# United States Patent [19]

**Growney**

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[54] **STORY BOOK CARTON LOCKING ASSEMBLY**


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[52] **U.S. Cl.**..... **206/45.11**, 206/45.14, 206/457, 229/39 R

[51] **Int. Cl.**..... **B65d 5/50**

[58] **Field of Search**..... 206/45.11, 45.14, 45.17, 206/45.19, 46 FR, 65 R, DIG. 20; 229/34 HW:38, 39 R, 44 R



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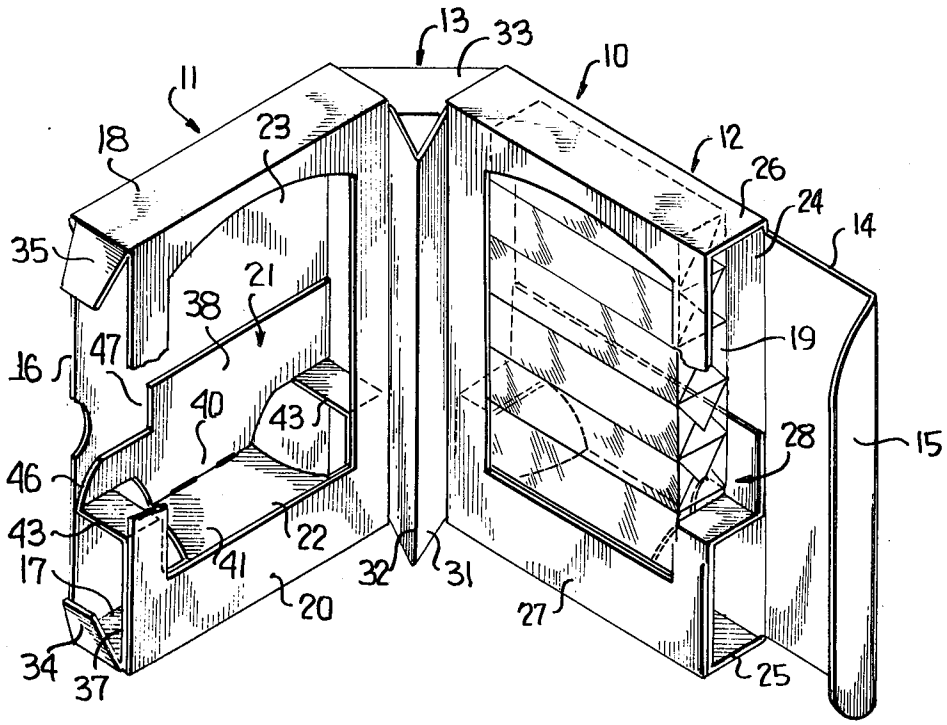
[57] **ABSTRACT**

This disclosure relates to a carton in the form of a story book wherein the carton includes first and second sections hinged together opening in a book opening-like action with the first section being of a hollow construction for receiving a product therein and including inner and outer panels with a support panel assembly interconnecting the inner and outer panels, the support panel assembly having a free edge portion disposed in face-to-face readily separable relation to the inner face of the outer panel along a free edge of the outer panel remote from the second section and cooperating therewith to define a locking flap anchoring slot, the formation of the anchoring slot utilizing solely the support panel assembly in conjunction with the outer panel while at the same time in no way detracting from the function of the support panel assembly.

