Jan. 4, 1966 S. L. EIFRID 3,227,356

SHIPPING CONTAINER FOR BOOKS AND THE LIKE

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Fig. 1.

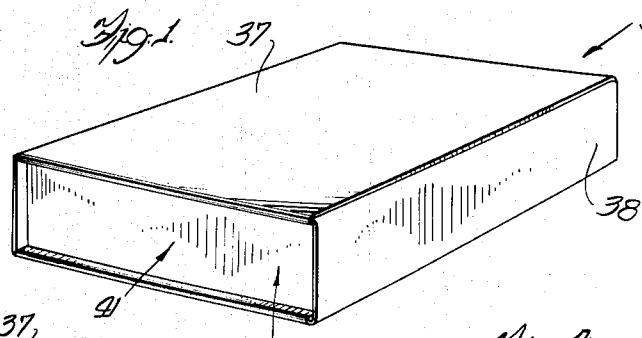


Fig. 2.

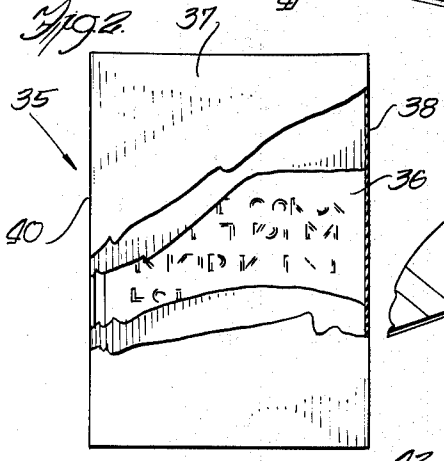


Fig. 4.

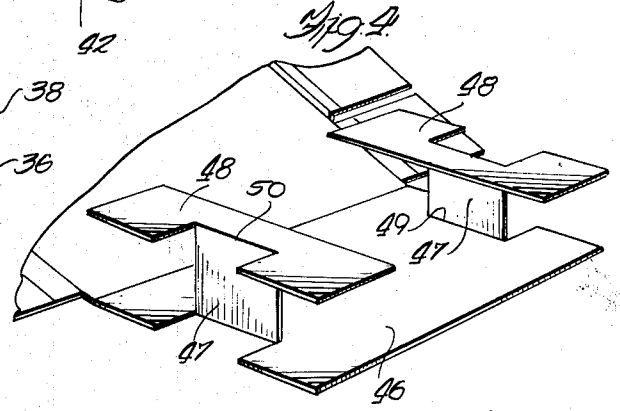
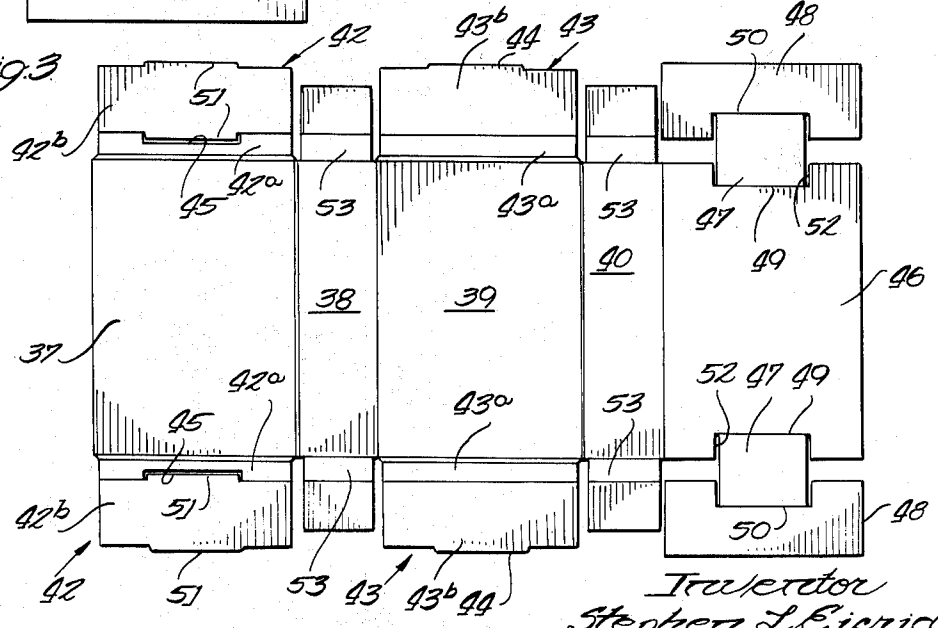


Fig. 3



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SHIPPING CONTAINER FOR BOOKS AND THE LIKE

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Fig. 6.

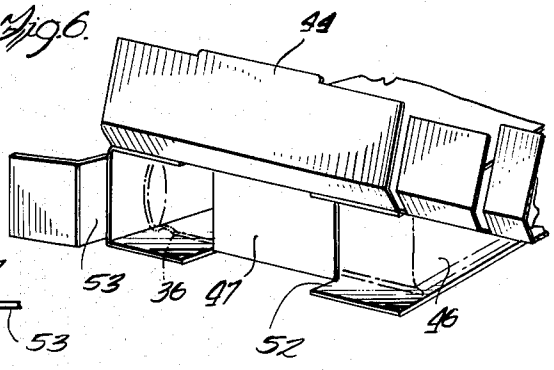


Fig. 5.

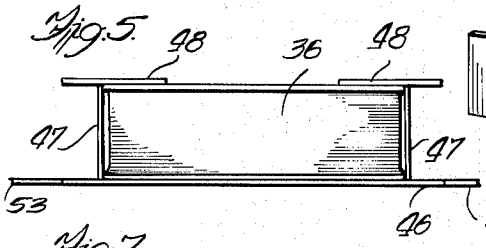


Fig. 7.

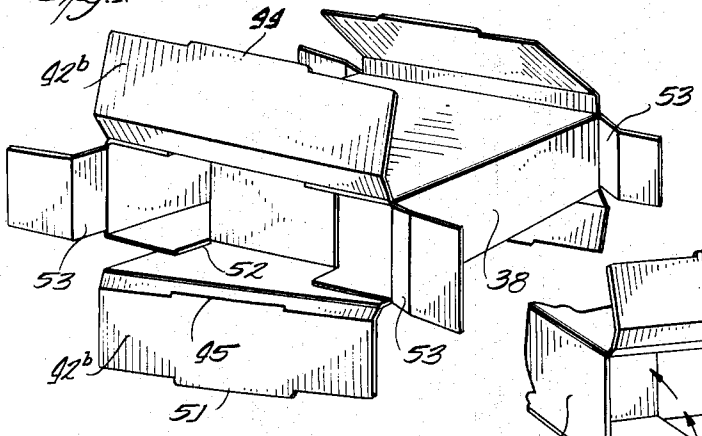


Fig. 8.

