As shown, the blank 10 of cardboard or sheet material is preferably prefabricated as shown in Fig. 8. In the embodiment shown the carton is of the five-panel type including top panel 11, bottom panel 12, side panels 13 and 14, and attaching panel 15 at one extremity of the blank. End closure flaps 16 and 17 are formed at each of the opposite ends of the blank 10, and are adapted to fold into overlapping relation to form closures for the opposite ends of the carton. In order to weaken the blank so that it can be easily bent or folded on lines between the respective panels, and between the latter and the end closure flaps, the cardboard is creased or scored along lines 18 and 19. This creasing may be done by means of an appropriate tool that crushes or off-sets the fibers of the cardboard slightly so as to weaken its resistance to folding along these lines in a manner well known in the art.

Also the blank 10 is provided with a cut or slit 20 having spaced sections extending from the adjacent fold line 18 entirely across the side panel 14 and continuing into the attaching panel 15 and deviating longitudinally of the latter and meeting so as to form a closure flap 21 and to form a dispensing opening 22 in the side panel 14 which is closed and opened by operation of the closure flap 21 as later described. The slit or cut 20 preferably extends all the way through the sheet material of the blank so as to form the closure flap which may be substantially rectangular as shown, but a short integral section or tie 23 remains uncut. This integral tie 23 is frangible and readily severable and functions to hold the closure flap 21 in its original position in the panels 14 and 15 until it is desired to dispense the contents of the carton. The closure flap is permanently attached to the blank or carton at its inner edge coincident with the scored fold line 18, which forms a supporting hinge 18' whereby the flap can swing into opening and closing positions.

At the opposite edge or margin of the blank from the attaching panel 15 the top panel 11 is provided with a thumb notch 24 and a longitudinal cut or slit 25 spaced inwardly a short distance from the thumb notch so as to form a guiding and retaining band 26, the purpose of which is later described. Also a transverse cut or slit 27 may be used in some cases so as to divide the guiding and retaining band intermediate its ends. Cuts 25 and 27 preferably extend all the way through the sheet material, but in some cases it may be preferred to leave a short uncut integral tie 28 so as to retain the guiding and retaining band 26 temporarily in its original position or until it is desired to dispense the particles. This integral tie 28 is frangible or readily breakable by pressure exerted upon the band 26 so as to release this attachment of the band to the panel 11, and to release the two parts of the band from each other at the transverse division line 27. The attaching panel 15 is provided with a band of adhesive 29 for attaching the container in set-up condition, and certain of the end closure flaps 16 may be similarly coated with bands of adhesive 30.

It will be noticed that the closure flap 21 is spaced entirely within the bounds of the blank 10 and that the outer end portion thereof remote from its hinge support 18' is located within the bounds of the attaching panel 15. The temporary integral supporting tie 23 is positioned close to the adhesive attachment 29 of the attaching panel so as to assist in severing this tie as later described. The dispensing opening 22 is positioned in the side panel 14 and preferably nearer to one end of the carton than to the other end so as to assist in the dispensing operation. The section of the closure flap 21 positioned between the adjacent creased fold lines 18 serves as a closure for the dispensing opening while the section thereof beyond these fold lines serves as a tuck-in flap to retain the closure flap in its closed position following a dispensing operation.

When the blank 10 of sheet material has been fabricated as described, it is then formed or set up into completed condition as shown in Fig. 1. This may be accomplished by bending or folding the blank on the weakened fold lines 18 between the respective panels thus positioning the attaching panel 15 in overlapping relation with the inner surface of the top panel 11, as clearly seen in Fig. 3, and the attaching panel is attached to the inner surface of the top panel 11 by means of the band of adhesive 29. This secures the carton in set up condition for receiving the pellets or other contents with the exception of closing the opposite carton ends. Either end may be left open temporarily for receiving the contents which may be inserted through the open end by the packager of the merchandise. The ends of the carton may be closed and sealed by turning the small flaps 17 inwardly and then turning the larger flaps 16 into overlapping relation so that the adhesive coating 30 of one flap is attached and sealed to the adjacent surface of the inner flap 16 as clearly seen in Fig. 3. It will be noted that the carton is constructed and arranged so as to be rapidly and economically manufactured in large quantities by factor methods and by the use of automatic machinery.

