May 12, 1964 B. D. OSTEEN 3,132,793

RECLOSABLE PAPERBOARD CARTON

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FIG. 1

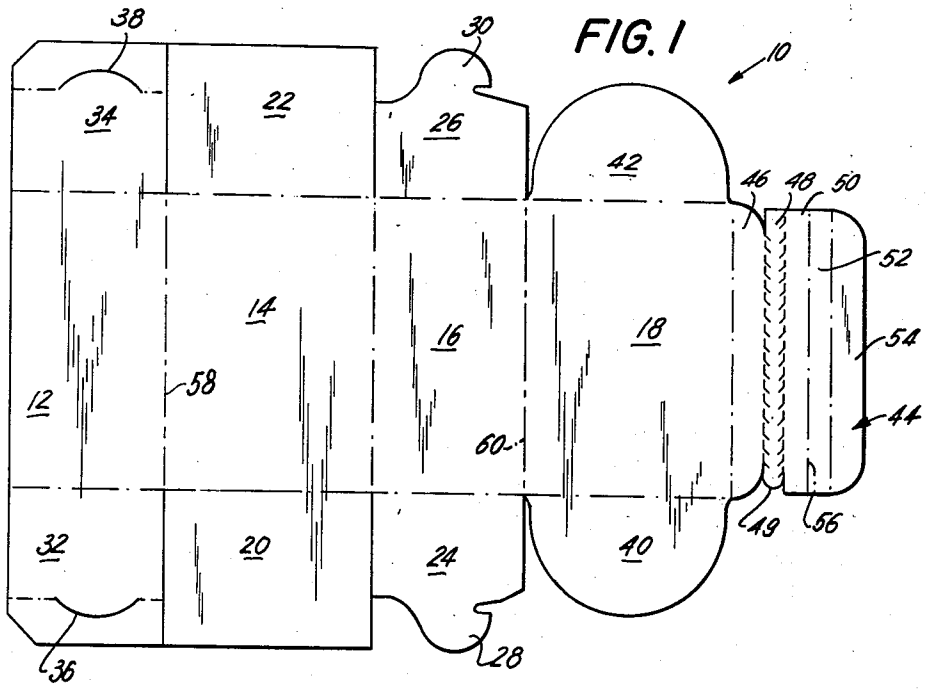


FIG. 3

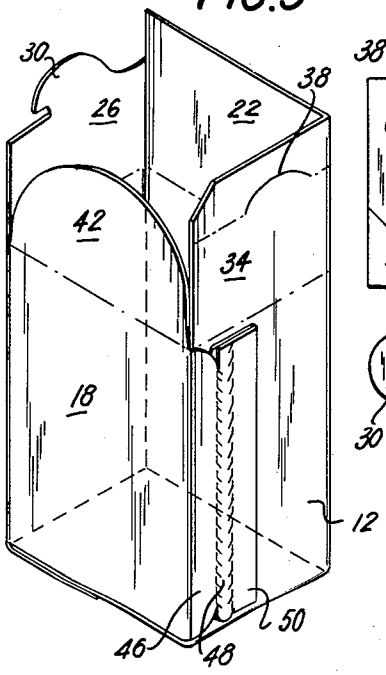
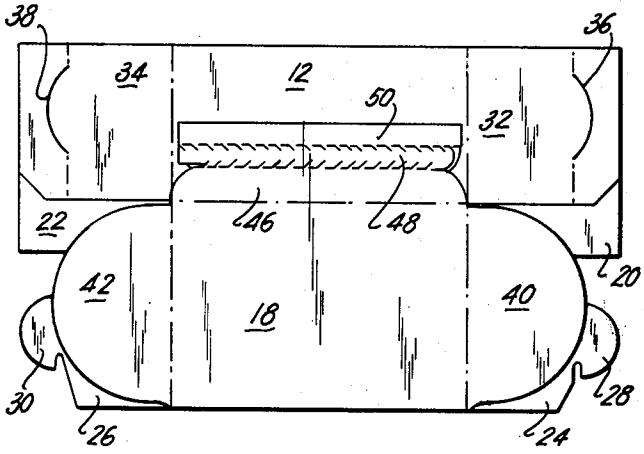


