April 30, 1968 R. A. SORENSEN ETAL 3,380,643

SHIPPING CARTONS

Filed Feb. 25, 1966 2 Sheets-Sheet 1

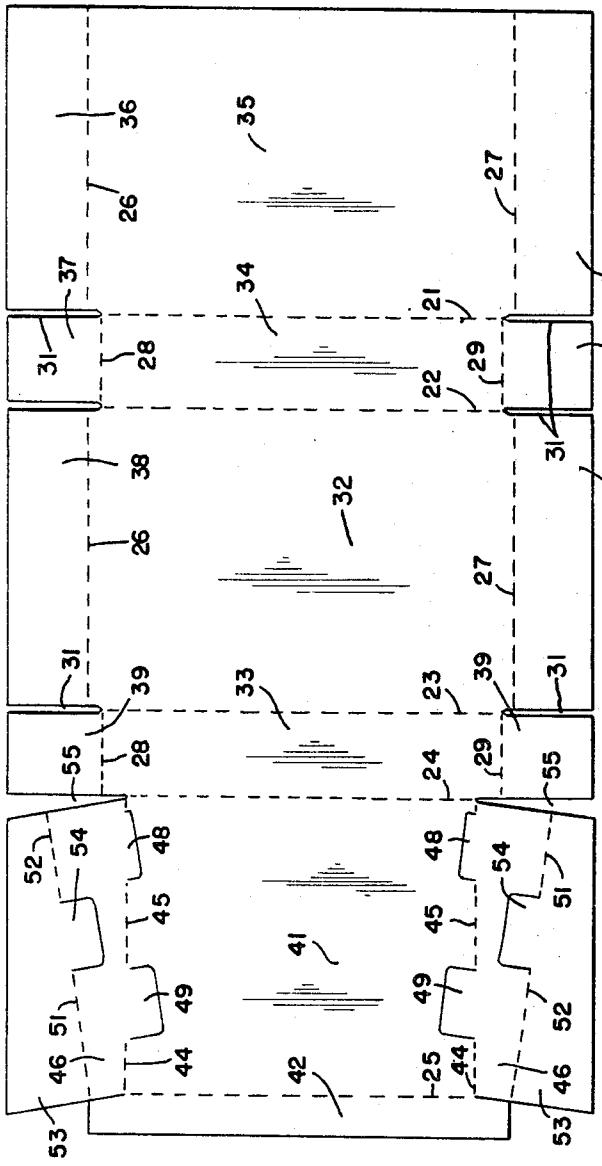


FIG. 1

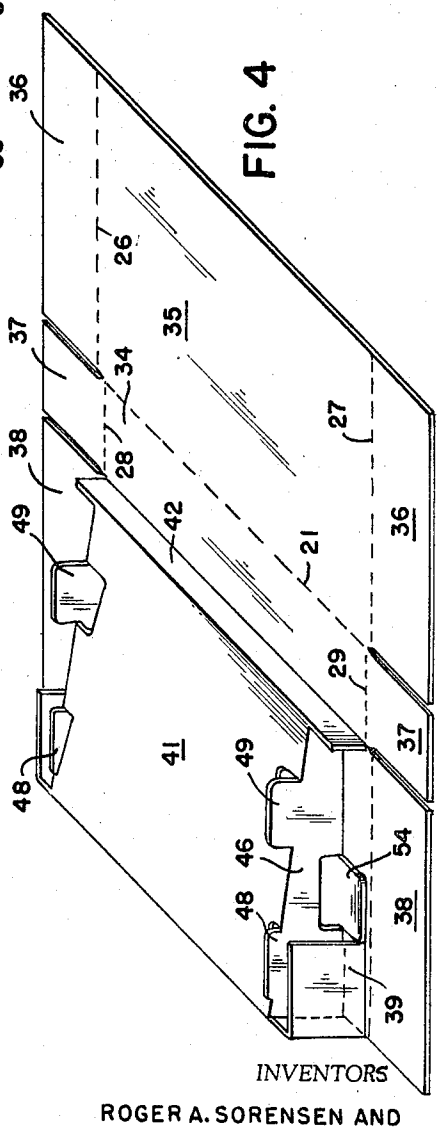