When the carton is received by the user it is ordinarily in the condition shown in Fig. 1 with the closure flap 21 of the dispensing opening 22 in its original closed position beneath the guiding and retaining band 26 and in its original position in the blank in which it is retained by the integral tie 23 which at that time is unbroken thus retaining the closure flap securely in closing position during handling and shipment. Also in cases where the integral supporting tie 28 for the guiding and retaining band 26 is employed, this tie also remains unbroken thus retaining the guiding and retaining band 26 against accidental displacement. The user may sever the tie 23 of the closure flap very quickly and easily by placing the thumb and finger at the same time beneath the bottom of the carton and above the closure flap 21 adjacent to the tie 23 and exerting downward pressure upon the closure flap as indicated in Figs. 1 and 4 of the drawing, or a similar result may be obtained by placing the carton upon a firm supporting surface and similarly exerting downward pressure upon the closure flap 21. In either case the integral tie 23 will be severed thus completely releasing the closure flap 21 so that it can be withdrawn and swung into open posi-

tion shown in Fig. 2. Since the integral supporting tie 23 is closely adjacent to the attachment 29 a firm resistance to inward movement of that part of the attaching panel 15 is provided, thus assisting in severance of the tie. As soon as the tie 23 is thus severed the closure flap 21 is pulled outwardly from its original closing position by engaging it through the thumb notch 24 and exerting a slight outward pull whereby the flap is easily moved to its open position shown in Fig. 2.

In cases where the tie 23 is employed for holding the guiding and retaining band 26 in its original position, this can be easily severed at the same time as severance of the tie 23, merely by exerting downward pressure upon the guiding and retaining band 26, or the tie 23 for the closure flap may first be severed after which the tie 23 may be severed. As above mentioned the tie 23 for the guiding and retaining band can be omitted in some cases, leaving only the tie 23 for the closure flap to be severed.

As soon as the closure flap is swung into its open position shown in Fig. 2, an article or pellet may be quickly and easily dispensed merely by shaking the carton slightly and disposing the dispensing opening 22 downwardly, whereupon a pellet can be dispensed through the dispensing opening. In the embodiment shown the dispensing opening is sized so that only a single pellet can pass through at one time. After the single pellet has thus been dispensed additional pellets can be held from passing through dispensing opening by exerting pressure upon the top and bottom panels to deflect them inwardly slightly so as to prevent passage of additional pellets. As soon as this pressure is released the panels resume their original position due to their own resiliency.

When the desired pellets have thus been dispensed the closure flap 21 is swung on its supporting hinge 18' to close the dispensing opening, but the free end portion of the flap is inserted in the longitudinal slit 25 of the top panel above the guiding and retaining band 26, and not in its original position beneath said band. The end of the flap is positioned upon the band 26 and slight downward pressure exerted thus deflecting the band inwardly slightly as shown in Fig. 2, and guiding and positioning the flap for entry into the retaining slot. When the closure flap is thus fully inserted in the slot 25 and the pressure released the natural resiliency of the band 26 tends to cause it to assume its original position, thus gripping or holding the closure flap in its reclosed position. Also since the opposite lateral edges of the flap are close to the opposite ends of the slot 25, the flap will be pinched near the slot ends, thus tending to hold it closed. The transverse division of the band 26 increases its flexibility slightly and thus assists in placing the closure flap in its final closing position. In some cases, however, due to variations in the stiffness or thickness of the sheet material, to the size of the carton, or to other factors, the transverse division of the guiding and retaining band may be omitted and the band made continuous.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

The invention having thus been fully described, the following is claimed:

1. In a carton, in combination, enclosing panels including a side panel and an adjacent attaching panel forming an extension of said side panel and overlapping a third enclosing panel, said adjacent side and attaching panels having a slit formation providing a dispensing opening in the carton and forming a closure flap for said dispensing opening, said slit formation extending into said attaching panel and spaced within the bounds thereof and forming a tuck-in flap extension of said closure flap enclosed within the bounds of said attaching panel and overlapping and being free of direct attachment to said third enclosing panel, a severable integral tie for initially holding said closure flap extension in its original position, and an attachment positioned outside of said tuck-in flap extension and adjacent to said integral tie and attaching said attaching panel to said third panel and forming a resistance support to promote severance of said tie by pressure exerted on the outside of the carton.