FIG. 2



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FIG. 4

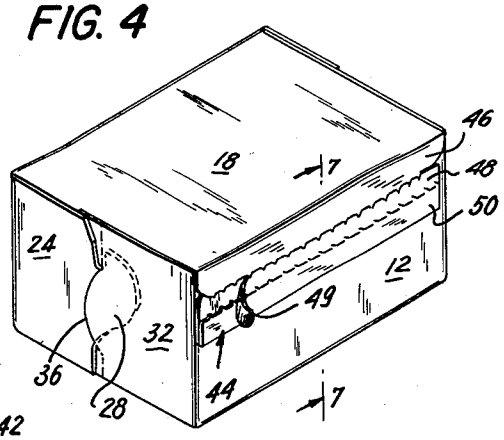


FIG. 5

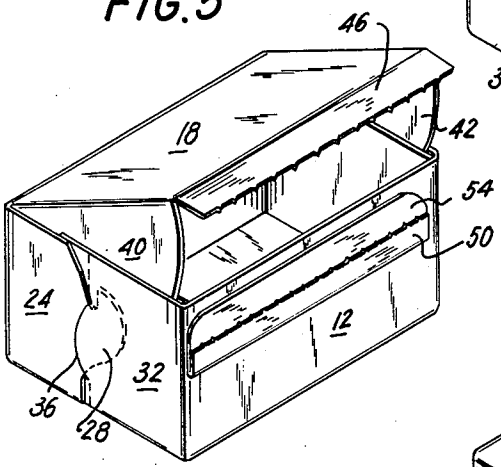


FIG. 6

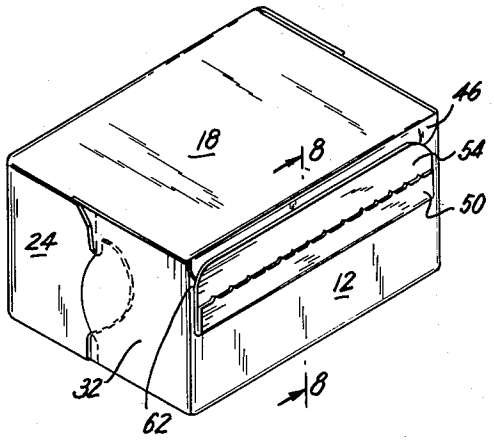


FIG. 7

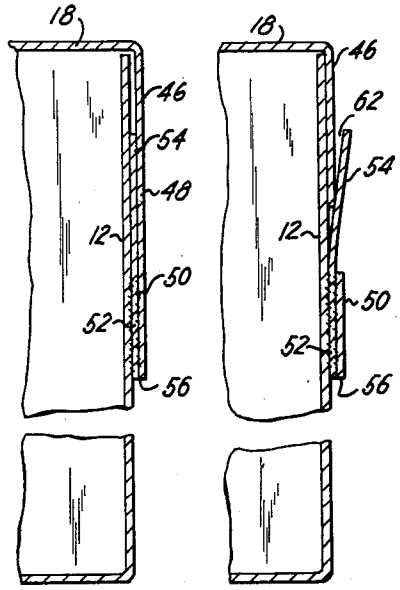


FIG. 8

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RECLOSABLE PAPERBOARD CARTON

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3 Claims. (Cl. 229—51)

This invention relates to improved collapsible cartons formed of paperboard or the like semi-rigid sheet material.

Cartons embodying the invention are particularly adapted, among other possible uses, for the packaging of comestibles such as blocks of ice cream and in cases such as where it is desired to provide a convenient and attractive container in which the commodities are retained during shipment to the ultimate consumer.

The invention is adapted for providing a collapsible carton such as may be supplied by manufacturers of cartons who make it a practice to ship large quantities thereof in collapsed condition to packers or distributors of the commodities, the cartons being of such form that the distributors may readily set them up and fill them by the use of available machinery with little or no change. Modern extrusion type ice cream machines may be employed, if desired, wherein various decorated centers are injected into the block of ice cream.