FIG. 4

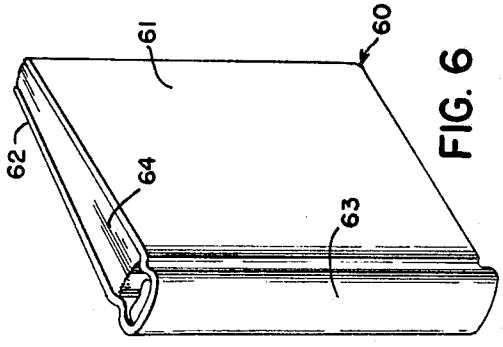


FIG. 6

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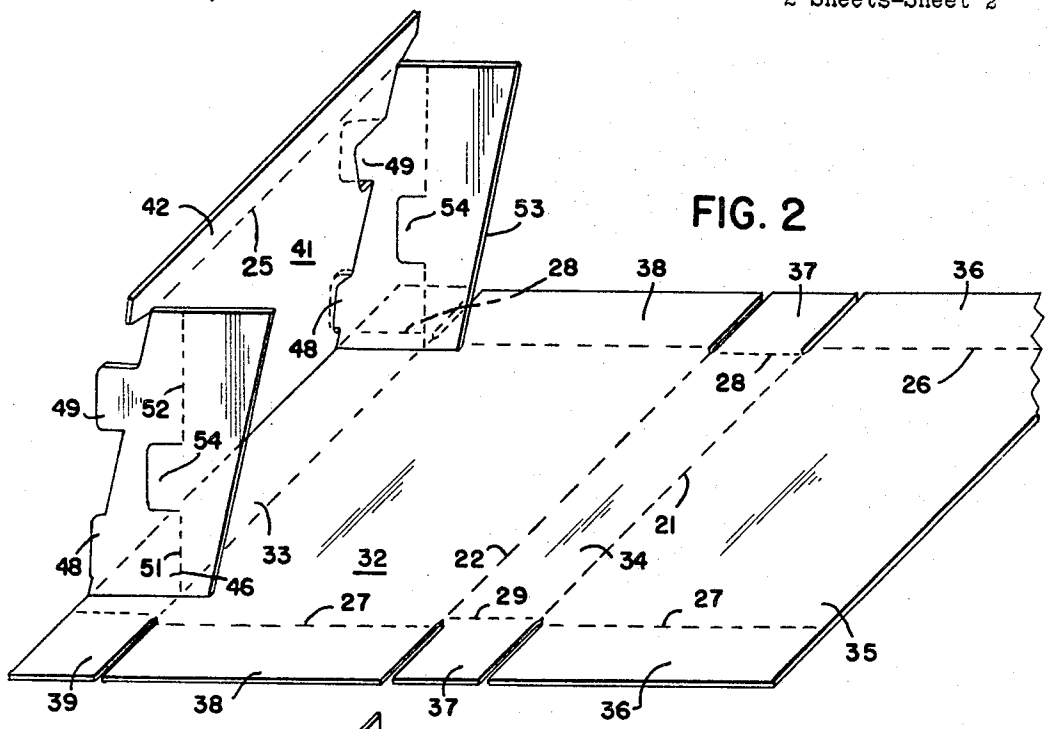