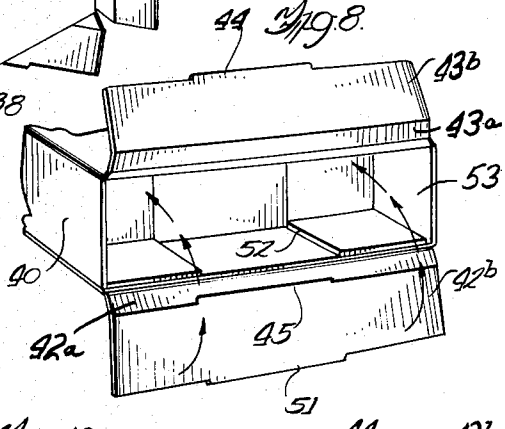


Fig. 9.

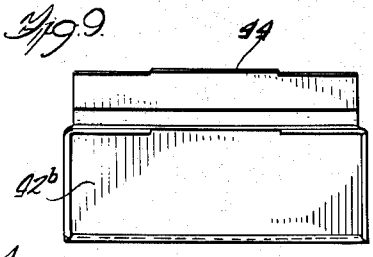


Fig. 10.

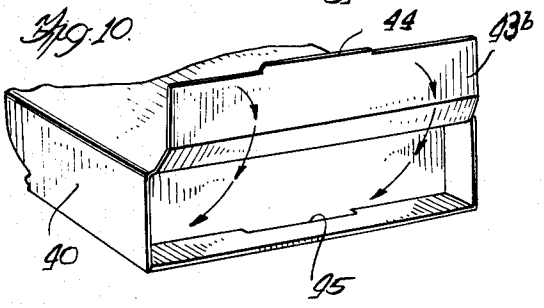


Fig. 11.

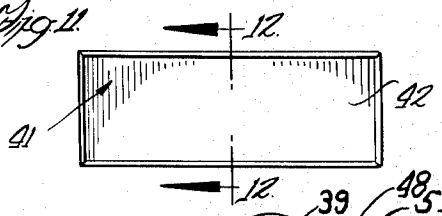
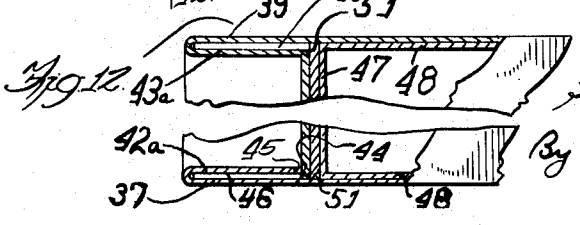


Fig. 12.