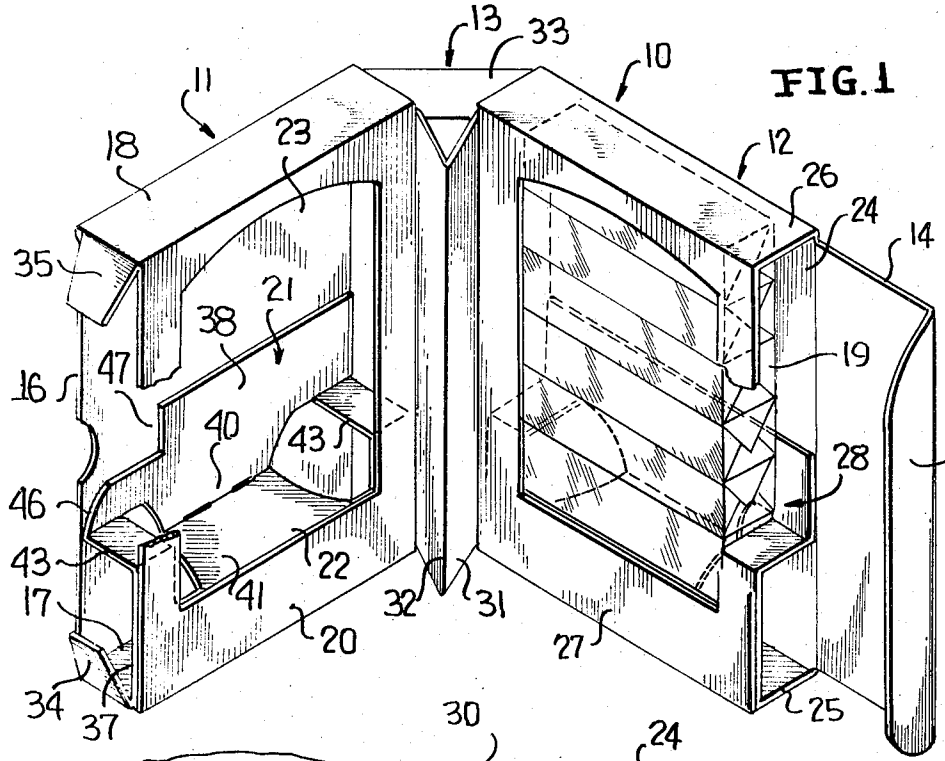

**6 Claims, 6 Drawing Figures**



PATENTED SEP 17 1974 3,835,987

SHEET 1 OF 2

FIG.1



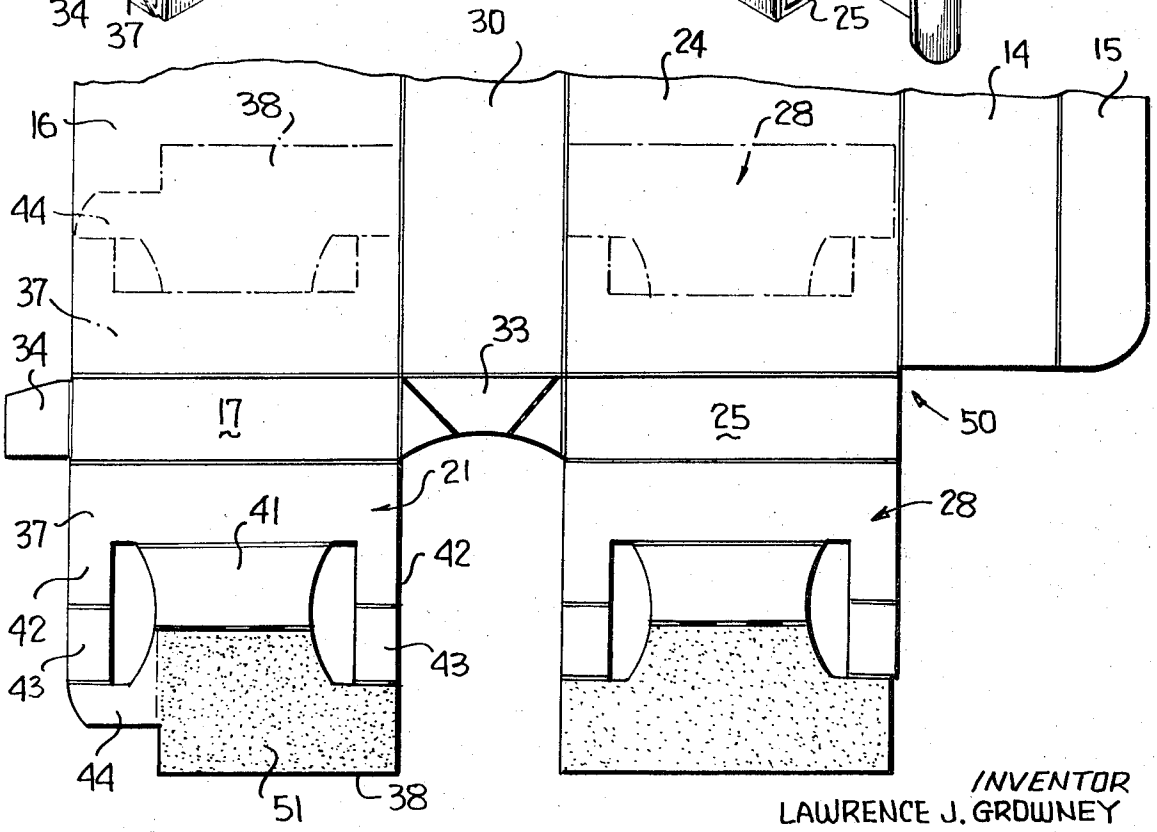




FIG.2

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FIG.3

