United States Patent

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[22] Filed **Sept. 12, 1969**
[45] Patented **Nov. 2, 1971**

[73] Assignee **Tee-Pak, Inc. Chicago, Ill.**

[54] **TELESCOPING CARTON ASSEMBLY**
10 Claims, 14 Drawing Figs.

[52] **U.S. Cl.** **229/32,** 229/43
[51] **Int. Cl.** **B65d 5/30**
[50] **Field of Search** 229/35, 32, 43, 31

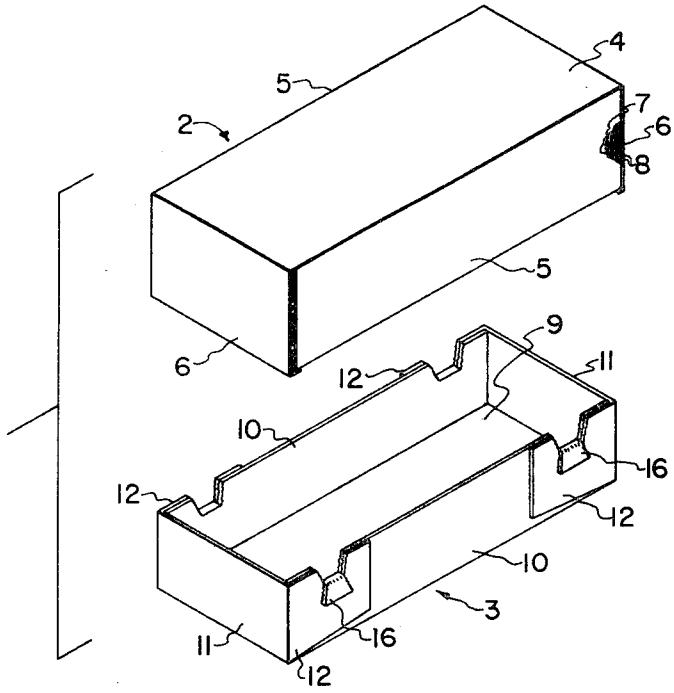
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ABSTRACT: Carton assembly for sausage casings and the like formed of two rectangular boxes assembled to provide a closed receptacle consisting of a top box having a bottom box telescoping therefrom. The two boxes are formed of blanks respectively folded into locking or semilocking positions. Locking of the top box is through end tabs folded into the box interior. The bottom box is locked or semilocked by means of a positioning of locking tab flaps in slots on cooperatively engaging flaps of the bottom box blank. The top box can be provided with an openable side flap whereby the carton assembly has an easy open end or side.