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Fig. 13

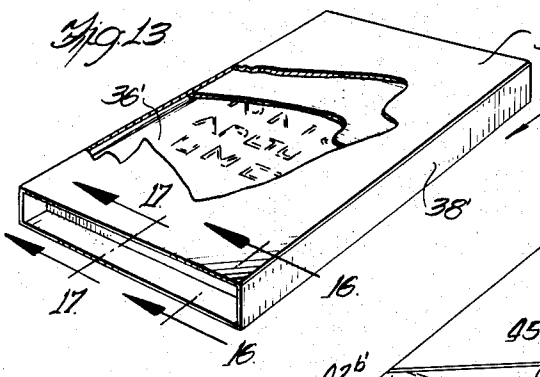


Fig. 14

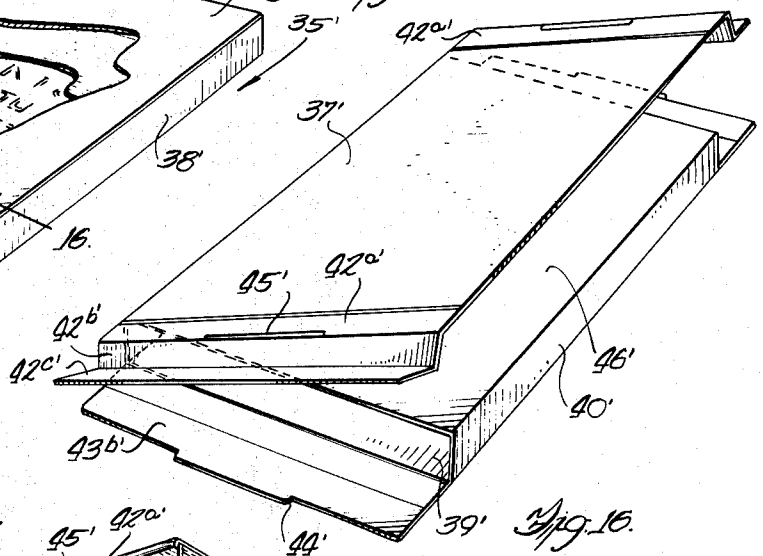


Fig. 15

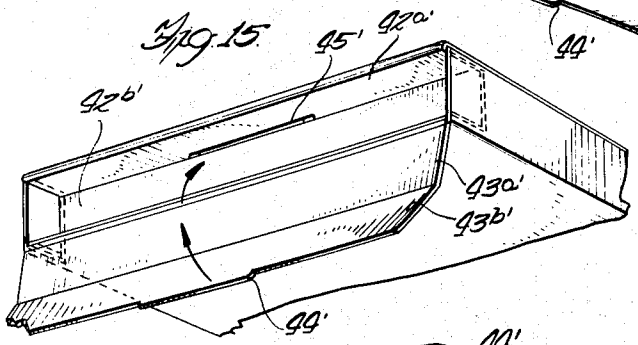


Fig. 16

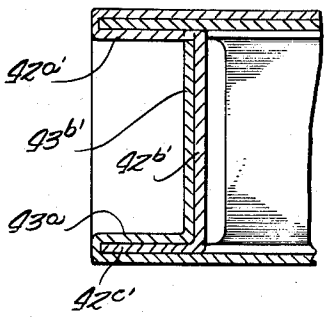


Fig. 17

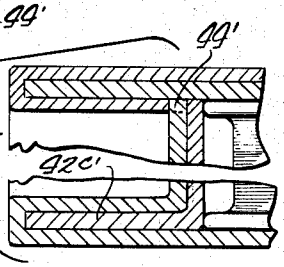


Fig. 18

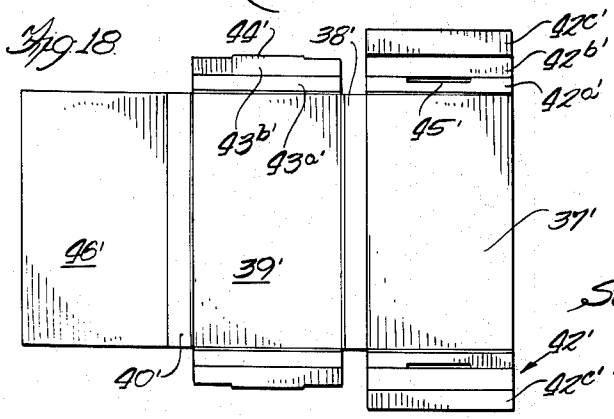
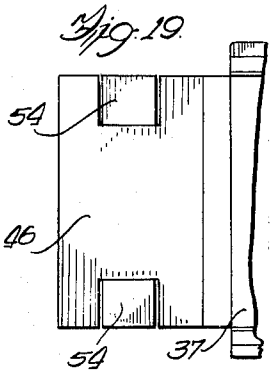


Fig. 19



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Fig. 20.

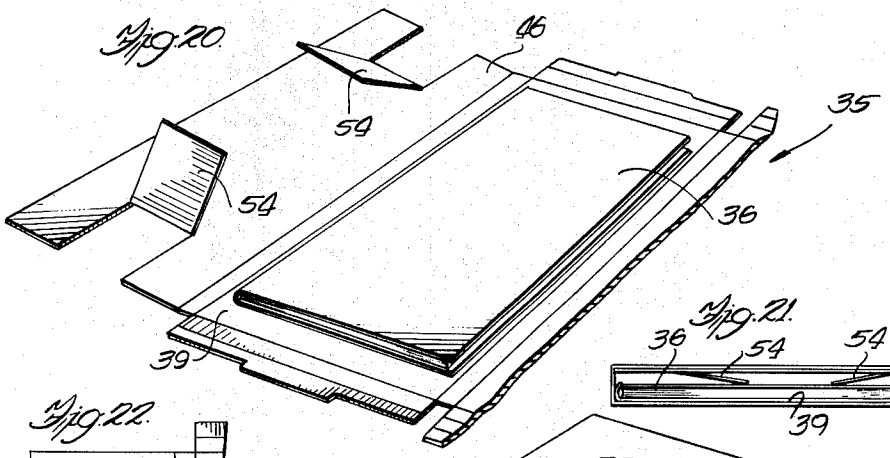


Fig. 21.

Fig. 22.

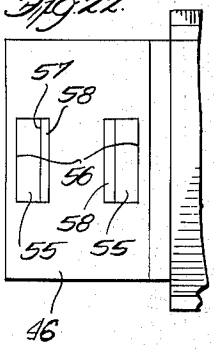


Fig. 23.

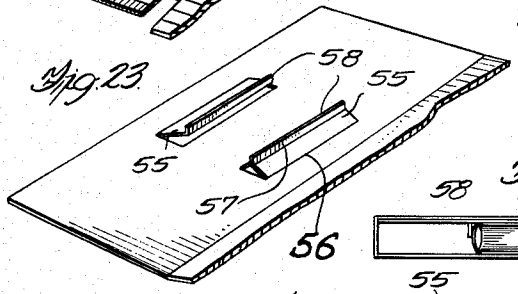


Fig. 24.

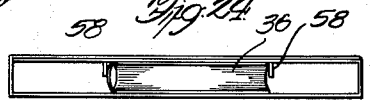


Fig. 25.

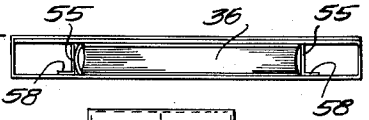


Fig. 26.

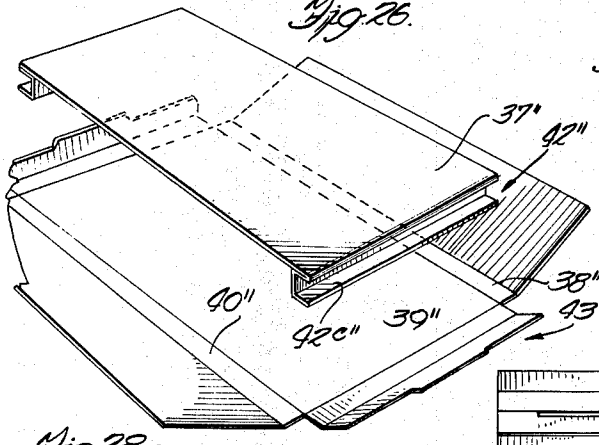


Fig. 27.

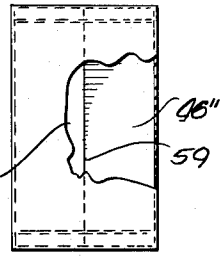


Fig. 28.

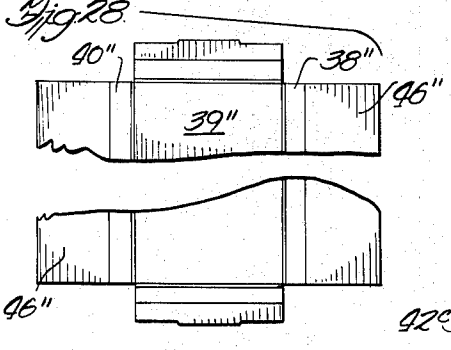
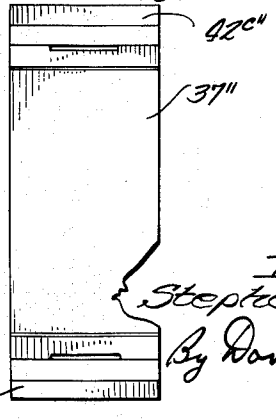


Fig. 29.



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Fig. 30.