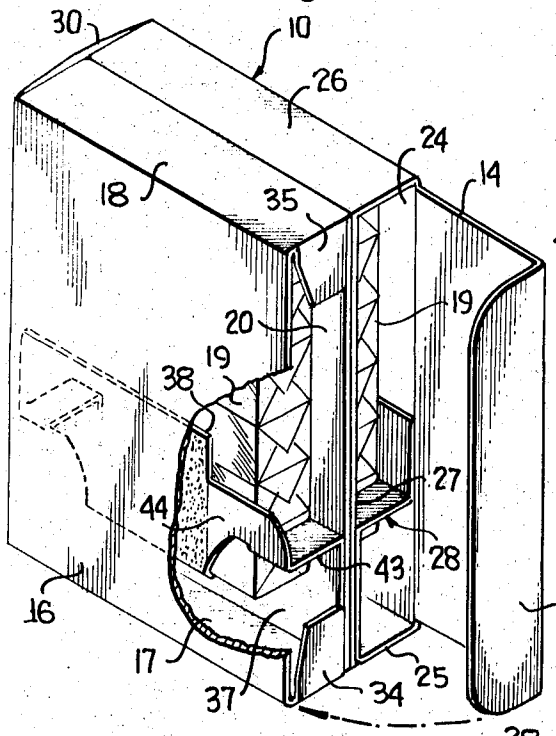



FIG.4

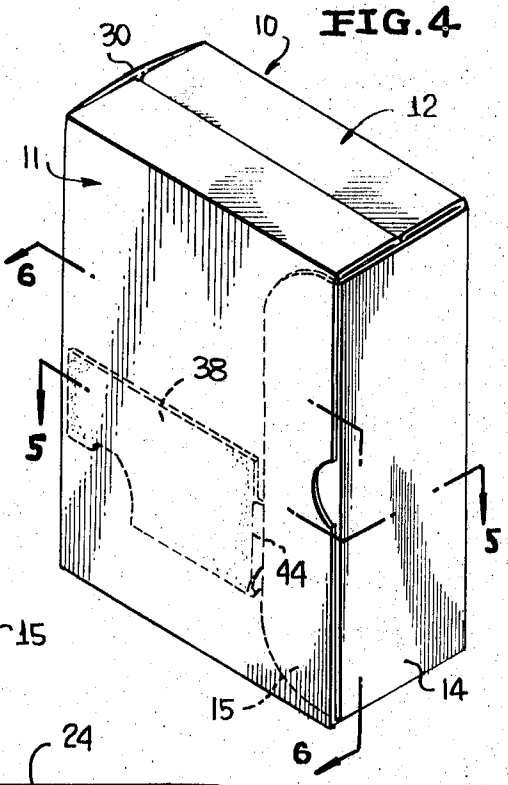



FIG.5

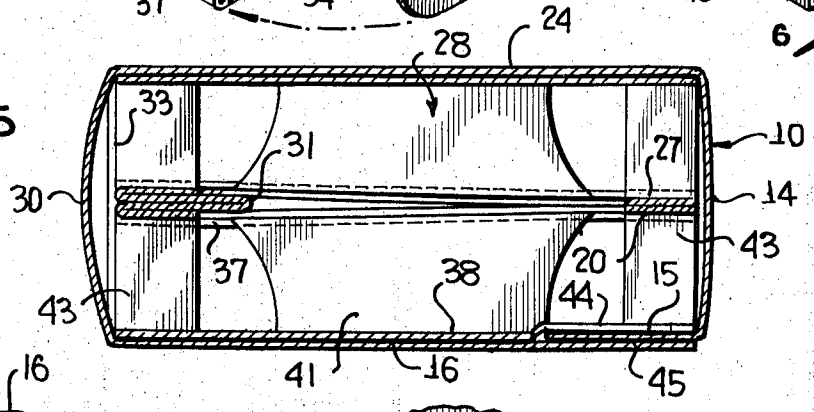
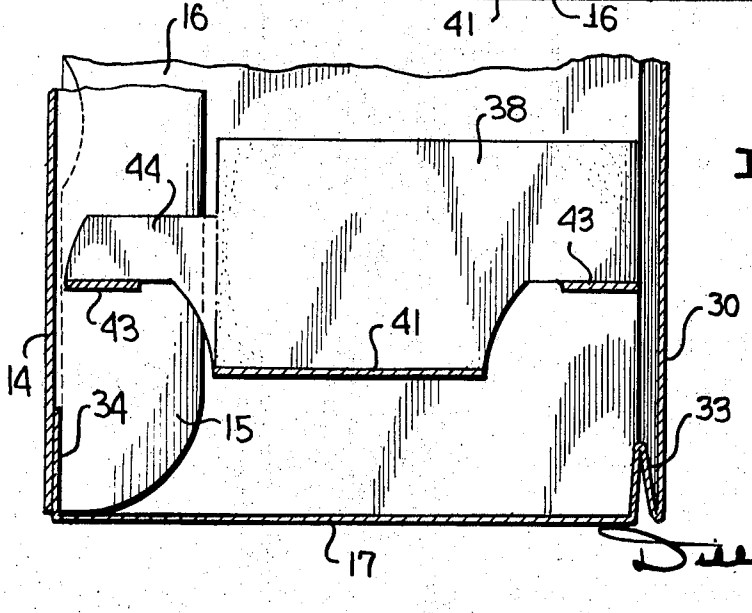