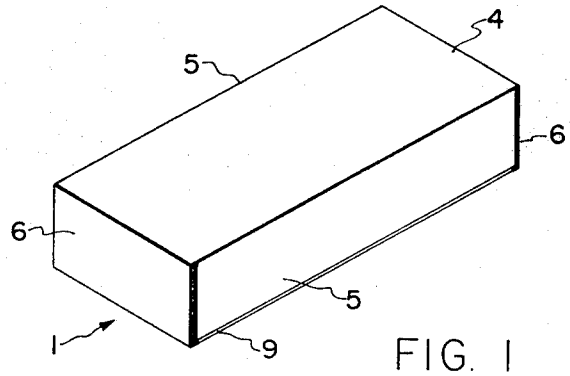


FIG. 1

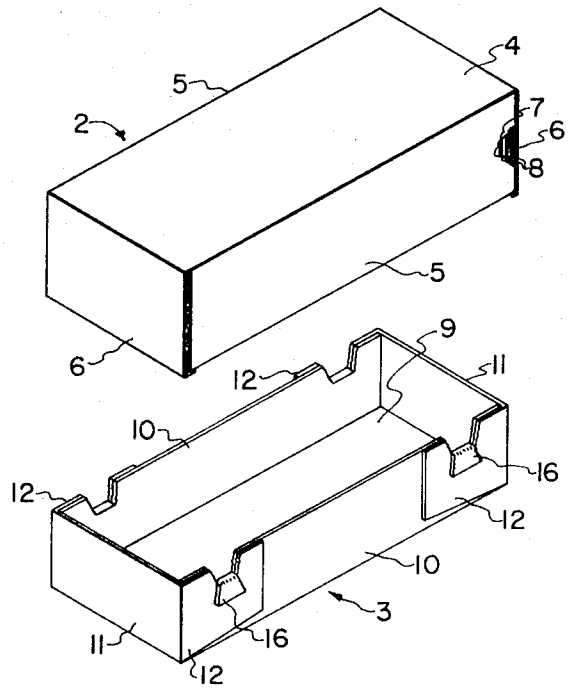


FIG. 2

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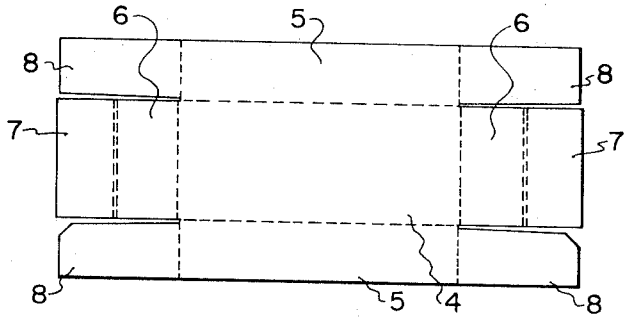


FIG. 3

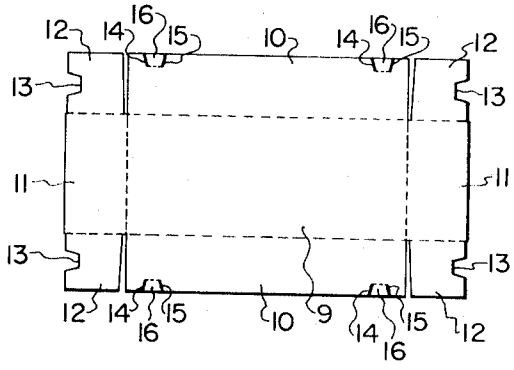


FIG. 4

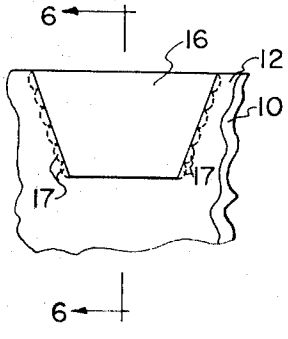


FIG. 5

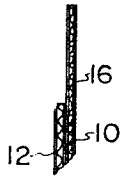


FIG. 6

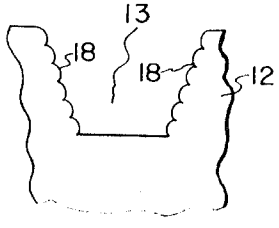


FIG. 7

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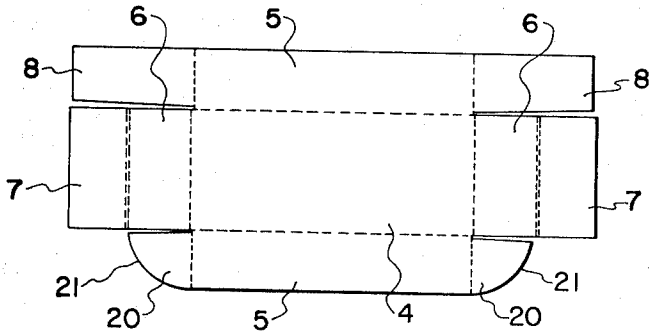