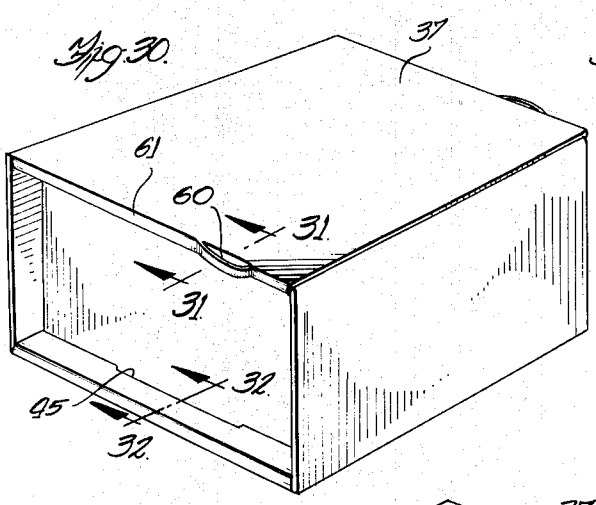


Fig. 31.

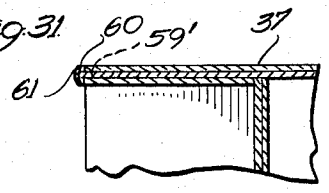


Fig. 32.

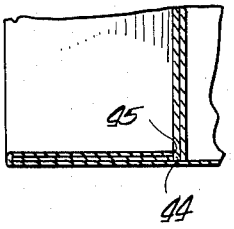


Fig. 33.

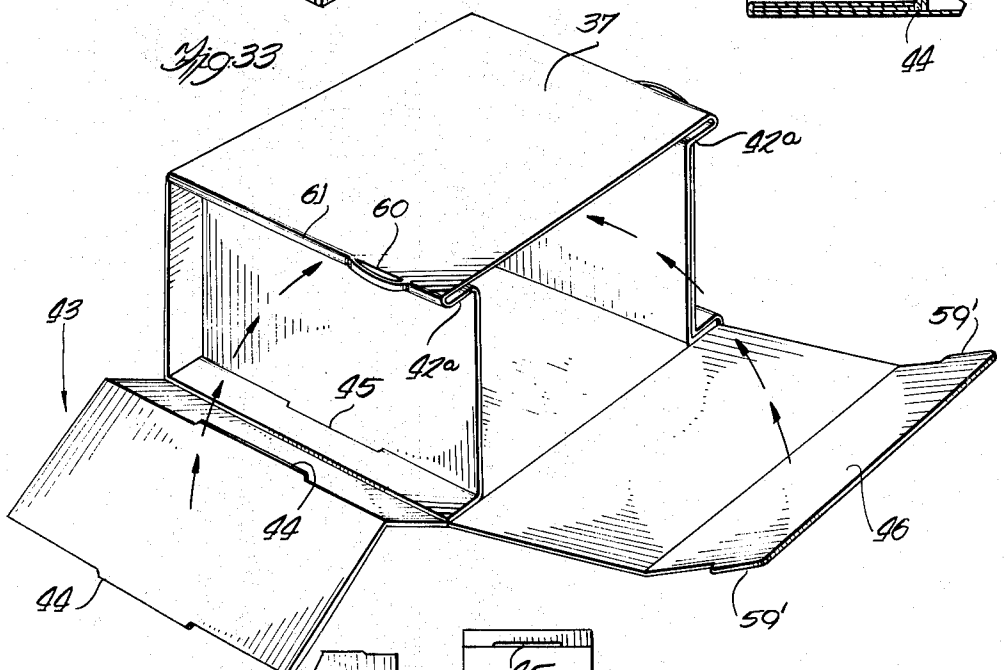
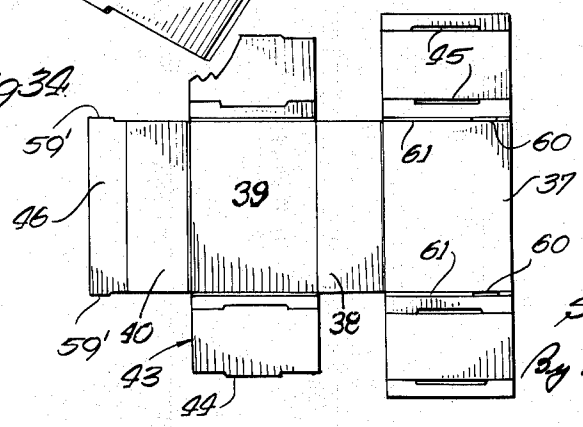


Fig. 34.



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United States Patent Office 3,227,356 Patented Jan. 4, 1966

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SHIPPING CONTAINER FOR BOOKS AND THE LIKE

Stephen Lawrence Eifrid, 641 61st St., La Grange, Ill.

Filed Apr. 26, 1963, Ser. No. 275,836
13 Claims. (Cl. 229—37)

This invention relates generally to containers for shipping books or similar objects of generally rectangular shape and, more particularly, to such a container which is formed of paper board or corrugated cardboard. Containers of this type used for books are commonly called bookfolds.

The primary object of the present invention is to provide a novel container of the above character which, compared to similar prior containers, is of simpler and less expensive construction, is easier to assemble around a book, and provides better protection of the book from damage due to impacts with the exterior of the container.

Another object is to form a container of the above character in a novel manner in a plurality of panels which are folded together to form a rectangular container around the book and which interlock automatically without fastening devices such as staples or tape to maintain the container and book in assembled relation.

Still another object is to recess the ends of the container to form a cushion protecting the book and to form the recessed ends using flaps which interlock in a novel manner both to facilitate assembly and to prevent flattening of the container.

A more detailed object is to form on the end flaps projecting and recessed parts which interlock automatically as an incident to their assembly to form the recessed ends and which prevent collapse of the container due to edgewise sliding of parallel top and bottom sections of the container relative to each other.