FIG.6

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# STORY BOOK CARTON LOCKING ASSEMBLY

This invention particularly relates to new and useful improvements in cartons, and more particularly to the construction of a story book type carton locking structure.

In accordance with this invention, an anchoring slot is provided for a locking flap of the carton by the simple expedient of leaving a portion of a securing panel of the support panel assembly free and separate from an opposed surface of an adjacent outer panel of the carton in the manner which in no way detracts from the structural strength of the carton

A particular feature of this invention is to provide that section of a story book type carton which is adapted to receive a locking flap carried by the other section with an anchoring slot which is defined solely by a free edge portion of a securing panel of a support panel assembly and an outer panel of the first-mentioned section, the free edge portion of the securing panel being held in close proximity to the opposed surface of the outer panel by the permanent securement of the securing panel to the outer panel and by a strap which extends from the free edge portion to a further panel of the support panel assembly, which further panel is secured to the inner panel of the first-mentioned section.

Another feature of this invention is to facilitate the entry of the locking flap into the anchoring slot by both holding the free edge portion to a minimum width and by rounding the edge thereof.

A further object of this invention is to provide an efficient locking flap in a carton of the story book type wherein the anchoring slot in no way detracts from the appearance of the carton or the efficiency thereof both as to the holding of a product and the structural strength thereof.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claimed subject matter, and the several views illustrated in the accompnaying drawings. In the drawings:

FIG. 1 is a perspective view of the carton in its open state viewing the same from the interior thereof.

FIG. 2 is a fragmentary plan view of a blank from which the carton of FIG. 1 is formed.

FIG. 3 is a perspective view of the carton of FIG. 1 in a partially closed position, the closure panel and locking flap thereof being still open, and a portion of the carton being broken away for purposes of clarity.

FIG. 4 is a perspective view of the closed and locked carton.

FIG. 5 is a horizontal sectional view taken along the line 5—5 of FIG. 4 and shows more specifically the details of the carton.

FIG. 6 is a fragmentary vertical sectional view taken along the line 6—6 of FIG. 4 and shows particularly the details of the locking structure of the carton.

Referring now to the drawings in detail, it will be seen that there is illustrated in FIG. 1 a carton of the story book type, the carton being generally identified by the numeral 10. The carton 10 basically includes a first section 11, a second section 12 and intermediate connecting hinge assembly 13. Each of the sections 11 and 12 is adapted to have positioned therein a product 19 in



a manner wherein the product is attractively displayed and at the same time easily removable from the section, but normally so positioned therein so as to be retained against accidental loss.

The carton 10 further includes a closure panel 14, which is carried by the section 12, and which functions as a closure for the free ends of the sections 11 and 12. The closure panel 14 terminates in a locking flap 15 which is adapted to be received within the section 11 so as to lock the carton 10 in a closed position.

The two sections 11 and 12 are substantially identical. The section 11 includes an outer panel 16 which has connected thereto a pair of end panels 17 and 18. The end panel 18 has integrally connected thereto an inner panel 20 while the end panel 17 has integrally connected thereto a support panel assembly which is generally identified by the numeral 21. The support panel assembly 21 is secured both to the inner panel 20 at a point adjacent the end panel 17 and to the outer panel 16 at a point remote from the end panel 17. The constructiion of the support panel assembly 21 will be described more in detail hereinafter. It is to be noted, however, that the support panel assembly 21 defines a socket 22 for receiving a product, such as the product 19. In addition, it is to be noted that the inner panel 20 is provided with a cut-out in the form of a displacy opening 23.

