Sept. 25, 1962 R. H. JOHNSON 3,055,574

BOOK MAILING FOLDER

Filed Aug. 1, 1961 3 Sheets-Sheet 1

Fig. 2.

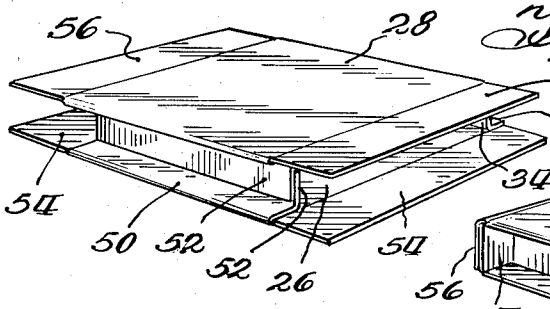


Fig. 3.

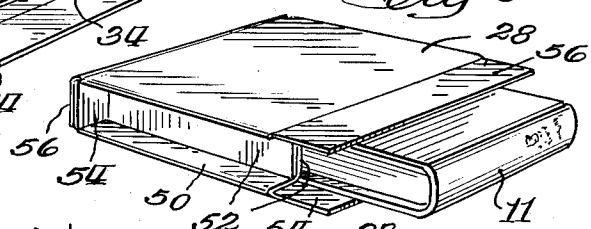
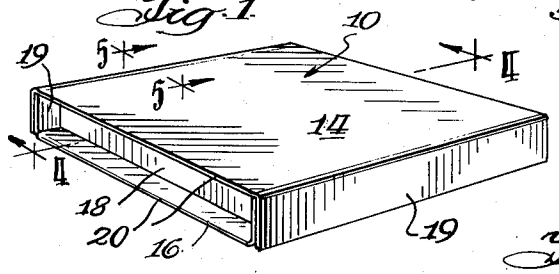


Fig. 1.



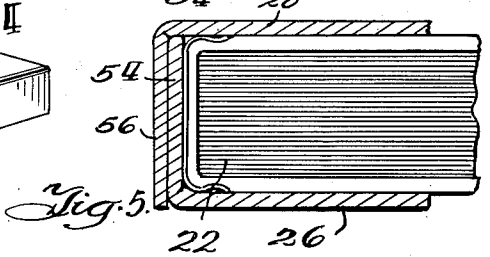


Fig. 5.

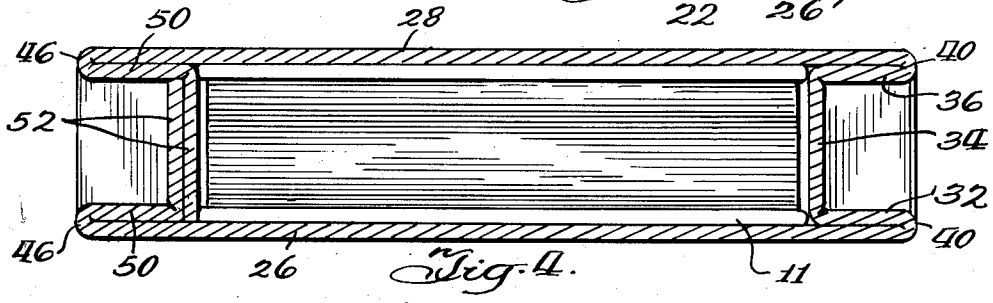


Fig. 4.