The cartons involving the invention are provided with improved reclosable cover means which may be repeatedly opened and closed. Thus, the consumer may open the carton, partially remove the contents therefrom, close the carton and replace the carton in storage repeatedly as desired. Further, in accordance with the invention, the construction is such that flaps or other depending appendages from the cover do not extend downwardly into the interior of the carton and thereby contaminate the contents remaining therein. During use, the cover of a carton normally comes into contact with the user's hands, a factor which may not be particularly sanitary and it is, therefore, desirable that this portion of the cover be maintained out of contact with said contents when the cover is reclosed. Further, with the use of prior art devices, the cover or depending flange therefrom contacted the contents of the carton during reclosure and thereby became soiled or messy. Upon reopening the carton the user's hands gripped the cover and thereby, also, became unpleasantly soiled or messy. Also, when prior art cartons of this nature were utilized to contain ice cream, the ice cream would melt slightly during the initial serving, and since the depending flange member was placed within the container upon closing the carton, it became frozenly adhered to the ice cream during the storage period. Then, when the container was reopened, the flange member could not be removed unless the user waited a period of time until the ice cream melted sufficiently to release the flange. Actually, the user generally would tear the flange loose and thereby leave part thereof intermixed with the ice cream. The present invention is intended to overcome these difficulties and problems in an economical and reliable manner. The cartons involving the invention are received by the consumer in a sealed condition. Tear strip or other convenient means are employed for initially releasing the cover so that it may be swung open in order to gain access to the contents therein. The cover is provided with closure flap means, and the front wall of the carton is provided with pocket means which are adapted to receive the closure flap means so that the carton may be readily reclosed without the usual cover flanges dipping into the contents of the carton. The cover may also be provided with flanges depending from the ends thereof in order to facilitate the reclosing of the carton.

Cartons embodying the invention are provided with flanges or flaps depending from the end edges of the front and back walls, said flaps being provided with tongue and groove means whereby the end walls are releasably locked in position. Thus, the carton may be completely broken down by means of unlocking the ends thereof so that block slicing of such items as ice cream may be employed, if desired. This is particularly advantageous when the ice cream is supplied with decorated centers. In the event that some of the contents are not immediately consumed, the ends may be relocked and the cover reclosed so that the carton can be returned to storage. Alternatively, the end walls may be formed from panels or flaps which are permanently adhered to each other, if desired.

Thus, I have conceived an effective and practical solution to the problems presented and have actually constructed a successful and commercially desirable reclosure means based upon that concept. In accordance with my invention, the construction is such that the cover has what will be herein referred to as a closure flap panel depending from the front edge of the cover and comprising a series of interconnected longitudinally extending parts, preferably four. The second part is separable from the first and third parts along lines of perforations to form a removable tear strip. After the tear strip has been removed, during the initial opening of the carton, the first part provides a depending cover closure flap means. The fourth part is folded in underlying relation to the other three parts, and the third part is permanently adhered to the fourth part in superposed relation thereto. The lower portion of the fourth part is permanently adhered to the front panel and the other portion of the fourth part co-acts with the adjacent section of the front panel to form a closure flap pocket. Thus, after the consumer opens the tear strip, the cover and the first part, or cover closure flap, are swung open exposing the contents inside of the carton. When it is desired to reclose the cover, the closure flap is inserted into the cover closure flap pocket, and thus, effectively closes the carton. The tear strip provides a convenient means for initially opening the carton, however, it may be desired to utilize other means for severing the aforementioned first and third parts of the closure flap panel, such a weakened separation line or a draw string, for example.

Further objects, features and advantages of the invention hereof will appear from the detailed description given below, taken in connection with the accompanying drawings which form a part of this specification and illustrate by way of example, a preferred embodiment of the invention.

In the drawings:

FIG. 1 is a plan view showing a carton blank as dyed out, cut and creased for the manufacture of cartons in accordance with my invention;

FIG. 2 is a plan view showing the completed carton in a collapsed condition ready for shipment to the packers or distributors;

FIG. 3 is a perspective view showing the carton embodying the invention after it has been set up and with one end closure portion remaining open;

FIG. 4 is a perspective view showing a carton in a finished, closed and sealed condition;

FIG. 5 is a perspective view of the finished carton showing the cover swung open after the tear strip means have been removed;

FIG. 6 is a similar view but showing the cover swung closed in its reclosable position;

FIG. 7 is a sectional view taken along line 7—7 of FIG. 4; and

FIG. 8 is a sectional view taken along line 8—8 of FIG. 6.