FIG. 8

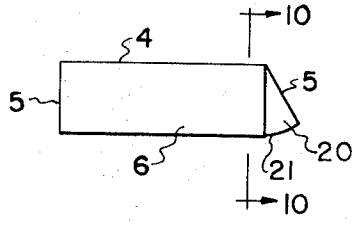


FIG. 9

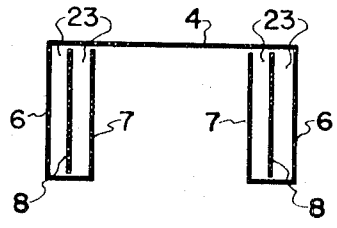


FIG. 10

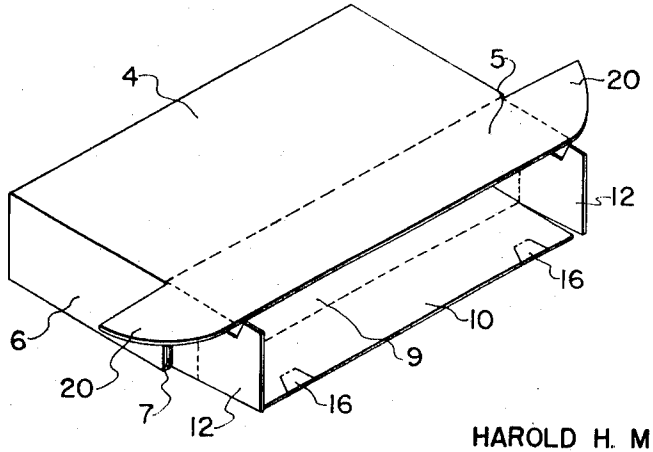


FIG. 11

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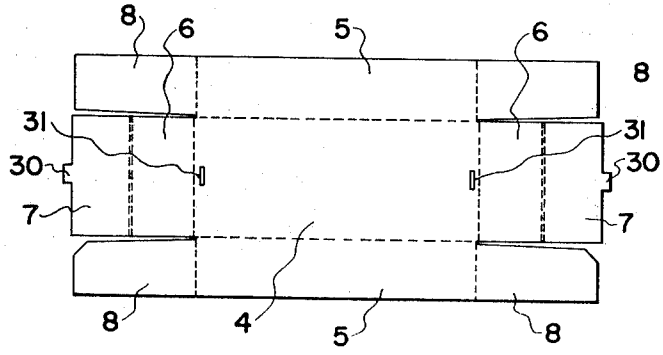


FIG. 12

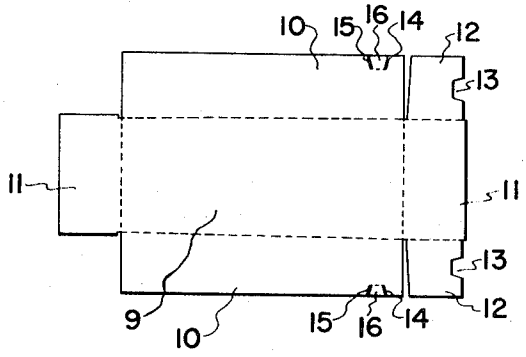


FIG. 13

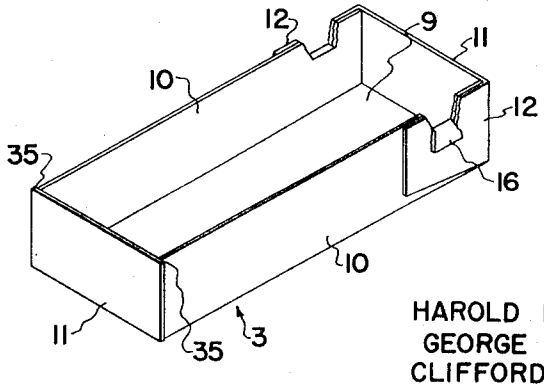


FIG. 14

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TELESCOPING CARTON ASSEMBLY

DISCLOSURE OF THE INVENTION

The present invention relates to shipping and storage cartons and more particularly to cartons useful for packing, shipping and storing sausage casings of the shirred or flattened types.

BACKGROUND OF THE INVENTION

Conventional sausage casing stuffing operations, although becoming more sophisticated, still entail a mounting by hand of the casing to be stuffed on a stuffing horn. Moreover, the manual handling of casings by a stuffing operator often includes removal of the casings from shipping cartons. Individual casings, thus, are desired to be easily accessible in and removable from shipping cartons to prevent impairment of stuffing operation overall efficiencies. In addition to these qualities, shipping and storage space requirements usually dictate that the cartons employed for casings be of minimum dimensions.

