United States Patent [19]

Dove

[11] **3,917,154**

[45] **Nov. 4, 1975**

[54] **CONTAINER SUITED FOR AN EXPANDED VOLUME OR REDUCED VOLUME CONFIGURATION**

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[73] Assignee: **Interstore Transfer Specialists, Inc.**, Seattle, Wash.

[22] Filed: **Apr. 19, 1973**

[21] Appl. No.: **352,516**

[52] **U.S. Cl.** ..... **229/23 R**; 229/14 BA

[51] **Int. Cl.**[2] **B65D 5/35**; B65D 13/00

[58] **Field of Search** ..... 229/23 R, 23 A, 23 BT, 229/14 R, 14 BA, 41 R, 45 R–48 R, 49; 93/1 E; 220/39 A, 39 B

[56] **References Cited**

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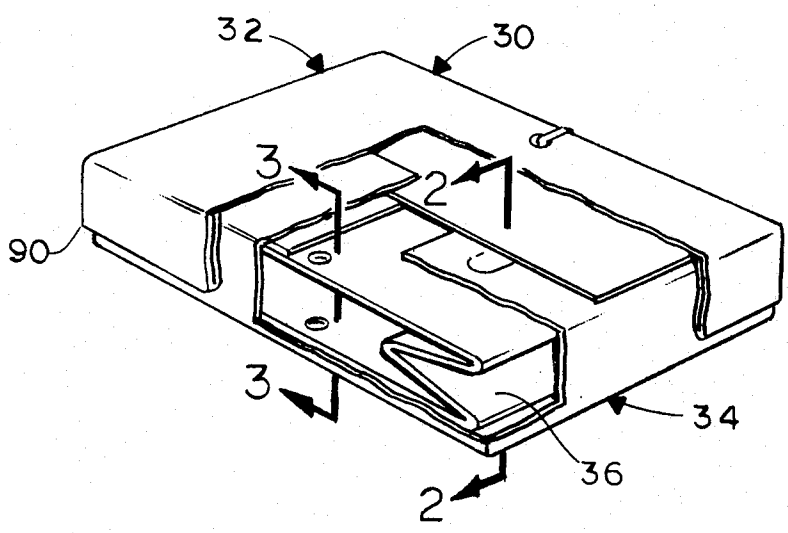
Primary Examiner—Leonard D. Christian

Attorney, Agent, or Firm—Roy E. Mattern, Jr.

[57] **ABSTRACT**

Improvements are made to containers, preferably made of corrugated fibreboard, in which merchandise and other valuable things are packaged, when the container is arranged either in an expanded or a reduced volume configuration and preferably always security sealed during shipment, transfer, and on occasion the temporary storage, of their valuable contents. Such containers have been improved by increasing their strength through the strategic placement of reinforcing antitear tapes, by increasing the height of the liners, and by providing spaced narrow portions of edge structures of subassemblies of this container to create circumferential paths of shorter overall length to receive holding straps.

34 Claims, 20 Drawing Figures



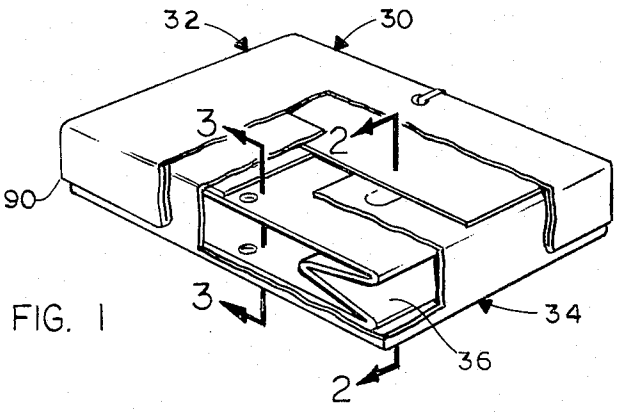


FIG. 1

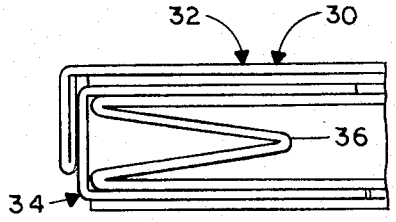


FIG. 2

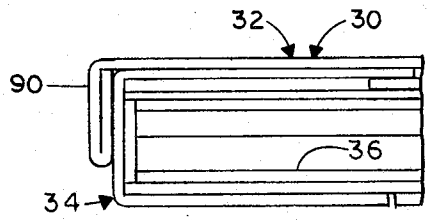


FIG. 3

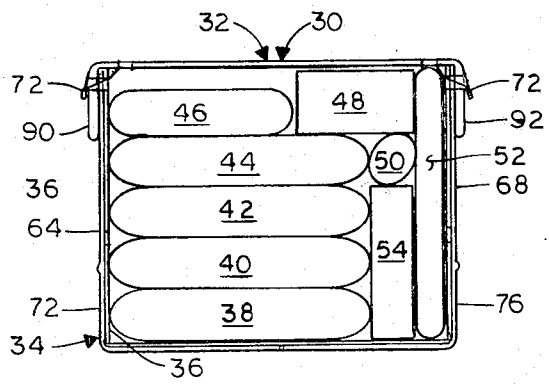


FIG. 4

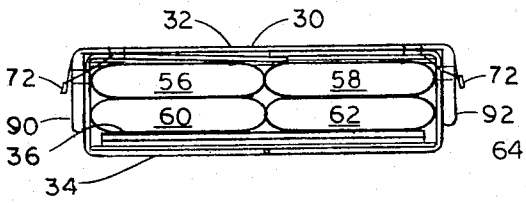
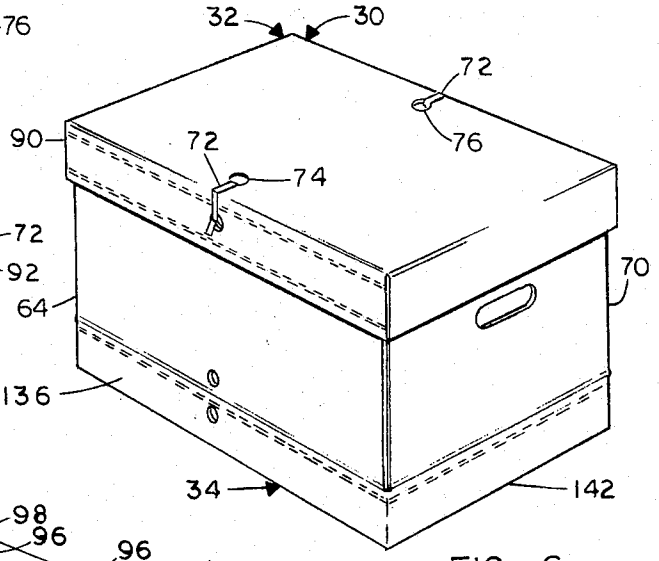