The invention also resides in the novel manner of utilizing portions of the top and bottom sections of the container in a novel manner to maintain the book centered within the container and to increase the number of thicknesses of material protecting portions of the book.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of a preferred form of bookfold embodying the novel features of the present invention and shown in assembled shipping condition;

FIGURE 2 is a plan view of the bookfold with parts broken away and shown in section;

FIGURE 3 is a plan view of the blank from which the preferred bookfold is formed;

FIGURE 4 is a fragmentary perspective view of the bookfold showing the first step of its assembly about a book;

FIGURE 5 is a fragmentary side elevational view showing the book within the first parts to be folded around it;

FIGURE 6 is a fragmentary perspective view showing the next steps of assembly of the bookfold with three sections engaging a book;

FIGURE 7 is a perspective view showing a still more advanced assembly of the bookfold with five sections folded together to form the rectangle;

FIGURE 8 is a fragmentary perspective view showing the first step of folding of the end flaps;

FIGURE 9 is an end view showing the second step of folding the end flaps;

FIGURE 10 is a fragmentary perspective view similar to FIGURE 8 and showing the third step in folding the end flaps;

FIGURE 11 is an end view of the finally assembled recessed end;

FIGURE 12 is a fragmentary sectional view taken on the line **12—12** of FIGURE 11;

FIGURE 13 is a perspective view of a modified bookfold with some of the sections broken away and shown in section;

FIGURE 14 is a perspective view showing the final folding of the wall sections of the modified bookfold into a hollow rectangle;

FIGURE 15 is a fragmentary perspective view showing assembly of one recessed end of the modified bookfold;

FIGURE 16 is an enlarged fragmentary sectional view taken along the line **16—16** of FIGURE 13;

FIGURE 17 is an enlarged fragmentary sectional view taken along the line **17—17** of FIGURE 13;

FIGURE 18 is a plan view of the blank from which the modified bookfold is formed;

FIGURE 19 is a fragmentary plan view of a blank from which another modified construction is formed;

FIGURE 20 is a fragmentary perspective view of a book on one section of the partially folded modified bookfold of FIGURE 19;

FIGURE 21 is an end view of the modified bookfold of FIGURE 19 in partially assembled relation around a book with the end flaps in unfolded condition;

FIGURE 22 is a fragmentary plan view of a third modification;

FIGURE 23 is a fragmentary perspective view of the modification of FIGURE 22;

FIGURES 24 and 25 are end views similar to FIGURE **21** and showing different positions of spacer elements in the modification of FIGURES 22 and 23;

FIGURE 26 is an exploded fragmentary perspective view of a fourth modification;

FIGURE 27 is a reduced plan view of the modified bookfold of FIGURE 26 with one wall section broken away;

FIGURE 28 is a plan view of a blank from which one of the parts of the modification of FIGURES 26 and 27 is formed;

FIGURE 29 is a plan view of a blank from which the second part of the modification of FIGURES 26 and 27 is formed;

FIGURE 30 is a perspective view of a fifth modification of the improved bookfold;

FIGURES 31 and 32 are enlarged fragmentary sectional views taken respectively along the lines **31—31** and **32—32** of FIGURE 30;

FIGURE 33 is a perspective view of the modification of FIGURE 30 in partially assembled condition;

FIGURE 34 is a fragmentary plan view from which the modification of FIGURE 30 is formed.

While several forms of the present invention are shown in the drawings and will be described herein, it is to be understood that the invention is not limited to such forms. Instead, the invention is intended to include all modifications and alternative constructions falling within the scope of the appended claims.

The invention is shown in the drawings for purposes of illustration embodied in a shipping container **35** which is especially adapted to accommodate a rectangular object such as a book **36** and which is known commonly as a bookfold. In general, a container of this type is made up of four wall sections or panels **37**, **38**, **39** and **40** forming the respective sides of a hollow tube of rectangular cross section. The ends **41** of the tube are closed by flaps which usually are connected to the wall sections along fold lines.

Most objects such as the book **36** to be enclosed in the container are of flat rectangular shape and the container is similarly shaped. For convenience of descrip-

tion, the wall sections will be oriented with respect to a container of this shape and will be referred to as top and bottom sections numbered **37** and **39** and vertical side sections numbered **38** and **40**.

In accordance with the present invention in one of its aspects, the end flaps closing the ends **41** of the bookfold **35** are constructed in a novel manner to recess the ends for cushioning the book **36** and also to interlock with each other automatically as an incident to being folded together so that assembly of the bookfold is completed quickly and easily without stitching, glue, staples or other securing devices. For this purpose, at least two flaps **42** and **43** are provided at each end of the container. These are connected respectively to the top and bottom wall sections **37** and **39** and each comprises at least two portions, a first one of which (designated **42***a* or **43***a*) is connected by a fold line to the associated wall section and the second of which (numbered **42***b* or **43***b*) is connected along one edge to the first portion by a fold line.

In the formation of each recessed end **41**, the parts of one flap first are folded out of the blank and inwardly to bring the first portion into parallelism with the associated wall section and to extend the second portion normally between the top and bottom wall sections. The parts of the second flap then are folded out of the blank and inwardly to bring its first portion into parallelism with the associated wall section and to extend the second portion along the outer side of the second portion of the first flap.

Projecting and recessed parts **44** and **45** formed on the respective flaps at each end of the container interlock with each other as the flaps are folded inwardly to hold the flaps assembled against opposite ends of the book. Herein, the projecting part **44** is a tab extending outwardly from the free or outer edge of the second portion **43***b* of the second flap **43** to be folded inwardly. Such tab fits into the recessed part **45** which is a slot formed in the first portion **42***a* of the other flap and extending along the fold line between the two portions of the other flap, the latter being the first of the two flaps to be folded inwardly at each end.

The novel flap arrangement including the tabs **44** and slots **45** described above utilizes the resilience or spring action of the bookfold material to retain the tabs in locking positions in the slots. To this end, the width of the second portion **42***b* of each slotted flap **42** is approximately equal to the spacing between the inner opposed parallel surfaces of the top and bottom wall sections. Also, the width of the section portion **43***b* of the other flap **43** is equal approximately to the spacing between the wall section connected to the flap and the opposed parallel surface of the first portion **42***a* of the slotted flap. With this relation and with the tab **44** projecting outwardly beyond the free edge of its flap portion **43***a*, entry of the tab into the slot **45** requires a separation of the parts from their normal positions so that, when the tab is in the slot, the parts tend to resume their normal positions due to the resilience of the material and thereby retain the tab in the slot. Moreover, the flap parts cooperate to form a strong channel section at each end of the bookfold to resist crushing.

Further, in accordance with the present invention, the inward folding and interlocking relation of the end flaps **42** and **43** is utilized through a provision of a fifth wall section **46** to hold all of the wall sections assembled together around the book without the necesity of fastening devices such as stitches or tape. Such fifth section which may be referred to as the inner top wall section is connected to at least one of the side wall sections **38** and **40** and underlies the top wall section **37** with the ends of the inner section fitting between the top wall and the inwardly folded first flap portions which are connected to the top wall. These flap portions are the recessed portions **42***a* and **42***b* which are the first to be folded inwardly in forming the recessed ends.