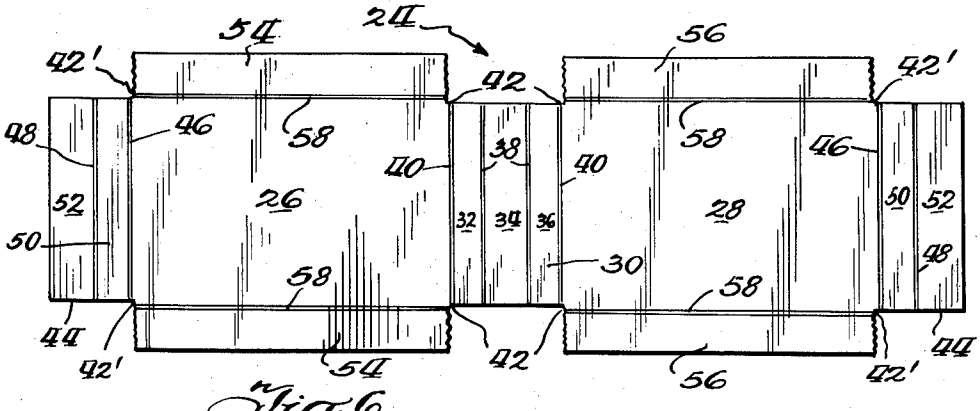


Fig. 6.

INVENTOR.
Richard H. Johnson
BY
Silverman, Mullin & Cox
attorneys

Sept. 25, 1962 R. H. JOHNSON 3,055,574

BOOK MAILING FOLDER

Filed Aug. 1, 1961 3 Sheets-Sheet 2

Fig. 7.

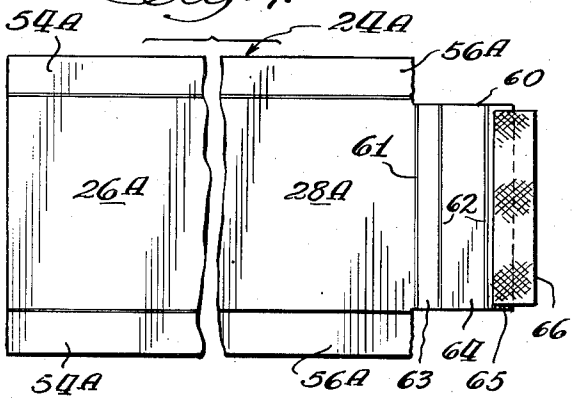


Fig. 8.

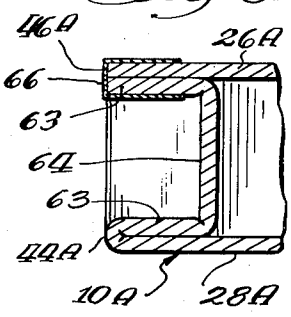


Fig. 9.

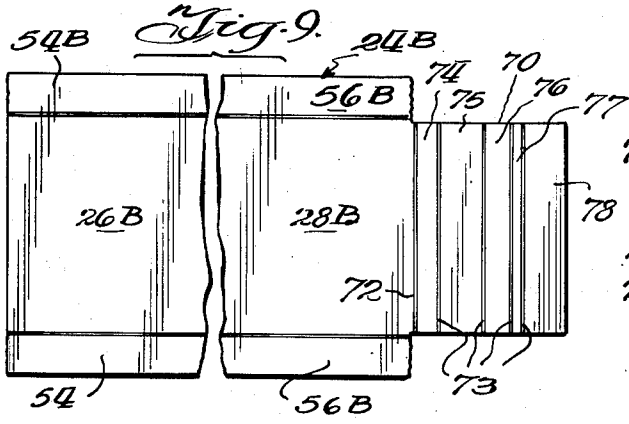


Fig. 10.

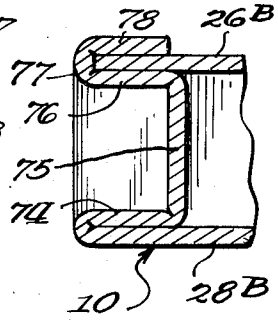


Fig. 11.