FIG. 5



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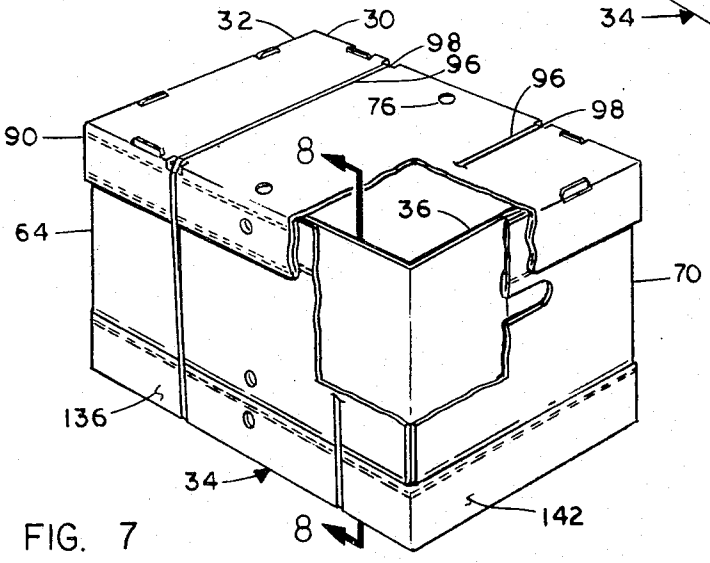


FIG. 7

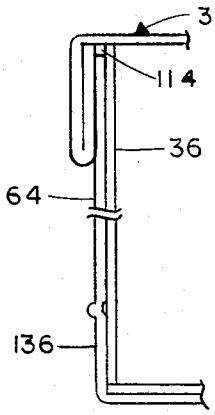


FIG. 8

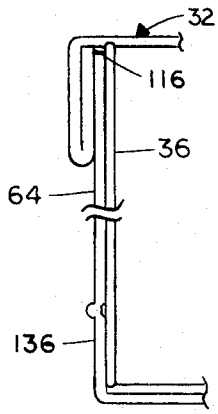


FIG. 9

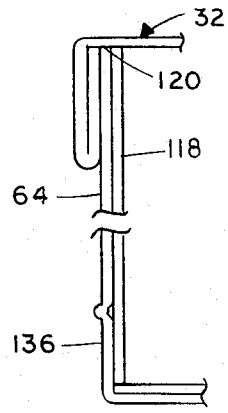
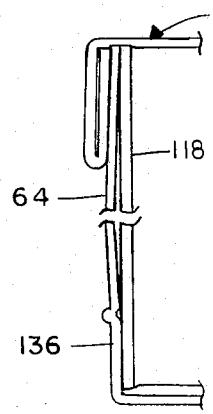


FIG. 10



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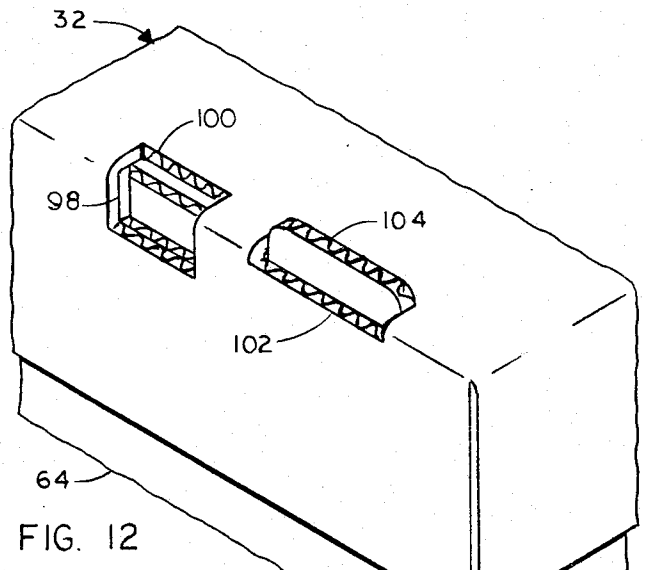
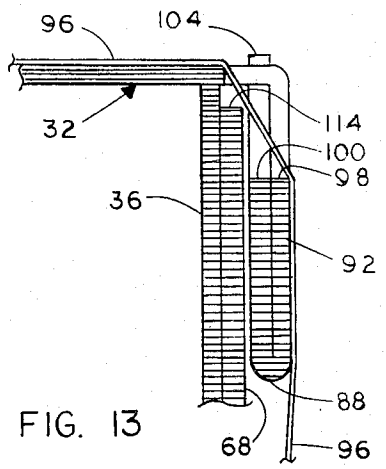


FIG. 12



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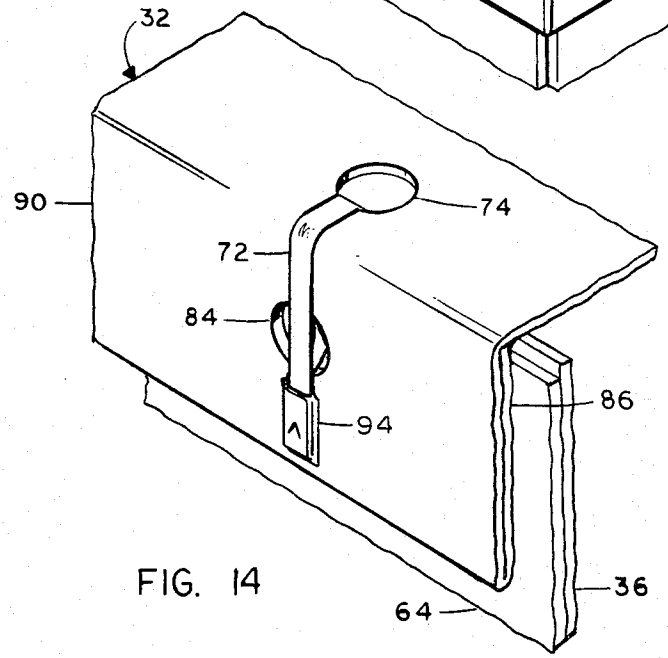