Further complicating casing storage and handling problems is the fact that efficiencies of commercial sausage stuffing operations generally require the maintenance of a relative large inventory of varying sizes and types of casings, resulting often in plants in the piling of shipping cartons in stacks from which limited supplies of various size casings only periodically are needed. Conventional casing cartons formed of an assembly of two telescoping boxes and which are openable only by removal of the top box, therefore, are not entirely satisfactory in that stacks of them loaded with casings and from which casings periodically are needed must be repeatedly shifted around with an attendant sacrifice to operating economies.

DESCRIPTION OF THE PRIOR ART

Various casing carton designs have been proposed in the prior art to minimize the above-discussed problems. The majority of those considered acceptable, incorporate, at least in the opened carton, the feature of side or end access whereby carton dimensions are kept at a minimum. More recent design proposals, such as that exemplified by the carton disclosed in U.S. Pat. No. 3,100,075, provide assembled cartons which can be opened at an end or side and thus are adapted to be stacked to provide inventories which need not be reshuffled in obtaining access to the desired casings.

Previous carton design proposals, however, have not been completely satisfactory due to unattractive cost and/or performance factors, with such drawbacks generally stemming from a utilization, in the carton design, of closure means nonintegral with the carton body. Hence, a search has continued in the art for improved sausage casing cartons.

OBJECTS AND FEATURES OF THE INVENTION

Accordingly, it is the primary object of the present invention to provide an improved sausage casing carton.

It is another object of the present invention to provide a sausage casing carton having space saving dimensions and in which the contents thereof are accessible through a side at least when the carton is opened.

It is still another object of the present invention to provide a sausage casing carton having a top box component and a self-supporting bottom box component of unitary constructions.

Another object of the present invention is to provide a sausage casing carton assembly which has strength characteristics rendering it self-supporting during loading and resistant to lateral stresses and yet which is easily openable at an end or side, hence being capable of being tightly packed with casings which expand during in-package humidification treatments conventionally carried out on packed casings and finally placed in stacks of the same or different cartons without disrupting the casings or destroying the ability to gain immediate access to the contents thereof.

DETAILED DESCRIPTION OF THE INVENTION

Advantageously, the present invention provides sausage casing cartons having the features described in the above objects as well as others which will become apparent from the following detailed description thereof, reference being made to the accompanying drawings of which:

FIG. 1 is a view in perspective of a closed carton assembly of the invention;

FIG. 2 is a view in perspective, partially in section, of the separated telescoping top and bottom box components of an embodiment of the carton assembly of the invention;

FIG. 3 is a top view of a scored blank from which a unitary top box component of an embodiment of a carton assembly of the present invention is formed by folding;

FIG. 4 is a top view of a scored blank from which a unitary bottom box component of an embodiment of a carton assembly of the present invention is formed by folding;

FIG. 5 is a front view of a portion of a partially formed bottom box component of a carton assembly of the present invention showing the relative locations and shapes of embodiments of the cooperating elements of the locking means of the bottom box component;

FIG. 6 is a sectional view of FIG. 5 taken along line 6—6;

FIG. 7 is a partial front view of an end tab member of an end flap of a blank from which a bottom box component of a carton assembly of the present invention is formed showing an embodiment of a locking slot included in the locking means of the bottom box component;

FIG. 8 is a top view of a scored blank which is folded to form a top box component of a side-opening embodiment of the carton assembly of the present invention;

FIG. 9 is a side view of a top box component of a side opening embodiment of the carton assembly of the present invention showing the openable side of the top box component in a partially opened position;

FIG. 10 is a sectional view of FIG. 9 taken along line 10—10;

FIG. 11 is a view in perspective of a side-opening embodiment of the carton assembly of the present invention showing the openable side of the carton assembly in an opened position;

FIG. 12 is a top view of a scored blank from which a unitary top box component of another embodiment of a carton assembly of the present invention is formed by folding showing auxiliary locking means for the top box component;

FIG. 13 is a top view of a scored blank from which a unitary semilocked bottom box component of another embodiment of a carton assembly of the present invention is formed by folding, and

FIG. 14 is a view in perspective of the embodiment of folded, semilocking bottom box component of a carton assembly of the present invention.