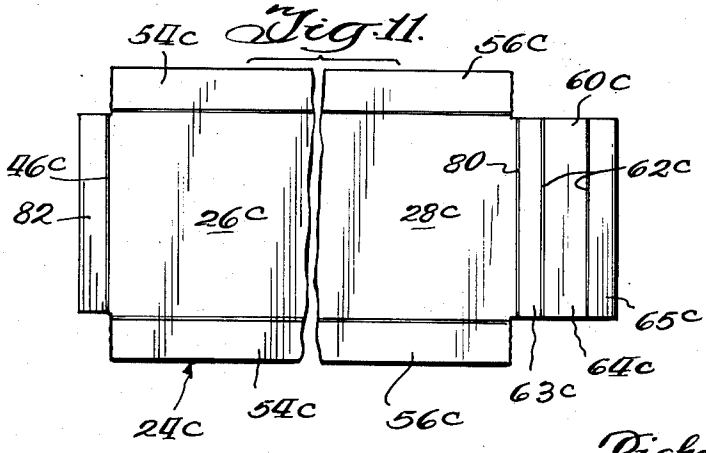
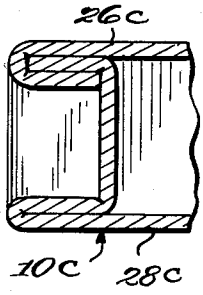


Fig. 12.



INVENTOR.
Richard H. Johnson
BY
Silverman, Mullin & Cass
attorneys

Sept. 25, 1962 R. H. JOHNSON 3,055,574

BOOK MAILING FOLDER

Filed Aug. 1, 1961 3 Sheets-Sheet 3

Fig. 15.

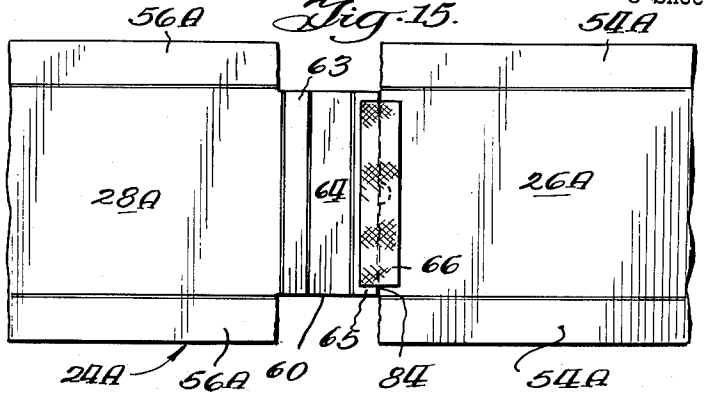


Fig. 14.

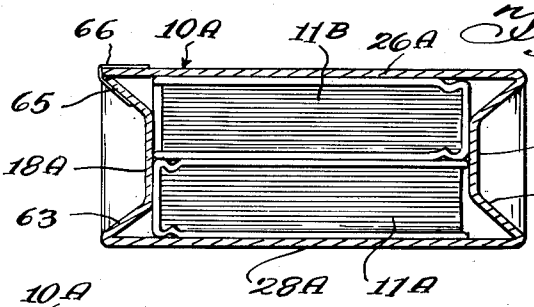


Fig. 13.

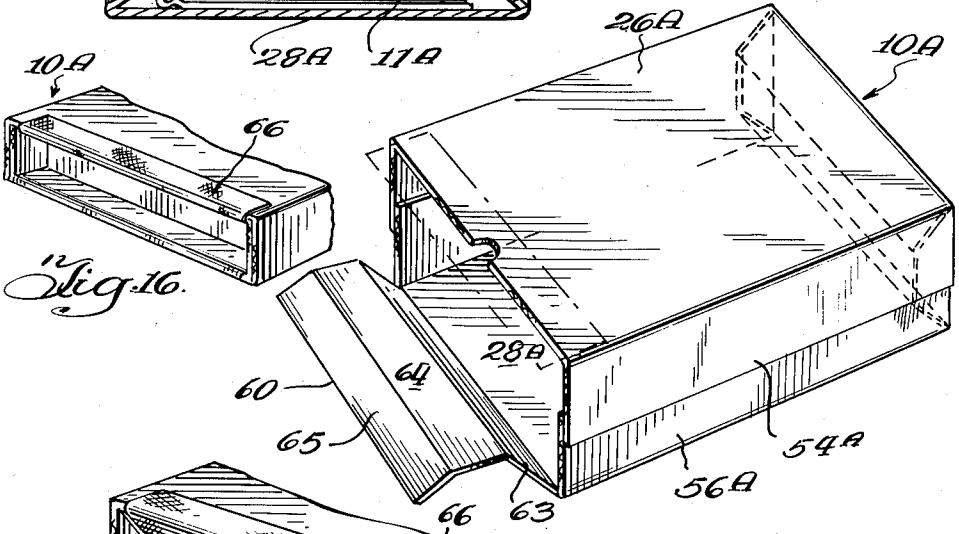
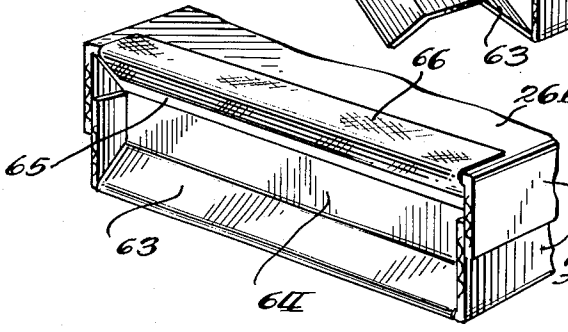