Referring now to the drawings in further detail, FIG. 1 shows a carton blank 10 upon the original sheet material stock which may be paperboard or the like semi-rigid sheet material. The initial carton blank 10 comprises a series of panels positioned side by side and separated by fold lines as indicated by the dotted lines; such panels comprising a front panel 12, bottom panel 14, back panel 16 and cover panel 18. Each of said panels is provided with flaps depending from the ends thereof which co-act to form the end walls of the finished carton. Thus, end flaps 20 and 22 depending from the ends of the bottom panel 14 are adapted to be folded in vertical positions and their areas are such that they substantially cover the end areas of the finished carton. The end flaps 24 and 26 depending from the back panel 16 are each provided with tongues 28 and 30, respectively, and the end flaps 32 and 34 depending from the front panel 12 are each provided with slots 36 and 38, respectively. The respective tongues and slots are adapted to interlock with each other when the carton is in a setup position, as shown in FIGS. 4–6. Also, the cover panel 18 may be provided with depending end flaps 40 and 42 which are inserted between flaps 32, 24 and 20 at one end of the carton and between flaps 34, 26 and 22 at the other end of the carton, respectively, as shown, for example, at the ends of the carton appearing in FIG. 5.

Depending from one side edge of the cover panel 18 is a closure flap panel designated generally at 44. This panel comprises a series of interconnected longitudinally extending parts including a closure flap 46, a tear strip 48, intermediate parts 50 and 52, and a closure pocket 54. The aforementioned parts are interconnected along fold lines as indicated in FIG. 1 by dotted lines. However, tear strip 48 is separable from its adjacent parts 46 and 50 along lines of perforations for a purpose which will be more fully described hereinafter.

Adhesive is applied to the surface of intermediate part 50 so that part 52 and closure flap 54 may be folded over in superposed relation thereto along fold line 56 for permanent adhesion between such parts 50 and 52. Front panel 12 is then folded inwardly along fold line 58. Adhesive is applied to the exposed surface of part 52. Cover panel 18 and the closure flap panel 44 are then simultaneously folded over along fold line 60 so that part 52 is permanently adhered to the front panel 12. Thus, the carton 10 is in the collapsed position as illustrated in FIG. 2, and it is now ready for shipment in bulk to the packers or distributors. Since all of the gluing operations have been completed, the cartons are in such form that the distributors may readily set them up and fill them by the use of available machinery with little or no change.

Referring now to FIG. 3, the carton is shown in a partially setup position with one end already closed. After the contents have been placed in the carton, the second end is closed by means of folding the panels inwardly in the following sequence: end flap 22, end flap 42, end flap 34 and end flap 26. Tongue member 30 is inserted within the slot 38 in order to hold the aforementioned panels in their respective upright positions and the carton will appear as illustrated in FIG. 4.

Referring in particular to FIG. 4, the completed carton is shown as packed by the distributor ready for shipment to the ultimate consumer. Particular attention is invited to the tear strip 48 which is still in its original position. As shown in FIG. 4 and FIG. 7, the front portion of the carton presents a generally flat and pleasing appearance. Further, the tear strip 48 is generally flush with its adjacent surfaces so that it will not be subject to snagging or tearing during transit.

Since the tear strip 48 is provided with a pull tab 49, the tear strip may be readily and easily removed by the user, and the cover 18 swung upwardly exposing the contents of the carton as shown in FIG. 5. The user may remove the contents from the carton through the open top portion, or, if desired, he may unlock an interconnecting end portion as by removing the tongue 30 from the slot 38 and then fold outwardly the end flaps 26, 34 and 22 consecutively from one side of the carton. Also, the user may perform the same operation on the other end of the carton, namely, remove tongue 28 from slot 36 and fold outwardly end flaps 24, 32 and 20. Thus, the carton is in a completely open or collapsed condition so that the contents therein may be sliced, if desired. This is particularly advantageous when the contents include ice cream which has been centrally decorated. Conversely, when it is desired to reclose the carton, the end flaps are folded in the reverse sequence from that heretofore described. The tongues 28 and 30 are again inserted into their respective slots 36 and 38 and the carton is maintained in a setup position. The cover 18 is swung downwardly with the depending flanges 40 and 42 fitting between the end flaps 24, 32, 20 and 26, 34, 22, respectively. The closure flap 46 is then inserted in the closure flap pocket 62 which is formed by the pocket panel 54 and the adjacent portion of the front wall panel 12, as shown in FIGS. 6 and 8. Particular attention is directed to the fact that the closure flap 46 is positioned externally of the front panel 12 so that it does not protrude into the contents of the carton and, thereby, become coated with the contents therein. Inevitably, the user's hands come into contact with the closure flap 46 during the procedure heretofore described, and, therefore, it is desirable for sanitary reasons to retain said closure flap out of contact with the contents remaining within the carton.