With reference to the attached drawings, numeral 1 in FIG. 1 denotes a carton assembly of the present invention which, as shown in the drawing, is a closed receptacle when in completely assembled form. As depicted in FIGS. 1 and 2, carton assembly 1 comprises a rectangular top box 2 and a rectangular bottom box 3 which are adapted, by top box 2 being of slightly larger dimensions, to be slidably yet snugly fitted together with bottom box 3 telescoping from top box 2.

Boxes 2 and 3 of carton assembly 1 are individual unitary units formed of suitably cut, scored, and folded blanks of paperboard or other conventional foldable packaging carton sheet material. Suitable embodiments of blanks for forming top box 2 and bottom box 3 are shown in FIGS. 3 and 4, respectively.

The top box blank shown in FIG. 3 is scored and has a top panel 4 from which extend individually two foldable side flaps 5 and two foldable end flaps 6. In turn, each side flap 5 has two foldable side tabs 8, and each end flap 6 has a foldable end tab 7 of substantially the same dimensions thereof. To form top

box 2, the blank is folded along the individual score lines to position side flaps 5 and end flaps 6 normal to top panel 4 as shown in FIG. 2. As further shown in the cutaway section of FIG. 2, side tabs 8 of the top box blank are folded to be positioned inside of and in juxtaposition with end flaps 6 of the blank. End tabs 7 of the blank are folded inside the interior of the resultant box structure into juxtaposition with the inside surfaces of the folded side tabs 8 and, through the relative dimensions of tabs 7 and end flaps 6, are locked into a position normal to top panel 4 by their ends being in frictional engagement with the inside surfaces of folded side flaps 5. Supplemental means for aiding in the locking of end tabs 7 within the interior of the folded top box component also may be provided. As shown in Fig. 12, panel 4 of the top box component may be provided, for example, with slots 31 adapted by virtue of their relative size and location to receive and retain in the folded top box, locking tabs 30 located on the edges of end tabs 7 remote from top panel 4 and which, in the folded top box, are frictionally fitted into slots 31.

The embodiment of the scored and foldable bottom box blank illustrated in FIG. 4 has a bottom panel 9 from which individually extend foldable side flaps 10 and two foldable end flaps 11. Each side flap 10 of the blank of FIG. 4, adjacent each of the ends thereof and in the edge remote from bottom panel 9, has a pair of spaced slits 14 and 15 which extend inwardly from the edge and partially across the width of flap 9 and thereby define a foldable, outwardly diverging (e.g., wedge-shaped) locking tab flap 16. Similarly, each end flap 11 of the blank of FIG. 4 is provided at each end thereof with a foldable end tab 12. In each end tab 12 a slot 13 is cut in the edge thereof. The relative position and shape of each slot 13 is such that, in the folded carton assembly, each slot 13 is adapted to receive and retain within the sides thereof one of the folded locking tab flaps 16. The sides of locking tab flaps 16 and slots 13 all may be essentially straight lines, as shown in FIG. 4.

Bottom box component 3 of the carton assembly is formed by folding the bottom box blank along the score lines provided, as illustrated in FIG. 4, to position side flaps 10 and end flaps 11 thereof normal to bottom panel 9. The end tabs 12 provided in the blank are folded to the outside of and in juxtaposition with side flaps 10 of the box component as illustrated in FIG. 6, the folding aligning locking tab flaps 16 with the opening of slots 13 as illustrated in FIG. 5. A locking of the bottom box 3 then is achieved by folding locking tab flaps 16 down into and in interlocking engagement with the sides of slots 13 as illustrated by the positions of tab flaps 16 in FIG. 2. The interlocking relationship between a flap 16 and a slot 13 into which the flap is folded in the assembled carton stems from the resultant beveled sides of the folded flap 16 being wedged between and frictionally engaging the beveled sides of slot 13 as illustrated in FIG. 2. The frictional force causing the interlocking of top flap 16 within slot 13 (as is the case with the locking of tabs 8 in the top box component) inherently is aided by the normal tendency of the folded box assembly to unfold itself outwardly, any internal pressures generated within the carton such as the lateral pressures exerted by packed casings in the carton during an in-package humidification treatment, and, where the box is formed of corrugated paperboard (FIG. 6), by the nature of the carton wall construction. Bottom box components so locked advantageously are self-supporting during loading and have sufficient strength characteristics to be stackable and/or used for packing casings which are caused and/or allowed to swell in the carton as the casings naturally or artificially are humidified.