FIG. 14

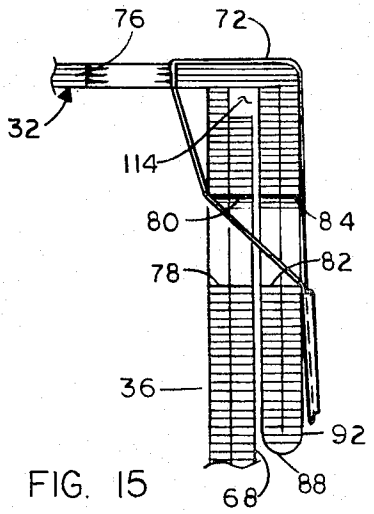


FIG. 15

FIG. 16

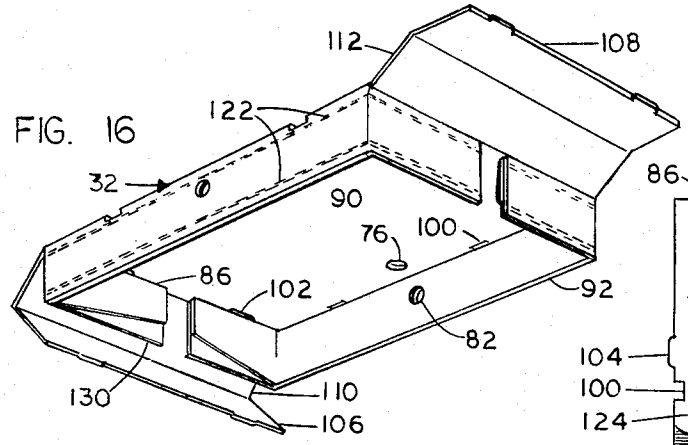
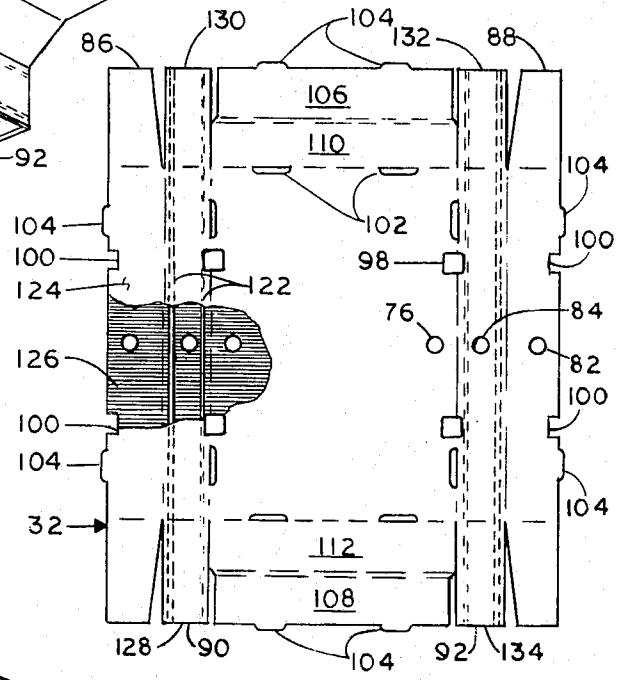


FIG. 17



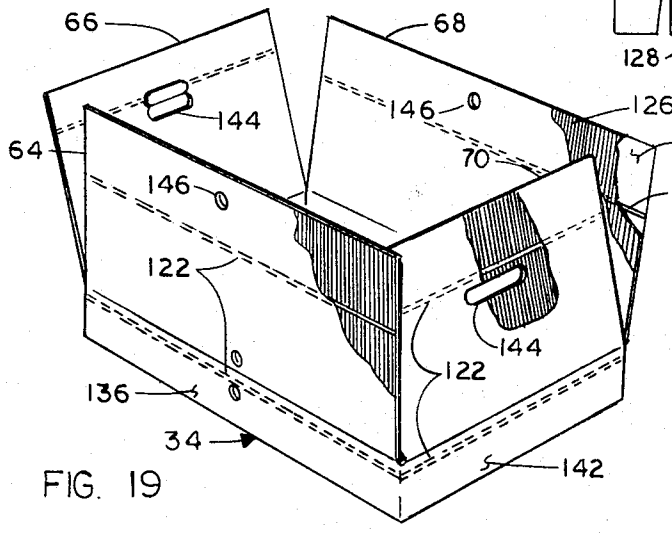


FIG. 19

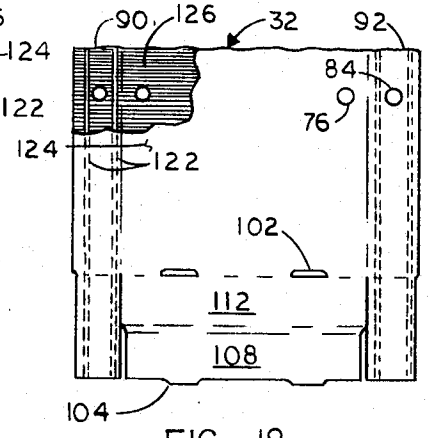


FIG. 18

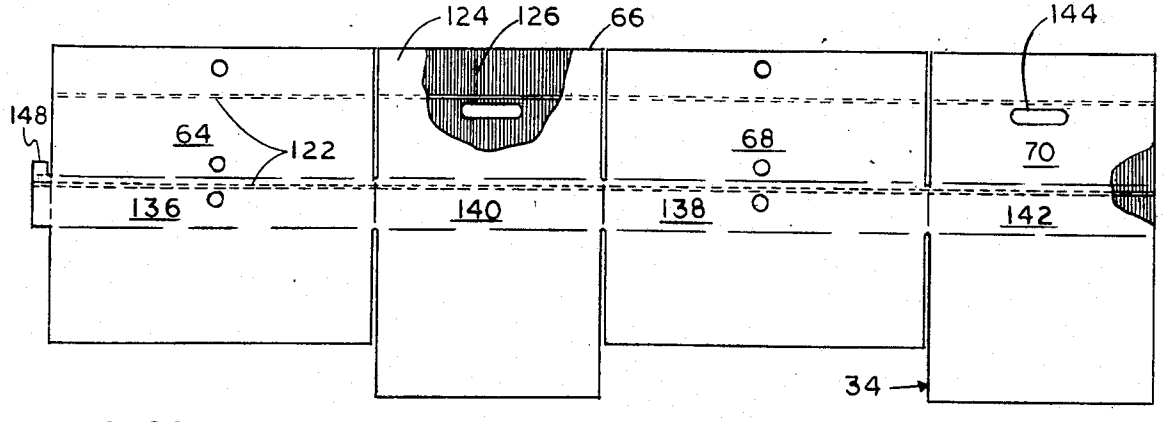


FIG. 20

CONTAINER SUITED FOR AN EXPANDED VOLUME OR REDUCED VOLUME CONFIGURATION

BACKGROUND OF THE INVENTION

Every person concerned with shipping and transferring goods between shipping and receiving locations is concerned with their safe arrival in excellent condition at the lowest possible cost and convenience, when all factors are to be considered. These factors are many such as rule 41 and other rules of the Uniform Freight Classification, published by the railroads, direct cost of the container per se, its disposal cost, its handling cost, its order lead time, its strength and durability under all conditions and especially under severe handling and/or weather conditions, its packing and unloading times and related conveniences, its effective insertion with others in the efficient utilization of the overall cubic receiving volumes of transporting vehicles, and its sealed security of its valuable contents, often shipped with security coded transfer documents and seals.