While the fifth or inner wall section **46** may be formed in two parts each connected to the respective side panels **38** and **40** with the outer or top wall **37** formed separately as shown in FIGURES 26 to 29 to be discussed later, it is preferred that the inner wall section be connected to one side wall section and at the top wall section be connected to the other side wall section so that all of the wall sections may be formed as part of a continuous sheet of material as shown in FIGURE 3. Also, while the inner wall may extend only partially across the width of the container as shown in FIGURES 30 to 34 to be described later, it is preferred that the inner wall extend substantially the full width across the container not only to provide a double thickness to protect the side of the book **36** lying against the inner side of the top wall, but, also, to utilize the first flap portions **42***a* of the recessed flaps **42** to hold the inner wall section **46** assembled against the inner side of the outer top wall section **37** more effectively.

The present invention also contemplates utilizing parts of the wall sections and end flaps both to hold the book **36** in centered relation spaced from parallel outer surfaces of the container and to provide additional thicknesses of material to protect the book against damage. In the preferred construction of FIGURES 1 to 12, these parts are connected to the inner wall section **46** and comprise, at each end of such section, an inner centering member **47** and an outer reinforcing member **48**. The inner member is of rectangular shape with one edge paralleling the end of the inner wall section **46** and connected to the latter at a fold line **49** spaced from the end. The outer parallel end of the inner centering member is connected integrally to the outer reinforcing member **48** along a fold line **50** paralleling and spaced from the longitudinal edges of the outer member. The outer member is of rectangular shape elongated transversely of the container and extends substantially the full width of the container. The length of the inner members equals approximately the thickness of the book and the spacing of their fold lines **49** equals the length of the book. With these relations and with the inner members folded upwardly into positions perpendicular to the inner wall section **46** and with the outer members **48** folded inwardly into parallelism with the inner wall section, the outer members lie against one side of the book to form an additional thickness of material protecting that side.

In the assembly of the improved bookfold of FIGURES 1 to 12 about a book, the book first is laid on the inner side of the inner wall section **46** between the inner centering members **47** and the latter are bent upwardly as shown in FIGURE 4 into parallelism with each other and into perpendicular relation to the inner wall section. In these positions, these members engage the book ends and prevent them from shifting endwise within the container. Next the outer members **48** are folded into parallelism with the inner wall section **46** and on to the adjacent side of the book as shown in FIGURE 5. With the outer members held against the book in this relation, the adjacent side panel **40** is swung about the fold line between that panel **40** and the bottom wall section **39** to bring the panel against the ends of the outer wall members and the bottom wall section **39** is swung onto the book and outer wall members **48** with the inner and bottom wall sections **39** and **46** parallel to each other as shown in FIGURE 6. Then the other side panel **38** and the top section **37** are folded around the back to bring the top wall section **37** against the outer side of the inner section **46** as shown in inverted relation in FIGURE 7.

The wall sections **37**, **38**, **39**, **40** and **46** now are in their final relation about the book **36** and the bookfold assembly is completed by swinging first the recessed flap parts **42***a* and **42***b* into the recessed end of the bookfold as indicated by the arrows in FIGURE 8. Next, the tabbed flap portions **43***a* and **43***b* are swung inwardly

and into the recessed container ends along the arrow lines as shown in FIGURE 10 until the tab **44** at each end fits into the slot **45** as shown in FIGURE 12. When this has been done at both ends of the bookfold, the assembly is completed. Due to the dimensions of the parts requiring separation of the parallel opposed walls adjacent the second flap parts **42***b* and **43***b* for removal of the tab **44** from the slot **45** at each end of the bookfold and due to the tendency of the first tab parts **42***a* and **42***b* to unfold because of the resilience of the bookfold material, the tabs remain securely interlocked with the slotted parts.

Due to the spacing of the inner ends **49** of the inner centering members **47** from the ends of the inner wall section **46**, slots are formed in the latter when the members are moved in positions normal to the section, the edges **52** of such slots facing transversely of the section. To utilize these slot edges to strengthen the container against edgewise shifting of the top and bottom sections, lugs **51** project outwardly from opposite edges of the second portions **42***b* of the slotted flaps **42** and fit between the slot edges **52** in the final assembled positions of the parts with the ends of the lugs engaging such edges.

If desired, further reinforcing may be achieved with material already available in the outline of the bookfold blank shown in FIGURE 3. For this purpose, extensions **53** of the side panels **38** and **40** remain connected to the ends of the side panels along fold lines. In the assembly of the bookfold, these extensions are folded inwardly and reversely against the inner sides of the side panels as shown in FIGURE 8 before the end flaps **42** and **43** are folded into their finally assembled positions.

Further strengthening and reinforcing means is shown in the modification of FIGURES 13 to 18 in which parts corresponding to those of the preferred construction bear similar but primed reference characters. This means takes the form of an extension or third portion **42***c*′ of the slotted flap **42** at each end of the outer wall section **37**′. Such extension cooperates with the outer portions of the slotted flap to form a channel extending across the full width of the bookfold at each of its ends in the final assembled positions of the parts.

In FIGURES 19 to 21, which show another modification, the parts corresponding to parts of the preferred construction of FIGURES 1 to 12 bear the same reference characters. In this modification, portions **54** of the inner wall section **46** are utilized to enable the same bookfold to accommodate books of different thickness. These portions are rectangular in shape and each remains connected to the inner wall section at a fold line extending only along an inner edge of the portion. When each portion is folded reversely about its fold line and against the inner side of the inner top wall section, it tends to spring away from the section and against the adjacent side of a book **36** to press the book against the inner side of the bottom wall section **39** as shown in FIGURE 21.

As shown in FIGURES 22 to 25, other rectangular parts **55** of the inner top wall section **46** may be utilized to center the book between the side panels **38** and **40** when the book is narrower than the top and bottom wall sections. Each of these parts remains connected to the inner wall section only along an outer edge **56** paralleling and disposed adjacent one of the side edges of the wall section. Paralleling and spaced inwardly from the free edge of each part is a fold line **57** which divides the part into a free edge or outer strip portion **58** and an inner strip. In the case of a very narrow book, as shown in FIGURE 24, the inner strips of the two parts remain in the plane of the inner wall section and the outer strips **58** are bent laterally to form guides engaging the longitudinal edges of the book. In the case of a wider book as shown in FIGURE 25, the inner strips first are bent laterally of the outer strips which then are bent into positions normal to the inner wall section to form parallel guides engaging the book edges.