Referring now to FIGS. 7 and 8, it is to be noted that the closure flap 46 foldably depends from the cover panel 18. Tear strip 48 is positioned between the closure flap 46 and the intermediate part 50, as shown in FIG. 7. In FIG. 8, the tear strip 48 has been removed. The small crosses designate surfaces that have been permanently adhered one to the other. Intermediate part 52 is interposed between part 50 and the front panel 12 and is permanently adhered to both members. For purposes of economy, adhesion between members 50 and 52 may be dispensed with, if desired. However, the appearance, as well as the structural strength of the finished product, are likely to be adversely affected thereby. Also, in order that flap parts 50 and 52, where they are joined at the fold line 56 will present a good appearance, this fold line may be made by partially cutting through the paperboard on its outer surface as indicated at 56 in FIG. 8 and whereby the fold line at this place will be abrupt and not bulge. Pocket panel 54 extends upwardly from part 52 and is interposed between tear strip 48, closure flap 46 and front panel 12, as viewed in FIG. 7. After the tear strip 48 has been removed and the cover 18 reclosed, the closure flap 46, depending from the cover 18 in a flange-like manner, is inserted between the pocket panel 54 and the front panel 12, as illustrated in FIG. 8. Since the closure flap 46 is wedged between the front panel 12 and the pocket panel 54, it is retained tightly in position and, thus, holds the cover panel 18 firmly closed. The cover remains closed until the user again wishes to have access to the contents within the carton and foreign matter is thereby prevented from entering therein during the interim.

The tear strip 48 provides a convenient means for initially opening the carton. However, other means are equally applicable for severing the closure flap 46 from the intermediate part 50, such as a weakened separation line or a draw string, for example.

Although a particular embodiment of the invention is herein disclosed for purposes of explanation, various modifications thereof, after study of this specification, will be apparent to those skilled in the art to which the invention pertains, reference should accordingly be had to the appended claims in determining the scope of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A collapsible carton formed of paperboard or the

like semi-rigid sheet material and having front, bottom, back and cover walls connected by fold lines, closure flaps depending from the ends of said walls for forming end closure means, a closure flap panel depending from said cover and comprising a series of at least four interconnected longitudinal parts, the second part being separable from the first and third parts along lines of perforations to form a removable tear strip, the first part providing depending cover closure flap means after the tear strip part is removed, the fourth part being folded in underlying relation to the first, second and third parts, a lower portion of the fourth part as thus folded in under, being permanently adhered to the front wall, and the other portion of the fourth part forming pocket means for receiving said first part after removal of the tear strip part.

2. A collapsible carton formed of paperboard or the like semi-rigid sheet material and having a body portion, closure flaps for forming the ends thereof and a cover adapted to be swung open, the cover being formed at its ends with depending flanges and also being formed with a closure flap panel, said closure flap panel comprising a series of at least four interconnected longitudinal parts, the second part being separable from the first and third parts along lines of perforations to form a removable tear strip, the first part providing a depending cover closure flap means after the tear strip part is removed, the fourth part being folded in underlying relation to the third part and a section thereof being permanently adhered thereto, a portion of the fourth part being permanently adhered to the front of the body portion, and the other portion of

the fourth part co-acting with the adjacent section of the front of the body portion to form a closure flap pocket for receiving said first part after removal of the tear strip part.

3. A carton formed of paperboard or the like semi-rigid sheet material and having front, bottom, back and cover panels connected by fold lines, the cover panel being adapted to be swung open along the fold line at the rear edge thereof, the front edge of the cover having a depending closure flap connected thereto at a fold line, an intermediate portion of said closure flap comprising removable tear strip means, the upper flap portion above such tear strip being adapted to form a permanent closure flap after removal of the tear strip means, and a portion of said closure flap below said tear strip means being folded partially in under the closure flap and adhered to the front panel of the carton and extending also upwardly beyond the areas of adhesion and substantially up beyond the area of the tear strip means for forming a pocket for receiving between itself and the front wall of the carton, said upper portion of the closure flap after removal of the tear strip means.

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