The full consideration of these factors and many others, more and more, is leading to the utilization of reusable containers. This is indicated by the picture and description of the air cargo container on page 123 of the 1966 publication, entiitled, Packaging For The New Era. This air cargo container consisted of top and bottom caps and a collapsible body, forming a unit only 8 inches high when collapsed and yet providing over 23 cubic feet of cargo space when expanded.

Moreover, the increased use of reusable, many trip, containers is indicated by the utilization of containers, preferably made of corrugated fibreboard, and especially suited for transferring valuable merchandise from distribution service centers to retail stores, etc. During such valuable merchandise transfers, these containers are security sealed, either in an expanded volume or reduced volume configuration, and preferably they include security coded transfer documents and secured coded seals. Containers suitable for such accountable transfer of valuable merchandise, assuring its undamaged arrival in complete quantities, is illustrated and described in U.S. Pat. 3,438,562 issued on Apr. 15, 1969 to William G. Connor, Douglas J. A. Dove and Donald F. Wright. New embodiments of this type of shipping and transfer container are illustrated and described herein, indicating how they have been improved to increase their sealed security of the valuable contents, their own strength and durability, their convenience of securement, and their reusable operating period.

SUMMARY OF THE INVENTION

When all factors are considered in handling, shipping, and transferring, valuable goods such as merchandise and documents, reusable, multiple trip containers are found to be the best. This is especially true in transferring merchandise between department store service centers and respective retail stores, and in like or somewhat similar distribution patterns, when the containers are arranged either in an expanded volume configuration, while security sealed and coded with a coded accountability transfer document enclosed.

The container first illustrated and described in U.S. Pat. No. 3,438,562 and as now illustrated and described herein in its improved embodiments, fulfills the stringent requirements established by users, shippers,

and other persons. All these persons have thoroughly considered all the factors pertaining to the handling, shipping, interim storage, and transfer of goods having sufficient value for what they are or what they lead to, to require the accountability of their presence, shipment, transfer, receipt, utilization and possible disposal.

The improvements made include the incorporation of reinforcing antitear materials thereby making the container more resistant to rough handling and to attempted security seal interference. Preferably, reeinforcing strips of nylon filaments are automatically and selectively placed, during production runs of the containers, between the interior side of an outside liner and the adjacent continuous flutes of paperboard laminations which are being formed in planar subassemblies for respective subsequent overall assembly into these convertible volume containers. Another improvement centers on the utilization of liner structures which are sufficiently higher and stronger to first assume compressive loads and thereby substantially avoid any unwanted bulging of the loaded container. Another improvement involves the formation of shorter circumferential path structures in the container, to receive holding straps generally made of co-polymer materials which are automatically machine applied, sealed and secured so tightly to avoid their endwise removal or any other attempted removal, without such attempt being easily detected.

Consequently, incorporating these improvements, these shipping and transfer containers, sealable while being used in either an expanded or reduced volume cnfiguration to protect valuable goods, provide the user with many benefits. For example a shipping and transfer container gives the customer and user: coded and accountable sealed security in one of two selectable volumes; extended periods of reusability while remaining clean inside; space saving collapsibility for smaller shipments and storage; reduced labor requirements in packaging and handling; size range options of different embodiments; maximum use of vehicle cargo spaces; lightweight handling conveniences; utilization of standard tooling and equipment; and realization of savings as losses caused by pilferage and damage are substantially reduced often becoming very minimal.

DRAWINGS OF PREFERRED EMBODIMENTS

The figures of the drawings illustrate how preferred embodiments of the invention are made, arranged and utilized gaining the advantages of the improvements to further enhance the benefits to be derived by the users. They, for example, are shipping and transferring valuable merchandise to and from merchandising distribution service centers and retail stores in either expanded or reduced volume configurations of these transfer containers, sometimes also referred to as interstore transfer contaiers. In so doing these containers, when enroute, are security coded, sealed and preferably include coded transfer documents, placed inside or in outside protective pockets, which account for the contents packed, sent and to be received.

FIG. 1 is a perspective view, with portions removed, to illustrate a shipping container often referred to as a transfer container, in its reduced volume configuration awaiting its use, indicating the placement of the rearranged and partially folded down inside liner and the placement of the unsecured loopable coded security seal;

FIG. 2 is a partial sectional view of this shipping and transfer container taken along section line 2—2 of FIG. 1;

FIG. 3 is a partial sectional view of this shipping and transfer container taken along section line 3—3 of FIG. 1;

FIG. 4 is a sectional view of this shipping and transfer container taken just beyond its sealed location showing its expanded volume configuration filled with items of merchandise;

FIG. 5 is a sectional view of this shipping and transfer container taken just beyond its sealed location showing its reduced volume configuration filled with items of merchandise and with the folded down inside liner in its non use position in the bottom;

FIG. 6 is a perspective view of this shipping and transfer container in its expanded volume configuration and sealed upon the securement of two like coded loopable security seals, indicating the provision of blind finger gripping places at each end, and showing with dotted lines the provision of reinforcing antitear tapes to increase the resistance to rough handling and attempted security seal interference;

FIG. 7 is a perspective view, with portions removed, of this shipping and transfer container in its expanded volume configuration and bound together and sealed by using straps placed where some portions of the container assembly have been removed to create a shorter circumferential path, thereby making it impossible to slidably remove a strap in an endwise direction, unless damage occurs, making the attempted entry easily detectable;

FIG. 8 is a partial sectional view taken along section line 8—8 of FIG. 7 of the shipping and transfer container in its expanded volume configuration to illustrate the use of an inside stronger liner having an initial height slightly higher than the combined height of the wall and the volume changing pivotal flaps;

FIG. 9 is a partial sectional view, similar to the sectional view of FIG. 8, of the shipping and transfer container in its expanded volume configuration to illustrate how the slightly higher inside liner of greater strength first assumes any compression loading occurring when these containers are loaded and stacked, for example, during interstore transfers of merchandise, with the liner and endwise adjacent container portions being somewhat crushed, yet the container sides do not bulge outwardly;