Fig. 16.

Fig. 17.



INVENTOR.
Richard H. Johnson
BY
Silverman, Mullin & Cass
Attorneys

United States Patent Office 3,055,574 Patented Sept. 25, 1962

3,055,574

BOOK MAILING FOLDER

Richard H. Johnson, Arlington Heights, Ill., assignor to Stone Container Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 1, 1961, Ser. No. 128,513
6 Claims. (Cl. 229—40)

This invention relates generally to paperboard containers and more particularly, relates to an improved carton or folder constructed from a single, integral blank which is especially suitable for mailing articles, such as books.

Heretofore, mailing folders or cartons of the general type with which the invention is concerned have been less than satisfactory in availing the optimum advantages and features desired for such a structure. Many such previous cartons have been excessively complicated and hence, expensive, to manufacture by means of high speed production techniques by reason of the intricate panel and flap arrangements employed. Other cartons, although of a lesser degree of complicated structure have been constructed for packaging of a particular article of predetermined size and shape and did not permit variation in the thickness of the package for accommodating articles of different size and/or shape. Further, previous carton structures were not capable of repeated use, such as, for instance, for return of a book by a purchaser, because their construction did not permit the carton to be opened readily without mutilating or destroying either the entire carton or flap portions thereof so as not to permit the carton to be re-sealed conveniently. Another disadvantage of previous mailing cartons was the failure to provide structure for adequate protection for the packaged book, for instance, during mailing and handling of the carton as a result of which it was not uncommon to have corners and edges of the book distorted and mutilated during shipment.

Accordingly, it is a primary object of the invention to provide a carton or folder of the character described which can be assembled from a relatively simple and economical paperboard blank and which is characterized by a construction capable of substantially eliminating the disadvantages enumerated hereinabove, as well as others not specified.

A major object of the invention is to provide a folder or carton for shipment of books or other articles of similar size and proportions by mailing, for instance, which comprises a sleeve of rectangular cross-section having a pair of opposite side walls normally open and adapted to be closed for packaging of the article and opposite end walls, or webs, of generally square-pleated construction adapted to be collapsed toward the packaged article, said end walls functioning to center the article in the package when so collapsed and providing cushioning means for protecting the article during shipment thereof.

Another important object of the invention is to provide a carton of the character described having said opposite side and end walls, or webs selectively expandable one relative to the other to permit limited variation in the thickness of the carton.

Another object of the invention is to provide a carton of the character described which can be sealed in a manner permitting the carton to be opened readily without

mutilating or damaging the same so that the same carton can be used repeatedly.

Another important object of the invention is to provide a carton of the character described that is formed from a pre-formed integral blank of corrugated paperboard or the like, said blank adapted to be folded to a first stage of assembly in which the opposite end walls of the carton are closed and the opposite side walls are open and the carton thus assembled can be flattened for convenient and economical storage and shipment prior to use thereof, and which can be erected to a second stage of assembly readily and rapidly for inserting the article therein and sealing of the carton for mailing, for instance.

Another important object of the invention is to provide an integral pre-cut paperboard blank capable of being folded and assembled to form the carton or folder having the advantages herein enumerated.