In other embodiments of the carton assembly of the invention, locking of the tab flaps 16 within the slots 13 of a bottom box component of the assembly can be assisted by providing in the integral bottom box component at least one tab projection 17 extending laterally from the side of the tab flap 16 (FIG. 5) and/or at least one tab projection 18 extending laterally from the side of and into the opening of slot 13 (FIG. 7).

Carton assemblies, such as those formed from blanks of the types illustrated in FIG. 4, have bottom box components which can be totally locked due to the provision of four slot-bearing end tabs 12 which can cooperate with four appropriately located locking tab flaps 16 on the bottom box component's side flaps. The invention further contemplates embodiments of the carton assembly thereof wherein the bottom box component is only semilocked.

In such embodiments of the carton assembly where the bottom box component is semilocked, the bottom box component may be formed of a blank of the type illustrated in FIG. 13. As shown in FIG. 13, such blanks are similar to those (FIG. 4) for forming fully locked bottom box components except that only one end flap 11 has a pair of end tabs 12 containing slots 13 and correspondingly only one locking tab flap 16 is provided in each side flap 10. Bottom box components are formed from such blanks by folding the components present in the blanks in the same manner described with regard to the blank of FIG. 4. This provides a resultant bottom box component of the type illustrated in FIG. 14 having one end and two sides locked and the other end, constituted by an end flap 11, free to open when unrestrained. Telescoping carton assemblies 1 having such bottom box components, therefore, have an instant opening bottom component when the carton is opened by removal of the top box component 2. Another feature of such instant opening bottom component is that the bottom panel 9 thereof can be trapezoidal shaped (FIG. 13). This results in a bottom box component advantageously adapted to tightly pack tapering strands of shirred casings, yet remains useful in forming carton assemblies with standard rectangular top box components, provided the end flaps 11 of such bottom components are of the same or substantially the same width. The free end of such boxes may have small flanges (35 in FIG. 14) extending laterally of the bottom box component's sidewalls which make the bottom box component fit as if actually rectangular.

As is apparent, the bottom box component 3 of all embodiments of the above specifically described carton assemblies can be opened at a side, e.g., by unfolding the one or two sets of locking tab flaps 16 and side flaps 5 on that side or, in the case of embodiments such as shown in FIG. 14, merely folding down the free end. The resultant side accessibility of the bottom box component of the assembly advantageously allows casings to be compactly packaged therein and still be readily withdrawable when desired.

The present invention also provides certain preferred embodiments of the carton assembly thereof which are adapted for side opening not only of the bottom box component but of the top box component as well. Accordingly, by proper location (i.e., on a common side or end of the carton assembly) of the openable sides (or ends) of the respective top and bottom box components, a carton assembly results which is adapted to be placed in vertical stacks of cartons without interference with one's capability to gain access to the contents of the assembly.

FIG. 8 illustrates a blank from which such side-opening top box components of the carton assembly can be formed. As shown in FIG. 8, such a blank is similar to that shown in FIG. 3 for forming a nonside openable top box component with the exception that one of the side flaps 5 of the openable top box blank has two side tabs 20 appropriately cut along lines transverse the widths thereof to define edges 21 of such shapes that side tabs 20, in the folded top box component (FIGS. 9 and 10) are frictionally engaged and retained within slots 23 formed between folded end flaps 6, end tabs 7, and the opposite side flap 5 and, when the side flap 5, bearing same, is folded away from the assembly in the manner illustrated in FIG. 9, are capable of undergoing a sliding telescoping withdrawal from slots 23.

Hence, in a carton assembly of the invention provided with such an openable top box component, the resultant carton assembly can be opened at a side, as that illustrated in FIG. 11 having a bottom box component of the type shown in FIG. 2,

by unfolding in order, the openable side flap 5 of top box 1 and locking tab flaps 16, end flaps 12, and side flap 10 of the resultant exposed side of bottom box 2. The need to unfold the bottom box component to gain access to the interior of such side (or end) opening carton assemblies is eliminated by the use in an assembly such as that illustrated in FIG. 11 of the instant opening bottom box component such as shown in FIG. 13 and 14.