2. In a carton, in combination, enclosing panels including a side panel and an adjacent attaching panel forming an extension of said side panel and overlapping a third enclosing panel, said adjacent side and attaching panels having a slit formation providing a dispensing opening in the carton and forming a closure flap for said dispensing opening, said slit formation extending into said attaching panel and spaced within the bounds thereof and forming a tuck-in flap extension of said closure flap enclosed within the bounds of said attaching panel and overlapping and being free of direct attachment to said third enclosing panel, and an attachment positioned wholly outside of said flap extension and attaching said attaching panel to said third panel.

3. In a carton, in combination, enclosing panels including a side panel and an adjacent attaching panel forming an extension of said side panel and overlapping a third enclosing panel, said adjacent side and attaching panels having a slit formation providing a dispensing opening in the carton and forming a closure flap for said dispensing opening, said slit formation extending into said attaching panel and spaced within the bounds thereof and forming a tuck-in flap extension of said closure flap enclosed within the bounds of said attaching panel and overlapping and being free of direct attachment to said third enclosing panel, an attachment positioned wholly outside of said flap extension and attaching said attaching panel to said third panel, and a severable integral tie in proximity to said attachment and adjacent to the outer terminal of said closure flap extension for initially holding it in position.

4. In a carton, in combination, enclosing panels including a side panel and an adjacent attaching panel forming an extension of said side panel and overlapping a third enclosing panel, said adjacent side and attaching panels having a slit formation providing a dispensing opening in the carton and forming a closure flap for said dispensing opening, said slit formation extending into said attaching panel and spaced within the bounds thereof and forming a tuck-in flap extension of said closure flap enclosed within the bounds of said attaching panel and overlapping and being free of direct attachment to said third enclosing panel, said closure flap extension hav-

ing a swinging end portion which in its original position is spaced inwardly from the adjacent end portion of said attaching panel, and an attachment positioned inwardly beyond said swinging end portion of said flap extension and attaching said attaching panel to said third panel.

5. In a carton, in combination, enclosing panels including a side panel and an adjacent attaching panel forming an extension of said side panel and overlapping a third enclosing panel, said carton having a slit formation providing a dispensing opening with a closure flap therefor and extending into said attaching panel and spaced within the bounds thereof and forming a tuck-in flap extension of said closure flap enclosed within the bounds of said attaching panel and overlapping said third panel, said closure flap extension having a swinging end portion which in its original position is spaced inwardly from the adjacent edge portion of said attaching panel, and an attachment positioned inwardly beyond said swinging end portion of said flap extension and attaching said attaching panel to said third panel.

6. In a carton, in combination, enclosing panels including a side panel and an adjacent attaching panel forming an extension of said side panel and overlapping a third enclosing panel, said carton having a slit formation providing a dispensing opening with a closure flap therefor and extending into said attaching panel and spaced within the bounds thereof and forming a tuck-in flap extension of said closure flap enclosed within the bounds of said attaching panel and overlapping said third panel, said closure flap extension having a swinging end portion which in its original position is spaced inwardly from the adjacent edge portion of said attaching panel, an attachment positioned inwardly beyond said swinging end portion of said flap extension and attaching said attaching panel to said third panel, a severable tie in proximity to said attachment of said attaching panel and adjacent to said swinging free end portion of said flap extension for initially holding the latter in position, and holding means on said third panel for holding said flap in closing position.

7. In a carton, in combination, enclosing panels including a side panel and an adjacent attaching panel forming an extension of said side panel and overlapping a third enclosing panel, said carton having a slit formation providing a dispensing opening with a closure flap therefor and extending into said attaching panel and spaced within the bounds thereof and forming a tuck-in flap extension of said closure flap enclosed within the bounds of said attaching panel and overlapping said third panel, said closure flap extension having a swinging end portion which in its original position is spaced inwardly from the adjacent edge portion of said attaching panel, an attachment positioned inwardly beyond said swinging end portion of said flap extension and attaching said attaching panel to said third panel, a severable tie in proximity to said attachment of said attaching panel and adjacent to said swinging free end portion of said flap extension for initially holding the latter in position, holding means on said third panel for holding said flap in closing position, said holding means including a retaining band in said third panel formed by a flap receiving slit in said third panel, said retaining band being transversely divided to form opposing band sections with adjacent ends, and a frangible tie between said adjacent end portions.

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