FIG. 2

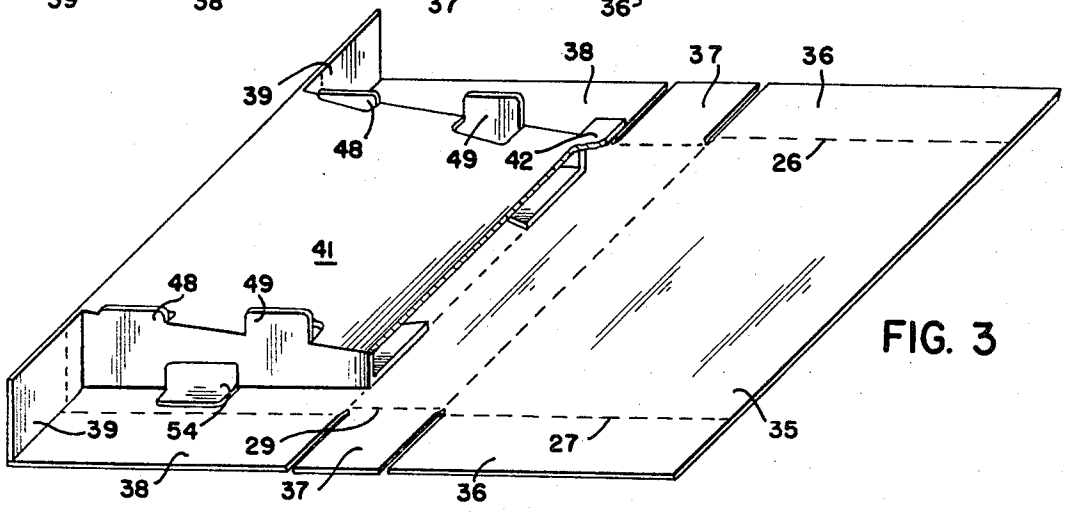


FIG. 3

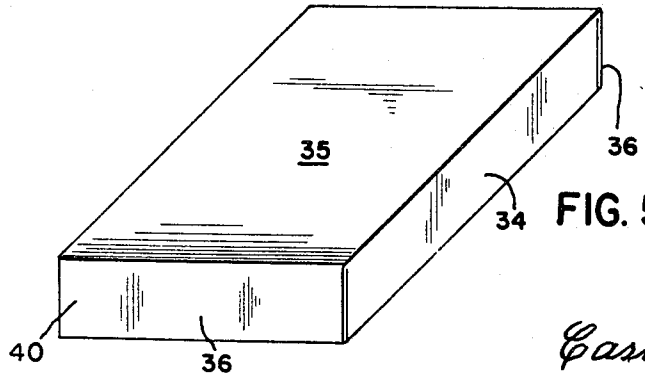


FIG. 5

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3,380,643
SHIPPING CARTONS

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8 Claims. (Cl. 229—40)

ABSTRACT OF THE DISCLOSURE

A rectangular shipping carton for the reception of a book thicker at the spine than at the front thereof having a top within the carton forming with the bottom a wedge-shaped space for the reception of the book and having end walls disposed inwardly from the ends of the carton to protect the ends of the book, together with struts formed from said top and pads formed from said flanges for holding the top and end walls in position and constructed from a blank no wider throughout its length than the length of the cover plus the combined width of the ends of the carton.

The herein disclosed invention relates to shipping cartons for books and especially for books in which the book is thicker at the spine than at the front thereof.

An object of the invention resides in providing a carton in which the book is held from opening up or shifting when packaged in the carton and in which protection is provided for the edges of the cover of the book.

Another object of the invention resides in constructing the carton from foldable paper material such as corrugated board and in utilizing a blank forming a rectangular structure having a bottom, ends, sides and a cover together with a top hingedly connected to one of said sides and disposed between said bottom and cover.

A still further object of the invention resides in providing a carton in which the top inclines downwardly from the side to which it is connected toward the bottom to conform to the shape of the book.

An object of the invention resides in providing means for holding the top in inclined position.

An object of the invention resides in constructing the carton from a blank of no greater width throughout its length than the length of the bottom and the end flanges issuing therefrom so as to economize on material.

Another object of the invention resides in providing flanges at the ends of the top, in the shape of a trapezium and spaced from the end walls of the carton.

A still further object of the invention resides in constructing said flanges with struts engaging the cover of the carton to cause said cover to closely overlie the book.

A feature of the invention resides in providing pads issuing from the flanges and overlying the bottom of the carton and on which the book rests.

An object of the invention resides in providing struts issuing from said pads and engaging the end walls of the carton for holding the flanges on the top in position adjacent the end walls of the book.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described.

In the drawings:

FIG. 1 is a developed view of the blank from which the carton is constructed.

FIG. 2 is a perspective view showing the parts in partly folded position.

FIG. 3 is a perspective view showing the parts further folded.

FIG. 4 is a perspective view showing the parts ready for application of the cover thereto.

FIG. 5 is a perspective view of the completed carton.

FIG. 6 is a perspective view of a book adapted to be packaged in the carton.

The blank C from which the carton is constructed is shown in FIG. 1 in developed form. This blank may be constructed of corrugated board or any other similar, suitable material. This blank is formed with five transverse scores **21**, **22**, **23**, **24**, and **25** which are intersected by longitudinal scores **26**, **27**, **28** and **29**. Kerfs **31** are formed in the marginal portions of the blank extending through the lateral edges of the same. These kerfs are in alignment with the scores **21**, **22**, and **23** and extend up to the scores **26**, **27**, **28** and **29**. By means of this construction a number of panels are formed which when the carton is erected serve as a base **32**, sidewalls **33** and **34** and a cover **35**. In addition flanges **36**, **37**, **38** and **39** are provided at the ends of the base **32**, which, when the parts are folded together, form endwalls **40** for the carton.

Hingedly connected to the sidewall **33** by virtue of the score **24** is a top **41** which has a flange **42** formed by means of a transverse score **25** in the blank. In addition to the score **25** aligning scores **44** and **45** are formed in the blank inwardly of the scores **28** and **29** and longitudinally spaced from one another. By means of this construction flanges **46** are formed which lie parallel to the flanges **36** and **38** and inwardly spaced therefrom when the structure is folded as shown in FIG. 3. Between the scores **44** and **45** are formed in the top **41** cut-outs **48** and **49** which are integral with the flanges **46**, and which extend upwardly therefrom and serve as struts. In addition two scores **51** and **52** are formed in the flanges **46** which provide pads **53** adapted to be folded along said scores to overlie the bottom **32** when the parts are folded as shown in FIG. 3. Cut-outs **54** formed in the flanges **46** are integral with the pads **53** and serve as struts which meet the flanges **38** and the bottom **32** to hold the flanges **46** in erected position. At the ends of the flange **42** and outwardly of the scores **24** and **25** and extending up to the scores **44**, the corners of the blank are completely removed. At the scores **24** and outwardly of the scores **28** and **29** kerfs **55** are provided which are V-shaped in form and which terminate at the scores **45**.