As noted earlier, the inner wall section **46** may be formed in two parts connected by fold lines to the respective side panels **38** and **40**. In this case, the outer top wall section **37** is formed as a separate piece formed integrally at its end with the slotted flaps. This construction is illustrated in FIGURES 26 through 29 in which parts corresponding to parts in a preferred construction of FIGURES 1 to 12 bear similar characters with a double prime (″).

Referring to FIGURE 28, it will be seen that the two parts **46**″ of the inner top wall section extend from the respective side panels **38**″ and **40**″ approximately halfway across the width of the bottom wall section **39**″. With this relation, the free edges of the two halves of the inner section abut each other as indicated along a line **59** (FIGURE 27) when the sections are wrapped around a book resting on the bottom wall section **39**″. After this has been done in the assembly of the bookfold, the top wall section **37**″ is laid on the two halves of the inner wall section, and the portions of the slotted flaps **42**″ are folded beneath the inner sides of the inner wall sections in a manner similar to the folding of these flaps in the preferred construction. As in the case of the modification shown in FIGURES 13 to 18, a third portion **42***c*″ is provided on the slotted flaps for extra strength.

The extension of the inner top wall section **46** substantially across the full width of the outer top wall section **37** is advantageous in enabling the folded under end flap portions **42***a* to cooperate with the outer top wall section to hold the inner wall section in assembled relation. It is possible, however, as indicated above, that the inner wall section extend only partially across the outer wall section. Such a construction is illustrated in FIGURES 30 to 34 in which parts corresponding to the parts in the preferred construction bear similar reference numbers.

Referring to FIGURES 33 and 34, it will be seen that the inner top wall section **46** is only approximately a third as wide as the outer top wall section. To permit this shorter width and still retain the inner section assembled properly between the outer section and the slotted end flap portions **42***a*, projecting and recessed parts **59**′ and **60** are formed respectively on the inner wall section and adjacent the top wall section **37**, such parts interfitting to maintain the assembled relation of the sections. Herein, the projecting parts are tabs or lugs **59**′ extending lengthwise beyond the ends of the inner wall section **46** adjacent its free edge. These lugs fit into recesses **60** in the hinge joint **61** between the ends of the outer wall section **37** and the respective slotted flap portions **42***a*. With the parts in assembled relation and the lugs fitting into the recess, the lugs engage the ends of the recesses to prevent edgewise withdrawal of the inner wall section from between the outer section and the reversely bent slotted flap portions.

In the asembly of the modified bookfold of FIGURES 30 to 34, the bottom, inner, and side wall sections **40**, **46**, **38** and **39** first are wrapped around the book in a manner similar to that of the preferred construction. Then, the outer top wall section **37** is folded onto the inner section, and the slotted end flaps **42** are folded inwardly to bring the first flap portions against the inner side of the inner top wall section. During this movement, the tabs **59**′ on the inner wall section are extended into the slots **60** so as to prevent edgewise withdrawal of the inner section. The assembly is completed by folding the other end flaps **43** inwardly to bring the tabs **44** thereon into the slots **45** in the slotted end flaps.

It will be apparent that the novel bookfold constructions described above not only are easily assembled without separate fastening devices, but also provide substantial strength at places such as corners where the assembled package is likely to receive exterior blows. The

preferred construction of FIGURES 1 to 12 is especially strong for two reasons. First of all, as described above, the projections **51** on the second portions **42***b* of the slotted flap **42** engage the edges **52** of the slots left in the inner wall section **46** and the outer members **48** when the outer members and the inner wall **46** are parallel and the inner centering members **47** extend between these parts as shown in FIGURE 4. The engagement of the tabs **51** with the slot edges **52**, as noted above, strengthens the finally assembled container against edgewise shifting of the top and bottom wall sections relative to each other.

The preferred construction also is of substantial strength because the parts of the inner wall section **46** and the outer members **48** thereof adjacent and on opposite edges of the slots left by the inner members **47** extend into channels defined by the top outer wall section **37** and the bottom wall **39** and the reversely bent first portions **42***a* and **43***a* of the respective flaps at each end of the container. This relation is illustrated in FIGURE 12. Referring to this figure, it will be seen that an endwise pressure exerted on the inner centering member **47** by a book will be transmitted to the end portions of the inner wall section **46** and the outer members **48** which, because they extend into the channels defined by the bottom and outer top wall sections **39** and **37** and the first portions **42***a* and **43***a* of the flaps, are protected from lateral collapse.

I claim:

1. A shipping container for books and the like including, in combination, a bottom wall panel, two side wall panels, and an outer top wall panel connected together to form a tubular container of rectangular cross section having open ends, an inner top wall panel lying against the inner side of said top wall panel, means adjacent the ends of said inner top wall panel dividing the panel into sections each foldable inwardly out of the plane of the panel and having a centering member extending normally between the panel and said bottom wall panel and adapted to engage an end of an object within the container to hold the object against endwise shifting with respect to the panels and an outer member lying against the inner side of bottom panel, and flaps secured to the ends of said outer and bottom panels and each having a first portion bent reversely and inwardly in parallel with the adjacent end portion of the associated panel and a transverse portion extending normally between the panels in overlapping relation with each other and said centering members, said outer members and said inner panel having spaced portions straddling said centering members and extending outwardly beyond the members and into the channels defined by the end portions of said outer and bottom panels and said reversely bent first portions of said flaps.

2. A shipping container for books and the like having, in combination, a bottom wall panel, two side panels, and an outer top wall panel connected together and forming a tubular container having open ends, first and second flaps secured to the ends of the respective top and bottom wall panels, said first flap at each end of said container having a first portion bent reversely and into parallelism with the wall section connected to it and a second portion bent laterally, means on said first portion of each of said first flaps defining a slot extending along the junction between the portions of the flap, said second flap at each end of said container comprising a first portion bent reversely and into parallelism with the wall section connected to it and a second portion bent laterally and lying against the outer side of said second portion of the adjacent one of said first flaps, an inner top panel lying against the inner side of said outer top panel and having a centering member bent laterally from the center of each of its end portions and outer members connected to said centering members and lying against said bottom wall, said inner panel and said outer members having spaced portions straddling said centering members and extending outwardly beyond the members and into channels defined by the end portions of said outer and bottom panels and said reversely bent first portions of said flaps, and tabs connected to and projecting beyond the outer and inner edges of each of said second portions of said second flaps and into said slots to hold said flaps in interlocking relation and also into the spaces between said spaced inner panel and outer member portions to engage the latter and prevent edgewise shifting of the top and bottom panels relative to each other.