FIGS. 10 and 11 are partial sectional views respectively similar to the sectional views of FIGS. 8 and 9, of the previous containers, not having the improved inner liner of greater height and strength, indicating how, formerly, when the container was arranged in its expanded volume configuration and thereafter excessive compression loadings occurred, the container sides did bulge outwardly;

FIG. 12 is a partial perspective view of top corner portions of an assembled embodiment of the shipping-transfer container indicating how portions are removed to create a circumferential shorter path to receive holding and sealing straps and also indicating how portions are removed to receive projecting integral tabs or toes of the infolded flaps of the cover subassembly;

FIG. 13 is a partial cross sectional view of the top corner portions of an assembled embodiment of the shipping-transfer contaner indicating how portions are removed to create a circumferential shorter path and how a holding and sealing strap, partially shown, follows this shorter path upon its securement;

FIGS. 14 and 15 are, respectively, a partial perspective view and a partial sectional view, of top edge portions of an assembled embodiment of the shipping-transfer container, indicating the securement of a codeable and loopable seal in its sealed position, passing through the various seal receiving holes of the top, its edge flaps, the volume changing pivotal flaps and the liner;

FIGS. 16 and 17 illustrate respectively in a perspective view of a cover subassembly being assembled and in a top view thereof, with portions removed, how the reinforcing antitear tapes of nylon filaments, also indicated by the dotted lines, are placed to offer resistance to rough handling and attempted security seal interference;

FIG. 18 in a partial top view, with portions removed, shows how reinforcing antitear tapes of nylon filament, also indicated by dotted lines, are placed to offer sufficient resistance to rough handling and attempted security seal interference, so in this embodiment of the cover subassembly made for lighter duty, the side infolded flap is not incorporated during the manufacture of the container; and

FIGS. 19 and 20 illustrate in respective views, the bottom subassembly, in perspective, with portions removed, and in a top view, with portions removed, how the reinforcing antitear tapes of nylon filaments, also indicated by dotted lines, are placed to offer resistance to rough handling and attempted security seal interference, and showing the use of an extended tuck flap.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Introduction

In these illustrated embodiments and others available, the shipping and transfer containers, shown and indicated, are made to be repeatedly used throughout an extended operating time, while always keeping the contents being shipped and transferred, clean, undamaged and well acounted for through the utilization of tamper proof seals and coded documents, the original or copy of which is normally placed within the sealed container or within a protective covering on the outside of the container. In so doing, the overall cost considerations are kept competitively low when full and thorough comparisons are undertaken and properly analyzed. The customer and user selecting and utilizing embodiments of this shipping and transfer container assembly receive the following benefits: coded and accountable sealed security in one of two selectable volumes; extended periods of reusability while remaining clean inside; space saving collapsibility for smaller shipments and storage; reduced labor requirements in packaging and handling; size range options of different embodiments; maximum use of vehicle cargo spaces; lightweight handling conveniences; utilization of standard tooling and equipment; and realization of savings as losses caused by pilferage and damage are substantially reduced often becoming very minimal.

How the Shipping-Transfer Container is Used

In FIGS. 1 through 6 an embodiment of the invention is shown which is used in the shipping-transfers of merchandise from a distribution service center to retail stores and between retail stores. The container assem-

bly **30** is illustrated in FIG. **1** in its non-use reduced volume configuration occupying a reasonable minimum amount of temporary storage space. As indicated in FIGS. **2** and **3**, taken on respective section lines of FIG. **1**, the top subassembly **32** and the bottom subassembly **34** are closely fitted together. Within their interiors a folded liner **36** is placed awaiting its use when container assembly **30** is rearranged quickly into its expanded volume configuration shown in FIGS. **4** and **6**.

When container assembly **30** is expanded, as illustrated in FIG. **4**, it may be efficiently packed with many items of merchandise, as indicated by the numerals **38, 40, 42, 44, 46, 48, 50, 52,** and **54.** Also there are times when return shipments to a distribution service center or shipments between retail stores will be smaller. The merchandise then may be well contained within the container assembly **30** in its reduced volume configuration, as illustrated in FIG. **5.** Again the merchandise, indicated by numbers **56, 58, 60,** and **62,** in FIG. **5,** is efficiently packed. The liner **36** is more tightly compressed and preferably placed within the bottom subassembly **34,** so it always remains a part of the container assembly **30,** and the expanded volume configuration will be formed quickly when once again it is needed.

How the Merchandise Contents of the Shipping-Transfer Container are Accounted for When Shipments and Transfers Occur

At a merchandise service center, for example, a container assembly **30** is removed from its temporary storage space and arranged, in most instances, into its expanded volume configuration. This is undertaken, by first lifting off the top subassembly **32,** then raising the volume changing pivotal flaps **64, 66, 68, 70** of the bottom subassembly **34** into their upright positions, as indicated in FIG. **19,** extending upwardly from the bottom sides **72, 74, 76, 78.** Then the folded liner **36** is unfolded and placed within the expanded volume inside of the flaps **64, 66, 68** and **70.**

At this time merchandise is packed into the bottom subassembly **34** which has been supplemented by the unfolded liner **36.** A data recording document identifying the respective items of merchandise is prepared and given a code number correspondng to like numbers on a pair of deburred loopable metal seals **72** or plastic seals. The original document or a copy thereof is placed within the loaded bottom subassembly **34.** Then the top subassembly **32** is placed over the expanded bottom subassembly **34.** Also alternately or in addition the document or a copy thereof may be placed in a protective enclosure which is secured to the outside of the container.

Loopable Coded Security Seals

Thereafter, the respective like coded seals **72,** such as illustrated in FIGS. **6, 14** and **15,** are looped, respectively, through receiving holes **74, 76,** in the top subassembly **32,** continuing on through holes **78** in the liner **36,** extending on through holes **80** in the volume changing pivotal flaps **64** or **68,** and then passing on through holes **82** and **84,** respectively, in the infolded side flaps **86** or **88,** and sides **90** or **92** of the top subassembly **32.** The separate ends of these paired loopable security seals are then secured by their locking portions **94.** Then the expanded volume container assembly **30** as security sealed and coded, for example, is positioned with other containers which preferably are also sealed shipping and transfer container assemblies **30** and moved on a cart and/or a conveyor to a vehicle loading station for shipment to a retail store. Upon arrival at the retail store the seals are observed to ascertain any damage. If thee is damage it is immediately reported. Also when the container assemblies **30** are unpacked, the merchandise removed is checked and compared with the data on the coded recording document. If there are discrepancies, they are immediately reported. If any seal damage has occurred and/or any merchandise is missing, an investigation is undertaken, as quickly as possible, to determine where and how the container assembly **30** and its merchandise has been mishandled. When merchandise is sent from retail store to retail store, for example, to fill in missing sizes in a stock on hand, or when unsold merchandise is returned to the service center, often in reduced volume configurations of the container assembly **30,** the same documenting and sealing procedures are preferably undertaken.