Other important objects of the invention are to provide a carton of the character described which is economical to manufacture and use, which is sturdy, compact and easily handled, which not only centers the book in the carton but also prevents the same from being jostled about during shipment or mailing, and which provides for easy access thereinto both for packaging and removal of the article.

The foregoing and other objects of the invention will become apparent as the disclosure herein evolves. A preferred embodiment, as well as desirable modifications permitted by principles of the invention, have been described in detail in the specification and illustrated in the accompanying drawings. It is contemplated that minor variations may occur to the skilled artisan without departing from the scope or sacrificing any of the advantages of the invention.

In the drawings wherein the same characters of reference have been employed to identify the same or equivalent parts throughout the several figures thereof:

FIG. 1 is a perspective view of the carton or folder embodying the invention fully assembled and sealed with a book, for instance, packaged therein.

FIG. 2 is a perspective view of said folder in a partial condition of assembly with the side walls thereof open and FIG. 3 is a view similar to FIG. 2 showing a book in the process of being inserted into the partially assembled folder.

FIG. 4 is a sectional view taken through the folder along the line 4—4 of FIG. 1 and in the direction indicated generally.

FIG. 5 is a fragmentary sectional view taken through the folder along the line 5—5 of FIG. 1 and in the direction indicated generally.

FIG. 6 is a plan view of the integral blank from which the folder or carton of FIG. 1 is assembled.

FIG. 7 is a fragmentary plan view of a modified form of an integral blank for assembling a modified form of folder embodying the invention and FIG. 8 is a fragmentary sectional view taken vertically through said modified form of folder to illustrate the resulting alternative collapsible end wall, or end web structure thereof.

FIG. 9 is a fragmentary plan view of another modified form of integral blank for assembling another modified form of folder embodying the invention and FIG. 10 is a fragmentary sectional view taken through said modified

folder to illustrate the resulting alternative collapsible end wall, or end web structure thereof.

FIGS. 11 and 12 are views similar respectively to views 7 and 8, and showing another modified form of blank and modified carton resulting therefrom.

FIG. 13 is a perspective view of a folder embodying the invention assembled to an expanded condition for packaging a book, for instance, which has more pages than the book shown in FIGS. 3 and 4.

FIG. 14 is a vertical sectional view taken through the folder of FIG. 13 in which books have been packaged.

FIG. 15 is a fragmentary plan view of a blank from which a folder embodying the invention can be assembled.

FIG. 16 is a fragmentary perspective view looking toward a collapsible end wall, or end web structure of the carton illustrated in FIG. 8 and showing the use of a peelable adhesive tape which permits opening of the carton without mutilating the same.

FIG. 17 is a fragmentary perspective view looking toward a collapsible end wall, or end web structure of the carton of FIG. 13 and showing said peelable adhesive tape employed for a similar purpose.

Reference character **10** in FIG. 1 designates generally a carton or folder embodying the invention completely assembled and sealed with an article packaged therein. The packaged article may comprise a book **11**, as seen being inserted in the carton in FIG. 3, although the carton may be used advantageously for packaging of some other article or articles. Said carton or folder **10** is comprised of a rectangular sleeve formed of a suitable paperboard material having a pair of parallel walls **14** and **16** forming the top and bottom walls of the folder respectively, opposite end walls, such as the end wall **18** and opposite side walls **19**. Each of the end walls **18** is recessed or offset inwardly relative to the corners **20** of the sleeve and are hingedly connected to the walls **14** and **16** along said corners **20** so as to permit collapse of the carton into an end wall structure that may be characterized as a square pleat. The folder can be assembled to a preliminary stage wherein at least one of the side walls is open so as to permit insertion of an article, such as book **11**, between the end walls **18** into the folder and the folder sealed thereafter. The recessed or inwardly offset end walls **18** engage the article **11** with said article protected by the outwardly protruding corners **20** of the sleeve during mailing or shipment of the package **10**.