For the purpose of explaining the manner of using the invention a book **60** has been shown in FIG. 6 which might be used with the invention. This book happens to be a loose leaf ring book indicated by the reference **60** and has a cover **61** provided with boards **62** and a spine **63** to which the boards **62** are hingedly connected. Rings not shown are carried by the spine **63** and support the leaves **64**.

The blank C is first laid flat upon a horizontal surface and the top **41** folded upwardly along the score line **24** as shown in FIG. 2. The two flanges **46** are then folded inwardly along the scores **44** and **45** until the same are parallel with one another. The book **60** is then placed within the spine **63** resting on the flange **33** of blank C and with one of the side boards resting against the top **41**. The pads **53** are then folded inwardly along the scores **51** and **52** until they envelope the book. The structure so folded is next folded along score **23** bringing the pads **53** into position as shown in FIG. 3. Flange **42** is then folded along score **43** until the same overlies a portion of the front of the book as shown in FIG. 4. With the pads so arranged, the struts **48** and **49** being integral with the flanges **46** extend upwardly. The struts **54** being integral with the pads **53** lie along the bottom **32** and extend outwardly to the scores **26** and **27**. Flanges **39** are next folded inwardly as shown in FIG. 4 and the flanges **38** folded upwardly to overlie the flanges **39**. The flanges **37**

and 34 are next folded upwardly and the cover 35 folded along score 21 and caused to overlie the top 41. Flanges 36 are then folded downwardly and overlie the flanges 37 and 38. The parts are then arranged as shown in FIG. 5. By means of adhesive tape the parts may be held together in assembled relation. The struts 48 and 49 are of such height as to engage the cover 35 and hold the top 41 in fixed position between the base 32 and the cover 35.

The advantages of the invention are manifest. The carton holds the book in rigid position, prevents movement of the book within the same. By having flanges on the top 41 spaced from the end walls 39, injury to said walls will not be transmitted to said flanges and the book protected at its head and tail ends. The forward portion of the book is protected by the flange 42 while the pads 53, in addition to supporting the book on one of its boards, serves to hold the flanges 46 in proper position. By using the cut-outs for the struts on the flanges 46 the carton need be no wider than the width of the blank across the top 35 and the flanges 36, thus economizing in the use of carton stock. The carton is extremely rigid and capable of withstanding rough usage and the book is held in fixed relation to the same.

Changes in the specific form of the invention, as herein described may be made within the scope of what is claimed without departing from the spirit of the invention.

Having described the invention, what is claimed as new and desired to be protected by Letters Patent is:

1. In a rectangular shipping carton of uniform thickness for a bound book thicker at its back than at the front thereof, said carton being constructed from a blank of foldable paper material having a bottom, rectangular side and end flanges, foldable outwardly therefrom, a cover hingedly connected to the upper edge of one of said side flanges and means cooperating with said end flanges and carried by said cover to form end walls for said carton, the combination of:

(a) a top hingedly connected to the upper edge of said other side flange and disposed between said bottom and cover, to form a wedge-shape space between said top and bottom for the reception of the book and a similar angular space between said top and cover,

(b) end flanges on the top, depending therefrom and limiting the endwise movement of the book, and

(c) means on the end flanges of said top for limiting movement of the top away from the book and toward said cover.

2. A shipping carton in accordance with claim 1 in which:

(a) the means for limiting movement of the top away from the book comprises struts formed from the material of said top and issuing upwardly from the end flanges of said top and engageable with said cover.

3. A shipping carton in accordance with claim 1 in which:

(a) the flanges issuing from the top are spaced from the end flanges issuing from the bottom to space the end portions of the book from the end walls of the carton, and

(b) means on said top end flanges for holding the top flanges in position relative to the end walls of the carton.

4. A shipping carton in accordance with claim 1 in which:

(a) pads are formed on the lower edges of the end flanges of the top, which rest on the bottom of the carton and on which the book is disposed.

5. A shipping carton in accordance with claim 4 in which:

(a) struts are formed from the material of the end flanges issuing from the top and issuing outwardly from said pads and engaging the end walls of the carton.

6. A shipping carton in accordance with claim 1 in which:

(a) said top is provided with a flange depending from one side thereof and lying adjacent the flange to which cover is hinged to form a pad which the front of the book may engage.

7. A shipping carton in accordance with claim 5 in which:

(a) the end flanges on said bottom are disposed innermost, and

(b) the struts on said pads engage the end flanges on said bottom.

8. A shipping carton in accordance with claim 1 in which:

(a) the top inclines downwardly from the side flange from which it issues to conform to the shape of the book.

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