Surrounding Tensioned and Sealed Binding and Security Straps Arranged About a Shorter Circumferential Path on the Shipping and Transfer Container

When large volumes of merchandise are being packed for interstore transfer shipments, for example, in merchandise service centers, and many container assemblies **30** are therefore being utilized, automatic strapping machines are operated to place circumferential straps **96** about them in their expanded volume configuration, as shown in FIG. **7.** Also at all transfer or shipping places, hand operated strapping machines may be available for securing the shipping and transfer containers. To enhance the security of the enclosed merchandise, portions of the container assembly **30** are formed, during the manufacturing process, to present, upon assembly, shorter circumferential paths to receive respective tensioned and sealed straps **96,** as also illustrated in FIG. **7** and in FIGS. **12** and **13.** Such restrictive placement of straps **96** makes it impossible for them to be removed endwise, or to be so disarranged in attempting to do so, thereby making an attempted pilfering very noticeable. As shown in greater detail in FIGS. **12** and **13,** in order to provide the shorter circumferential paths for the straps **96,** die cuts **98** and **100** are made in the top subassembly **32** along its corner edges inclusive of cuts in its infolded side flaps **86** and **88.**

Preferably the straps are applied using strapping machines such as those designated by the trademark, "Signode." The strapping material is a non-metallic copolymer identified by the trademark "Contrax." The ends are pulled and then welded together by the process designated by the trademark, "Tension-Weld." Up to forty strapping ties a minute are possible.

Toe and Toe Slot Infolded Flaps of Top Subassembly

As illustrated in FIGS. **7, 12, 13** and **17,** to enhance the strength of the top subassembly **32,** and consequently the overall strength of the container assembly **30,** die cuts **102** are made during the manufacture of the top subassembly **32,** and also toes **104** are formed on the infolded side flaps **86, 88** and on the infolded end flaps **106, 108** of ends **110, 112.** Then upon assembly of the top subassembly **32,** as indicated in FIGS. **16** and **7,** the toes **104** are securely fitted into the die cuts **102,** firmly positioning and holding the infolded side flaps **86, 88** to the sides **90, 92** and holding the infolded

end flaps **106, 108** to the ends **110, 112.**

Stronger and Higher Liner to Withstand Compression Loads

When the container assembly **30** is packed, documented, coded and sealed in the expanded volume configuration, it is thereafter often stacked with others for shipment and transfer to substantial overall heights. As a consequence, the compressive loads may become quite large. In anticipation of such an occurrence, the liner **36** is made sufficiently strong to handle a considerable compressive load. To insure it will receive this load first, it is made of greater height than the combined height of the sides **90, 92,** ends **110, 112** and volume changing pivotal flaps **64, 66, 68, 70,** as indicated in FIGS. **8, 9, 13, 14** and **15.** When there are no loads or when lower loads are occurring, the inside liner **36** is contacting the top subassembly **32,** as shown in FIG. **8,** establishing a reasonable clearance **114** of 1/4 inch, between the top of the volume changing pivotal flap **64** and the top subassembly **32.** As the compressive loads become heavier, as shown in FIG. **9,** the clearance **116** becomes less. When very heavy loads occur then the volume changing pivotal flaps, such as flap **64,** commence in sharing the compressive load.

However, because of this size and strength of the inner liner **36** and its handling of compressive loads, there is substantially no tendency for any bulging out of the volume changing pivotal flaps, such as flap **64,** in FIG. **11,** where a smaller inner liner **118** has been used with no starting clearance **120** being provided, as shown in FIG. **10.**

Strategic Placement of Strong Anti-Tear Tapes to Withstand Rough Handling and Attempted Security Seal Interference

As indicated by closely spaced dotted lines in FIGS. **6, 7, 16, 17, 18, 19** and **20,** and by solid closely spaced lines where an outer paperboard has been broken away for illustrative purposes in FIGS. **17, 18, 19** and **20,** strips of strong antitear tapes **122** are strategically placed to withstand rough handling and attempted security seal interference and like purposes, resulting in longer reusable periods for these container assemblies **30.** Their incorporation into the container assembly **30** is undertaken when the respective top subassemblies **32** and bottom subassemblies **34** are being manufactured. As shown in FIGS. **17, 18** and **20,** continuous strips of antitear tapes **122** are located just inside the outside liner **124** and adjacent the flutes **126** wherever they are placed.

Their placement is undertaken wherever the antitear tapes **122** will be helpful in stopping tears and distortions of the paperboard materials comprising the corrugated container assemblies **30.** The antitear tapes **122** are composed of nylon filaments bonded together in strips which are 3/16 or ⅜ inches wide, depending on the anticipated forces to be resisted. Generally longer container assemblies include ⅜ wide antitear tapes **122.**

In FIGS. **16** and **17,** the placement of antitear tapes **122** are illustrated with respect to the top subassembly **32.** There are four antitear strips **122** used, two being used in each side **90, 92** and continuing directly on through the respective fold flaps **128, 130, 132, 134.** Therefore when the top subassembly **32** is being converted from its manufactured planar form illustrated in FIG. **17** into its use form as indicated in FIG. **16,** the folding in of these fold flaps **128, 130, 132, 134** has the beneficial effect of carrying the antitear tapes or strips **122** around all the respective corners of the top subassembly **32.**

In some container assemblies **30,** when lighter loads are specified, the incorporation of these antitear tapes **122** may permit the formation of a planar form, as illustrated in FIG. **18,** without infolded side flaps **86, 88.** Therefore, during the manufacture of this planar form comparatively narrower paperboard materials are used resulting in some savings to a customer, who is able to effectively use such a shipping and transfer container assembly **30.**

In FIGS. **19** and **20,** the placement of antitear tapes **122** are illustrated with respect to the bottom subassembly **34.** There are two antitear tapes or strips **122** used. During manufacture of the planar form illustrated in FIG. **20,** one antitear tape **122** is drawn into the forming paperboard composite assembly throughout all the bottom sides **136, 138** and bottom ends **140, 142,** during production machine operating, and another antitear tape **122** is drawn into the forming paperboard composite assembly throughout all the volume changing pivotal flaps **64, 66, 68, 70.**

These selected placements of antitear tapes **122** in both the top subassembly **32** and bottom subassembly **34** of overall container assembly **30** are directed to avoiding excessive strains and/or tearing at corners and edges. Also very importantly these antitear tapes **122** are placed to avoid excessive strains and/or tearing at finger gripping holes **144** and at security seal receiving holes **76, 82, 84, 146** and die cuts **98.** Moreover, as indicated in conjunction with the extended tuck flap **148,** which is integral with bottom side **136,** the antitear tapes **122** continue right on into the flaps to strengthen them. Normally the antitear tapes are 3/16 or ⅜ inch wide, however, on larger containers, even wider ones will be used, such as ¾ inch or wider.