Referring to FIG. 6, the carton **10** preferably can be assembled from a simple, integral sheet or blank **24** of paperboard material such as corrugated board, pressed board or the like which may be stamped or die-cut advantageously from a continuous web of sheet material passed at high speed through automatic punch press equipment. Blank **24** is comprised of a pair of rectangular panels **26** and **28** of substantially identical size. The panels **26** and **28** are conjoined end to end by an end wall formation **30** which is doubly crossed by parallel folds at **38** and therefore is comprised of three strips **32**, **34** and **36** connected side by side. The strips **32** and **36** are substantially identical in width and narrower than the strip **34**, the strip **34** being located between the outer strips **32** and **36** and connected to adjacent edges thereof along fold lines **38**. Each strip **32** and **36** is hingedly connected to a panel **26** and **28** respectively along the fold line **40**. Considering the length of the blank **24** to be from left to right in FIG. 6, the width of wall portion **30** is slightly less than the width of a panel **26** or **28**. Each panel **26** and **28** is notched at the corner **42** thereof adjacent the connection of said panel with the end wall formation **30**.

Each panel **26** and **28** has an identical end flap **44** hingedly connected thereto along the fold line **46**. Each end flap **44** has a transverse score line **48** entirely across the same dividing the end flap into a pair of strips **50** and **52**. Dimension-wise, strip **50** of each end flap **44** is identical to strip **32** or **36** and strip **52** is identical to strip **34**. Each panel **26** and **28** has its opposite corners **42'** notched in the same manner as described for corners **42**.

Each panel also has a pair of side flaps **54** and **56** respectively hinged along opposite longitudinal edges **58** thereof, said side flaps each being equal in width to the width of strip **34** or **52**. The side flaps extend continuously between opposite notched corners **42** and **42'** of the panels **26** and **28**.

The carton **10** is represented in two stages of assembly thereof in FIGS. 2 and 3 respectively, each stage of assembly being accomplished by selective folding of the blank **24** and securing certain portions thereof together, as will now be explained. Initially, the blank of FIG. 6 is folded transversely along a fold line **40**, for instance, to superimpose the panels **26** and **28** one over the other and to bring the end flaps **44** together in close proximity. Thus, the panel **26** becomes the bottom wall **16** and the panel **28** becomes the top wall **14** of the carton. The strips **52** of adjacent end flaps **44** then can be secured together in face-to-face contact preferably by any suitable adhesive or mechanical fastener, if desired, to become one of the end walls **18** of the folder **10**. The end wall portion **30** becomes the opposite end wall **18** of the carton and is identical in proportions to the end wall formed by conjoined end flaps **44** with the exception of the connected strips **52**. The flaps **54** and **56** need not be secured together at this point in the assembly of the folder.

At this stage of assembly, the carton can be flattened out by collapsing the end walls along the lines of fold **40** and **46** so that the panels **26** and **28** are engaged face to face but, laterally displaced one relative to the other. Thus, the flattened carton can be stored and shipped conveniently to users thereof in this flattened condition which has not been illustrated specifically because of the readily understood nature thereof.

To load the carton, the flattened, partially assembled blank is opened by spreading the walls **14** and **16** apart the fullest extent permitted by the end wall structures. The book **11** can be inserted into the carton through one of the open side walls thereof and the panels **26** and **28** moved one toward the other to callapse the end walls of the carton to the condition thereof shown in FIGS. 2 and 3. The strips **34** and **52** are recessed and normal to panels **26** and **28**. With the book on the interior of the carton, collapsing of the end walls will result in the median strip **34** and strips **52** engaging the book and centering the same in the carton.

Another manner of packaging the book in the carton is first to collapse the same to the condition thereof shown in FIG. 3 wherein one pair of side flaps **54** and **56** has been secured together while the other pair of side flaps is not secured together leaving one side wall of the carton open. The book can then be inserted into the carton through the open side wall thereof as illustrated in FIG. 3. Thereafter, the carton can be sealed by bringing the side flaps **54** and **56** together face-to-face and securing them by suitable means.