3. A shipping container for books and the like having, in combination, a bottom wall panel, two side wall panels, and an inner top wall panel hinged together by fold lines to form, upon folding, a tubular container having open ends, an outer top wall panel at least partially overlapping and covering the inner top wall panel, first and second flaps connected to said outer top wall panel and said bottom wall panel at each end of said container and each comprising first and second portions connected to the associated panel and each other by fold lines, means on said first portion of each of said first flaps defining a slot extending along the junction between the two portions of the flap, a tab projecting beyond the free edge of said second portion of each of said second flaps so as to project into the adjacent one of said slots after the portions of first the slotted flap and then the tabbed flap at each end of the container have been folded inwardly to form recessed ends, said first portion of the one of said flaps connected to said outer top wall panel at each of said container ends being folded reversely and inwardly to lie against the inner side of said inner top wall panel.

4. The combination of claim **3** in which all of said panels and flaps are formed as parts of a single sheet of material.

5. The combination of claim **3** in which said inner panel is divided in two sections each connected by fold lines to said side panels, said side panels are connected by fold lines to said bottom panel, and said outer top panel is formed as a part separate from said other panels.

6. A shipping container for books and the like having, in combination, a bottom wall panel, two side wall panels, an inner top wall panel and an outer top wall panel connected together by fold lines and forming a tubular container having open ends with the outer top wall panel overlapping and covering at least a part of the inner top wall panel, two flaps connected to opposite ends of said outer top wall panel and comprising three portions connected to each other by fold lines, each flap being foldable into an open end of the container to form a recessed U-shaped closure for that end of the container with the first flap portion connected to the outer top wall panel and forming one leg of the U extending inwardly and lying against the under side of the inner top wall panel, the second flap portion forming the bottom of the U and extending between the inner top wall panel and the bottom wall panel, and the third flap portion extending outwardly along the upper side of the bottom wall panel to form the other leg of the U, means on each of said first flap portions defining a slot extending therethrough adjacent and parallel to its fold line with the adjacent second flap portion, bottom flaps connected to opposite ends of said bottom wall panel and each comprising two portions, a first of which is connected to said bottom wall panel and the second of which is connected to the first portion by a fold line with a free edge opposite the fold line, each bottom flap being foldable into one of said recessed U-shaped closures at the ends of the carton to form an L-shaped locking means for the closure with the first flap portion foldable inwardly against the third portion of the outer top wall flap to form the upper leg of the L and with the second flap portion foldable against the second portion of the top wall flap to form the base of the L and the outer end wall of the container, and a tab projecting from the free edge of said second portion of each of said bottom flaps and insertable in the slot in the first por-

tion of the adjacent outer top wall flap to lock the U-shaped end closure in place and hold the folded carton together.

7. A shipping container for rectangular objects such as books and the like having, in combination, a bottom wall panel, two side wall panels, and an inner top wall panel hinged together by fold lines and foldable onto the four sides of a rectangular object to form a container having open ends, an outer top wall panel at least partially overlapping and covering the inner top wall panel, first and second flaps connected to said outer top wall panel and said bottom wall panel at the ends of the panels and each comprising first and second portions connected to the associated panel and each other by fold lines, said flaps being foldable inwardly to inner positions to form closed recessed ends for said container with said first portion of one of said flaps connected to said outer top wall panel at each end thereof lying against the inner side of said inner top wall panel, and means for retaining said flaps in said inner positions.

8. The combination of claim 7 in which portions of said inner panel engage said object and are cut from the end portions of such panel and folded reversely onto the panel about fold lines of connection of the portions to the panel, said portions tending to swing away from the panel and against said object due to the resilience of the material forming the panel.

9. The combination of claim 7 in which portions of said inner panel engage said object and are cut from intermediate sections of such panel spaced from the edges of the panel and remain connected to the panel along fold lines paralleling the edges, said portions being foldable into positions normal to the panel.

10. The combination of claim 7 in which said inner top wall panel is divided into sections foldable inwardly out of the plane of the panel and having portions engaging an object within the container to provide a reinforcing layer of material between the inner top wall panel and the object.

11. The combination of claim 7 in which said second portion of said first flap at each end of said container is bent laterally to extend between said top and bottom panels, each first flap includes a third portion extending outwardly in parallelism with the first portion and cooperating with the first two portions to define a channel, said first portion of each of said first flaps is formed with a slot extending along the junction between the portions

of the first flap, said second flap at each end of said container comprises a first portion bent reversely and into parallelism with the wall section connected to it and a second portion bent laterally and lying against the outer side of said second portion of the adjacent one of said first flaps, and tabs are connected to and project beyond the outer edges of each of said second portions of said second flaps and into said slots to hold said flaps in interlocking relation while providing recesses at both ends of the container.

12. The combination of claim 7 in which said second portion of said first flap at each end of said container is bent laterally to extend between said top and bottom panels, each of said first flaps includes a third portion extending outwardly in parallelism with the first portion and cooperating with the first two portions to define a channel, said first and third portions of each of said first flaps are formed with slots extending along the junction between such portions and said second portion of the first flap, said second flap at each end of said container comprises a first portion bent reversely and into parallelism with the wall section connected to it and a second portion bent laterally and lying against the outer side of said second portion of the adjacent one of said first flaps, and tabs are connected to and project beyond the outer and inner edges of each of said second portions of said second flaps and into said slots to hold said flaps in interlocking relation.

13. The combination of claim 7 in which the flaps on one of said walls form a U-shaped closure and support member at each end of the carton when such flaps are folded to said inner positions, one leg of each of said U-shaped closure members is formed with a slot extending therethrough, the flaps attached to the other wall are folded into said recessed U-shaped closures to form L-shaped locking members for each closure, and each L-shaped flap has a tab on its end insertable into the slot in the U-shaped closure member to lock the carton together.

References Cited by the Examiner

UNITED STATES PATENTS

1,973,209 9/1934 Hooker ---------- 229—37 X

FOREIGN PATENTS

485,831 8/1952 Canada.

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