SUMMARY OR ADVANTAGES

These illustrated and described embodiments of container assemblies directed to shipping and transferring goods which are always fully accounted for and kept in excellent condition, accomplish this overall purpose and yet may be used over and over again for many shipments and transfers. If the user always keeps the components together and keeps the container assemblies covered when not in use, each container remains a clean container inside throughout its long period of use and it is ever ready to be expanded to a larger volume without hunting around for other components. Moreover, if the coded seals and coded documents are actively and properly relied upon pilferage will be substantially eliminated.

Yet all these advantages are obtanined at comparatively low cost when, as preferred, the container assemblies are manufactured from paperboard materials by operating production machinery used in manufacturing corrugated containers of all types. Preferably as shown in FIG. **20,** the bottom subassembly will have a A.F.M. bottom structure meaning all flaps meet, to strengthen the overall structure, to keep the interior of the box clean, and to keep loose items from falling through as they are known to do when a less expensive R.S.C. bottom structure, meaning regular slotted container, is used.

As now improved with higher and stronger liners, better securement and sealing with straps of a smaller

circumferential length, and strategic placements of antitear tapes to withstand tougher handling, heavier loading, and attempted security seal infringements, these container assemblies further increase the following benefits stated once again:

1. coded and accountable sealed security in one of two selectable volumes;
2. extended periods of reusability while remaining clean inside;
3. space saving collapsibility for smaller shipments and storage;
4. reduced labor requirements in packaging and handling;
5. size range options of different embodiments;
6. maximum use of vehicle cargo spaces;
7. lightweight handling conveniences;
8. utilization of standard tooling and equipment; and
9. realization of savings as losses caused by pilferage and damage are substantially reduced often becoming very minimal.

I claim:

1. A container assembly reusable for many shipments and transfers, arrangeable in an expanded volume configuration and in a reduced volume configuration, comprising:

a. a cover subassembly having: a planar top surface structure and depending flaps forming a lid; and reinforcing antitear means for said depending flaps, thereby making said cover subassembly more resistant to rough handling; and

b. a bottom subassembly; having: a planar bottom surface structure; upstanding side surface structures whose lower edges join the outer edges of the bottom surface structure; straight line scores, running the full length of each side surface structure, parallel to the bottom surface structure, dividing each side surface structure into an upper part, or volume changing flap, and a lower part, or fixed side structure said fixed side structures being joined together along their lateral edges, and said scores permitting the volume changing flaps to be pivoted with respect to the fixed side structures; an additional volume changing structure collapsible during the reduced volume configuration and expandable during the expanded volume configuration to supplement the strength of the volume changing flaps; and reinforcing antitear means for the volume changing flaps thereby making the said bottom subassembly more resistant to rough handling.

2. A container assembly reusable for many shipments and transfers, as claimed in claim **1,** wherein the reinforcing antitear means is composed of strips of nylon filaments.

3. A container assembly reusable for many shipments and transfers, as claimed in claim **1,** wherein the additional volume changing structure is initially, before receiving a compressive loading force, of greater height than the combined height of one of the volume changing flaps and one of the fixed side structures, to thereby first receive any compression loads to be transmitted between the cover subassembly and the bottom subassembly, substantially eliminating any tendency for the volume changing flaps to bulge outwardly.

4. A container assembly reusable for many shipments and transfers, as claimed in claim **1,** comprising, in addition, tamper proof seal receiving means in both the cover and bottom subassemblies.

5. A container assembly reusable for many shipments and transfers, as claimed in claim **4,** comprising, in addition, loopable tamper proof seals for placement through both of the tamper proof seal receiving means.

6. A container assembly reusable for many shipments and transfers, as claimed in claim **4,** comprising, in addition, completely surrounding tensioned and sealed straps.

7. A container assembly reusable for many shipments and transfers as claimed in claim **4,** comprising, in addition, completely surrounding tensioned and sealed straps having an effective length less than the circumference of the container assembly when placed at the tamper proof seal receiving means.

8. A container assembly reusable for many two way shipments and transfers, while security sealed and preferably with a transfer document enclosed within the sealed volume, arrangeable either in an expanded volume configuration or in a reduced volume configuration, often being used, to transfer goods between department store service centers and respective retail stores, comprising:

a. a cover subassembly having: a planar top surface structure and depending flaps forming a lid; tamper proof seal receiving means; and reinforcing antitear means for the depending flaps, thereby making said flaps and said seal receiving means more resistant to rough handling and to attempted security seal interference; and

b. a bottom subassembly having: a planar bottom surface structure; four upstanding side surface structures whose lower edges join the outer edges of the bottom surface structure; straight line scores, running the full length of each side surface structure, parallel to the bottom surface structure, dividing each side surface structure into an upper part, or volume changing flap, and a lower part, or fixed side structure said fixed side structures being joined together along their lateral edges, and said scores permitting the volume changing flaps to be pivoted with respect to the fixed side structures; an additional volume changing structure collapsible during the reduced volume configuration and expandable during the expanded volume configuration to supplement the strength of the volume changing flaps; tamper proof seal receiving means; and reinforcing antitear means for the volume changing flaps, thereby making said flaps and said seal receiving means more resistant to rough handling and to attempted security seal interference.

9. A container assembly reusable for many two way shipments and transfers, while security sealed, as claimed in claim **8,** wherein the tamper proof receiving means in both the cover and bottom subassemblies are respective spaced holes.

10. A container assembly reusable for many two way shipments and transfers, while security sealed, as claimed in claim **9,** having, in addition, loopable tamper proof seals for placement through the respective spaced holes.

11. A container assembly reusable for many two way shipments and transfers, while security sealed, as claimed in claim **8,** wherein the tamper proof receiving means on both the cover and bottom subassemblies are spaced respective narrow edge cutouts.

12. A container assembly reusable for many two way shipments and transfers, while security sealed, as claimed in claim **11,** having, in addition, completely

surrounding tensioned and sealed straps passing around the respective narrow edge cutouts.