Referring to FIGS. 7 through 12, three modified forms of the invention are illustrated, the integral blanks from which each such carton is formed being identified respectively by the reference characters **24A**, **24B** and **24C**. Portions of each of said modified blanks equivalent to blank **24** will be identified by like reference characters but including the alphabetical character assigned to the particular modified form.

The blank **24A** in FIG. 7 is comprised of a pair of end-to-end connected panels **26A** and **28A** each having side flaps **54A** and **56A**. The panels **26A** and **28A** are connected by an end wall formation (not shown) identical to end wall formation **30** of blank **24**. However, one of the panels, such as panel **26A**, does not have an end flap. The other panel **28A** has an end flap **60** hinged thereto along score line **61** having a pair of transverse score lines **62** dividing the flap **60** into three strips **63**, **64** and **65**. The strips **63** and **65** are identical and the strip **64** is lo-

cated between the two other strips and normally is wider. Also, the width of strip **64** is similar to a flap **54A** or **56A**.

In FIG. 8, the reference character **10A** represents the carton assembled from the blank **24A**. The carton **10A** can be assembled in the manner discussed in connection with carton **10**. The major difference between carton **10A** and carton **10** is in the end wall structure afforded by flap **60**. The strip **64** is recessed relative to the corners **46A** and the strip **63** is secured to the panel **26A** forming the upper wall of the carton by means of an adhesive coated band or tape **66**. The adhesive tape **66** is coated on one side thereof by an adhesive selected to permit the tape to be peeled readily from the juncture of strip **63** and panel **26A**. Thus, the carton **10A** can be opened conveniently without mutilating same and used repeatedly merely by resealing same with another piece of adhesive tape. The closed end wall is shown in FIG. 16 also.

The blank **24B** seen in FIG. 9 is substantially the same as blank **24A** with the exception of the end flap **70** hingedly connected to the panel **28B** along fold line **72**. The end flap **70** is traversed by four fold lines **73** selectively spaced apart to provide the strips **74, 75, 76, 77** and **78**. The strip **75** becomes the recessed end wall of the carton **10B** seen in FIG. 10 when blank **24B** is assembled. Strip **73** is engaged against panel **28B** and strip **76** is engaged against panel **26B**. The strip **77** is folded around the edge of the panel **26B** and the strip **78** is engaged on the outside surface of panel **26B** and may be secured thereto by suitable adhesive or by mechanical fasteners, such as metal staples.

In FIG. 11, the blank **24C** is provided with an end flap secured to each of the panels **26C** and **28C**. The end flap **60C** secured to panel **28C** along fold line **80** is substantially identical to end flap **60** of FIG. 7. The end flap **82** is the same as a strip **50** of FIG. 6. Upon assembling the blank **24C** to form carton **10C**, the end wall resulting from juncture of flaps **60C** and **82** has the flap **82** folded around the edge and against the underside of panel **26A** to which it may be secured adhesively.

Referring to FIGS. 13 through 17, the folder designated **10A** in FIG. 13 is assembled from the blank **24A** shown in a partially assembled condition in FIG. 15. The partially assembled blank **24A** has been folded to a condition whereby the end flap **60** can be secured to the panel **26A** by means of the tape **66**. Note that the outer edge of the strip is spaced from the adjacent edge of the panel **26A** as indicated by the line **84**. Thus, the folder can be flattened and shipped in this partially assembled condition with side flaps **54A** and **56A** not secured together.

However, it will be noted that the carton **10A** has been assembled to a condition wherein the distance between the top and bottom walls thereof is greater than that shown for carton **10**. In the expanded condition, the carton **10A** can hold two books **11A** and **11B** the combined thickness of which is greater than that of book **11**. As seen in FIG. 14 where the books **11A** and **11B** are in the carton, the end walls **18A** are expanded, that is to say, the strip portions **63** and **65** are inclined respectively relative to the top and bottom walls of the carton. The same is true for corresponding parts of the opposite end wall portion **30A**. The side flaps **54A** and **56A** overlap, as seen in FIG. 13, however, they are not in entire face-to-face contact. The side flaps can be secured together by adhesive in desired displaced relationship one relative to the other to accommodate articles of greater thickness, such as the books **11A** and **11B**.