What is claimed is:

1. A telescoping carton assembly comprising a bottom rectangular or trapezoidal box having an open top and being formed from a blank having a rectangular or trapezoidal bottom panel, two folding side flaps and two folding end flaps, said side flaps of said bottom box blank having, adjacent the ends thereof and extending inwardly from the edges thereof remote from said bottom panel, at least one pair of slits diverging outwardly to form a locking tab flap foldable along the base thereof and being of trapezoidal shape with the outer edge substantially wider than the base fold line, at least one of said end flaps of said bottom box blank having a pair of folding end tabs, each of said end tabs having a slot located in the edge thereof of such a relative position and shape that in said carton assembly each of said slots is adapted to receive and retain within the sides thereof one of said locking tab flaps, said bottom box blank being folded such that said side flaps and said end flaps thereof are normal to said bottom panel thereof, said end flaps thereof are outside of and in juxtaposition with said side flaps thereof, and said locking tab flaps thereof are folded into and in locking relationship with respect to the sides of said slots in said end tabs of said end flaps thereof, and a top rectangular box having an open bottom and being formed from a blank having a top panel, two folding side flaps, and two folding end flaps, each of said side flaps of said top box blank having a folding side tab, each of said end flaps of said top box blank having a folding locking end tab of substantially the same dimensions as said end flap thereof, said top box blank being folded such that said side flaps and said end flaps thereof are normal to said top panel thereof, said side tabs of said side flaps thereof are inside and in juxtaposition with said end flaps thereof, and said locking end tabs of said end flaps thereof are folded inwardly into a locking position within the interior of said upper box in juxtaposition with said side flaps thereof, said bottom box being slidably and snugly fitted within and telescoping from said top box to define a closed receptacle.

2. The telescoping carton assembly according to claim 1 wherein said bottom box component is formed of a blank having a rectangular bottom panel, a pair of said locking slot-containing end tabs on both end flaps thereof, and one of said locking tab flaps adjacent each end of both the side flaps thereof.

3. The telescoping carton assembly according to claim 1 wherein said bottom box component is formed of a blank having a trapezoidal bottom panel and one end flap free of said end tabs.

4. The telescoping carton assembly according to claim 1 wherein said locking tab flaps of said side flaps of said bottom box blank have at least one laterally extending tab projection for assisting in the retention of said locking tab flaps within said slots of said folded bottom box blank.

5. The telescoping carton assembly according to claim 1 wherein said slots in said end tabs of said end flaps of said bottom box blank are provided with at least one laterally extending tab projection for assisting in the retention of said locking tab flaps folded therein.

6. The telescoping carton assembly according to claim 1 wherein the side tabs of at least one of said side flaps of said top box blank are shaped to allow the folded top box to be opened by a telescoping withdrawal from the folded top box of said shaped side tabs.

7. The telescoping carton assembly according to claim 6 wherein said bottom box component is formed of a blank having a rectangular bottom panel, a pair of said locking slot-containing end tabs on both end flaps thereof, and one of said locking tab flaps adjacent each end of both the side flaps thereof and said side flaps of said top and bottom boxes of said assembly are on common sides of the assembly whereby said assembly constitutes a carton openable at a side.

8. The telescoping carton assembly according to claim 6 wherein said bottom box component is formed of a blank having a trapezoidal bottom panel and one end flap free of said end tabs and said side flaps of said top box component are on common sides with the side flaps of said bottom box assembly whereby said assembly constitutes a carton openable at a side.

9. The telescoping carton assembly according to claim 6 wherein said locking tab flaps of said side flaps of said bottom box blank have at least one laterally extending tab projection for assisting in the retention of said locking tab flaps within said slots of said folded bottom box blank.

10. The telescoping carton assembly according to claim 6 wherein said slots in said end tabs of said end flaps of said bottom box blank are provided with at least one laterally extending tab projection for assisting in the retention of said locking tab flaps folded therein.