13. A corrugated container assembly reusable for multiple two way shipments and transfers, preferably while security sealed with an accountability transfer document enclosed, and arranged either in an expanded volume configuration or in a reduced volume configuration, often being transferred between department store service centers and respective retail stores, comprising:

a. a corrugated cover subassembly, having: a planar top surface and depending flaps forming a lid; tamper proof seal receiving means; and reinforcing antitear means for the depending flaps, thereby, making said flaps and said seal receiving means more resistant to rough handling and to attempted security seal interference;

b. a corrugated bottom subassembly having: a planar bottom surface structure; four upstanding side surface structures whose lower edges join the outer edges of the bottom surface structure; straight line scores, running the full length of each side surface structure, parallel to the bottom surface structure, dividing each side surface structure into an upper part, or volume changing flap, and a lower part, or fixed side structure said fixed side structures being joined together along their lateral edges, and said scores permitting the volume changing flaps to be pivoted with respect to the fixed side structures: tamper proof seal receiving means; and reinforcing antitear means for the volume changing flaps and the fixed side structures; thereby making said flaps, said sides, and said seal receiving means more resistant to rough handling and to attempted security seal interference; and

c. a corrugated inside liner subassembly foldable for inclusion in the reduced volume configuration and expandable for inclusion in the expanded volume configuration alongside the fixed side structures and the volume changing flaps, and having tamper proof seal receiving means.

14. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **13,** wherein the corugated inside liner subassembly is of greater height than the combined height of one of the fixed side structures and one of the volume changing flaps to thereby first receive any compression loads to be transmitted between the respective cover and bottom subassemblies, substantially eliminating any tendency for said volume changing flaps to bulge outwardly.

15. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **13,** wherein said tamper proof seal receiving means in both said cover and said bottom subassemblies are respective spaced holes.

16. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **15,** having, in addition, loopable tamper proof seals for placement through the respective spaced holes.

17. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **13,** wherein the tamper proof seal receiving means in both the cover and bottom subassemblies are spaced respective edge cutouts.

18. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **17,** having, in addition, completely surrounding tensioned and sealed straps passing around the respective edge cutouts and being of a resultant length preventing their endwise sliding removal without incurring damage to them and any of the corrugated portions of the container assembly.

19. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **14,** wherein the tamper proof seal receiving means in both the cover and bottom subassemblies are spaced respective edge cutouts.

20. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **19,** having in addition completely surrounding tensioned and sealed straps passing around the respective edge cutouts and being of a resultant length preventing their endwise sliding removal without incurring damage to them and any of the corrugated portions of the container assembly.

21. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **13,** wherein said reinforcing antitear means is composed of strips of nylon filaments.

22. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **21,** wherein said strips of nylon filaments, serving as said antitear means, are placed during the container manufacturing process between the interior side of the outside face and the adjacent corrugations of said container assembly.

23. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **22,** wherein said strips of nylon filaments serving as said antitear means are placed to distribute lifting loads and seal tampering forces.

24. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **13,** wherein the corrugated cover subassembly, comprises, in addition, infolded flaps pivotally and integrally made with the depending flaps forming a stronger corrugated cover subassembly.

25. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **24,** wherein the corrugated cover subassembly includes interfitting respective toe projections and toe holes to removably secure the infolded flaps.

26. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **13,** wherein said volume changing flaps have finger receiving means used to lift said corrugated container assembly.

27. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **26,** wherein said reinforcing antitear means is located to distribute lifting forces applied at said finger receiving means.

28. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **27,** wherein the reinforcing antitear means is a strip of nylon filaments.

29. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **28,** wherein the reinforcing antitear means is located between the interior side of the outside face and the adjacent corrugations.

30. A container assembly reusable for many shipments and transfers, as claimed in claim **8,** wherein the additional volume changing structure is initially, before

receiving a compressive loading force, of greater height than the combined height of one of the volume changing flaps and one of the fixed side structures, said volume changing structure thereby first receives any compression loads to be transmitted between the cover subassembly and the bottom subassembly, substantially eliminating any tendency for the volume changing pivotal flaps to buldge outwardly.

31. A container assembly reusable for many shipments and transfers, arrangeable either in an expanded volume configuration or in a reduced volume configuration, comprising:

a. a cover subassembly having a planar top surface structure and depending flaps forming a lid;

b. a bottom subassembly having: a planar bottom surface structure; upstanding side surface structures whose lower edges join the outer edges of the bottom surface structure; straight line scores, running the full length of each side surface structure, parallel to the bottom surface structure, dividing each side surface structure into an upper part, or volume changing flap, and a lower part, a fixed side structure, said fixed side structure being joined together along their lateral edges, and said scores permitting the volume changing flaps to be pivoted with respect to the fixed side structures; and

c. a liner subassembly, collapsible during the reduced volume configuration and expandable during the expanded volume configuration, which when expanded and before receiving any compressive loading forces is of greater height than the combined height of one of the volume changing flaps and one of the fixed side structures, and which thereby first receives any compression loads to be transmitted between the cover subassembly and the bottom subassembly, substantially eliminating any tendency for the volume changing flaps to bulge outwardly.

32. A corrugated container assembly reusable for mutiple two way shipments and transfers, preferably while security sealed with an accountability transfer document enclosed, and arranged either in an expanded volume configuration or in a reduced volume configuration, often being transferred between department store service centers and respective retail stores, comprising:

a. a corrugated cover subassembly, having: a planar top surface and depending flaps forming a lid; and tamper proof seal receiving means;

b. a corrugated bottom subassembly having: a planar bottom surface structure; upstanding side surface structures whose lower edges join the outer edges of the bottom surface structure; straight line scores, running the full length of each side surface structure, parallel to the bottom surface structure, dividing each side surface structure into an upper part, or volume changing flap, and a lower part, or fixed side structure, said fixed side structures being joined together along their lateral edges, and said scores permitting the volume changing flaps to be pivoted with respect to the fixed side structures; and tamper proof seal receiving means; and

c. a corrugated inside liner subassembly foldable for inclusion in the reduced volume configuration and expandable for inclusion in the expanded volume configuration alongside the fixed side structures and the volume changing flaps, said liner subassembly being, when expanded and before receiving any compressive loading forces, of greater height than the combined height of one of the volume changing flaps and one of the fixed side structures, so that said liner subassembly first receives any compression loads to be transmitted between the cover subassembly and the bottom subassembly, substantially elminating any tendency for the volume changing flaps to bulge outwardly.

33. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **14,** wherein the tamper proof seal receiving means in both the cover and bottom subassemblies are respective spaced holes.

34. A corrugated container assembly reusable for multiple two way shipments and transfers, as claimed in claim **33,** having, in addition, loopable tamper proof seals for placement through the respective spaced holes.

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