To open the carton, the tape **66** is stripped from the juncture of flap **60** with panel **26A** and the flap **60** pulled out from between panels **26A** and **28A**, as seen in FIG. 13. To close the carton again, the flap **60** is replaced between said panels **26A** and **28A** and a band or tape **66** replaced at the juncture of panel **26A** and the flap **60**, as seen in FIG. 17.

It is believed that the invention has been described in sufficient detail to enable the skilled artisan to understand and practice the same. The invention has been pointed out carefully in the claims hereto appended in language intended to be broadly construed commensurate with the contribution to the arts and sciences made thereby.

What it is desired to secure by Letters Patent of the United States is:

1. A shipping folder for a book or the like article comprising, an open-ended sleeve formed of a pair of rectangular panels adapted to be spaced one from the other in parallel relation to accommodate such article therebetween, the rectangular panels of said pair having first opposite edges and second opposite edges, a pair of rectangular and relatively flexible webs, each interconnecting the juxtaposed first edges of the panels, respectively, to define said sleeve with said panels and each web having two parallel folds to provide two outer web strips and a median strip, the outer strip of each web making a hinged connection with a juxtaposed one of said panel edges, and the median strip of each web being arranged to move inwardly as the panels are moved toward one another for collapsing said webs, and the second opposite panel edges having flap means adapted to close off the open ends of the sleeve and confine an article disposed in said folder.

2. A folder as set forth in claim 1 wherein at least one web of said pair is conjoined to one of the first edges of one of said rectangular panels.

3. A folder as set forth in claim 1 wherein at least one web of said pair is integral with both rectangular panels of said pair.

4. A folder as set forth in claim 3 wherein the remaining web of said pair is integral with at least one rectangular panel of said pair.

5. A shipping folder for a book or the like article comprising, an open-ended sleeve formed of a pair of rectangular panels adapted to be spaced one from the other in parallel relation to accommodate such article therebetween, the rectangular panels of said pair each having first opposite edges and second opposite edges, a pair of rectangular webs, each web of said pair having first opposite edges substantially corresponding in length to the juxtaposed first edges of said rectangular panels, the first opposite edges of each web being hingedly connected with corresponding first edges of said panels, said webs, further, each comprising two folds, mutually parallel and parallel with the hinged connection to said rectangular panel opposite edges, thereby to define first and second outer web strips each for hinged connection to one first edge of opposite ones of said rectangular panels and a median web strip hingedly connected to both said outer web strips along said folds, respectively, whereby both said median web strips are movably freely in a direction parallel to the plane of said panels for collapsing and expanding said webs in response to movements of said panels toward and away from one another, and flap means hingedly associated with each of the second opposite edges of said rectangular panels for closing the corresponding ends of said sleeve and confining an article disposed therein.

6. A shipping folder for a book or like article formed of a single blank of foldable material comprising, first and second like rectangular panels, each having first and second pairs of opposite edges, first and second like rectangular webs each having a first and a second pair of opposite edges, the opposite web edges of said first edge pair corresponding in length to the opposite panel edges of said panel first pair, said last named web and panel edges being adapted for hinged connection, the webs, each, further having two folds parallel to the opposite web edges of said first pair to define three web strips of like extent, a median strip and two outer strips, the outer

strips being hingedly connected to said median strip and being respectively adapted for hinged connection to the juxtaposed first pair edges of said first and second panels, and plural flap means respectively connected foldably to the panel edges of said second pairs, whereby hinged folding of said panels and said webs will establish an open ended sleeve having one dimension variable in correspondence with hinged movement of said median strips, and adapted to be closed at opposite ends upon folding of said flap means over the open ends of said sleeves.

References Cited in the file of this patent

UNITED STATES PATENTS

1,112,042	Ullman	Sept. 29, 1914
1,254,692	Hofman	Jan. 29, 1918
1,414,236	Walmsley	Apr. 25, 1922
2,476,564	Rosen	July 19, 1949
2,591,882	Shirley	Apr. 8, 1952

FOREIGN PATENTS

239,469	Switzerland	Jan. 16, 1946