The section 12, being constructed very similar to the panel 11, includes an outer panel 24, a pair of end panels 25 and 26, an inner panel 27 and a support panel assembly 28.

The hinge assembly 13 includes a closure panel 30 (FIG. 5) which permanently connects together the adjacent edges of the outer panels 16 and 24. The hinge assembly 13 also includes a hinge panel 31 which permanently connects together the inner panels 27 and which is provided with a central longitudinal hinge line 32 to facilitate the movement thereof from a generally planar condition as would occur in a fully opened position of the carton 10 and a position folded upon itself, as is shown in FIG. 5.

The hinge assembly 13 further includes a pair of end panels 33 which are foldable from a position generally paralleling the closure panel 30, as is shown in FIG. 5, to a position generally normal to the closure panel 30 in the fully opened position of the carton 10. It is to be noted that the uppermost end panel 33 interconnects the end panels 18 and 26 while the lowermost end panel 33 interconnects the end panels 17 and 25.

At this time it is also pointed out that the end panels 17 and 18 are provided with closure flaps 34 and 35 which normally partially close the open end of the section 11 disposed remote from the section 12.

With particular reference to FIGS. 1, 3 and 6, it will be seen that the support panel assembly 21 includes a generally U-shaped securing panel 37 which is disposed in face-to-face relation to the outer surface of the inner panel 20 and is adhesively secured thereto. The support panel assembly 21 includes a second securing panel 38 which is adhesively secured to the inner surface of the outer panel 16 in a manner to be described in detail hereinafter. The securing panel 38 has a lower centrally disposed projecting portion 40 which is generally aligned with the recess in the securing panel 37 and a connecting panel 41 extends between the lower central portion of the securing panel 38 and the upper central

portion of the securing panel **37**, the connecting panel **41** forming the sheet **22**.

It will be readily apparent that the construction of the securing panel **37** provides for a pair of upstanding legs **42** which are disposed above and on opposite sides of the connecting panel **41**. The legs **42** have extending therefrom straps **43** which are disposed at opposite sides of and above the connecting panel **41** and connect the upper ends of the legs **42** to the securing panel **38**.

It is to be particularly noted that the securing panel **38** has a free edge portion **44** which is disposed in face-to-face relation with respect to the inner surface of the outer panel **16**, but is free of any positive securement thereto. The other surface of the free panel portion **44** and the inner surface of the outer panel **16** combine to define an anchoring slot **45** for the locking flap **15**. This is best shown in FIG. **5**. In order to facilitate the entry of the locking flap **15** into the anchoring slot **45**, the free edge portion **44** has a rounded free edge **46** which is disposed adjacent the free end of the section **11**. In addition, the securing panel **38** is notched as at **47** so as to restrict the height of the free edge portion **44** and thereby further facilitate the entry of the locking flap **15** into the anchoring slot **45**.

With particular reference to the blank for the carton, which blank is generally identified by the numeral **50** and is illustrated in FIG. **2**, it is to be noted that the portion of the securing panel **38** to the exclusion of the free edge portion **44** has that surface thereof which opposes the outer panel **16** covered with a suitable adhesive **51**. Thus the free edge portion **44** is held in tight face-to-face engagement with the outer panel **16** both by the securement of the securing panel **38** to the outer panel **16** and by the strap **43** which is connected at one end thereof solely to the free edge portion **46**. Thus the free edge portion **44** will receive a clamped and locking flap **15** against the outer panel **16** when the locking flap **15** is inserted into the anchoring slot **45**.

With particular reference to the blank **50** of FIG. **2**, it is to be noted that the support panel assemblies **21** and **28** are disposed along one edge of the blank **50** in transversely spaced relation. It is also to be noted that the securing panel **38** is disposed along the free edge of the blank **50** while the free edge portion **44** is disposed at a corner of the blank **50**. This permits the free edge portion **44** to be separated and apart from the remainder of the blank **50**, as well as the remainder of the carton **10** except for its connection to the adjacent portion of the remainder of the securing panel **38** and to the associated strap **43**. In this way the free edge portion **44** may be configurated as desired to effect both the desired clamping of the locking flap **15** when it is disposed in the anchoring slot **45** and to facilitate the entry of the locking flap **15** into the anchoring slot **45**.

It will be readily apparent from the foregoing description of the carton **10** and the blank **50** from which it is formed that the particular configuration and arrangement of the free edge portion **44** in no way detracts from the ornamental appearance of the carton nor does it in any way detract from the structural strength of the carton. On the other hand, it provides for the aforelisted beneficial locking feature

Although only a preferred embodiment of the carton has been specifically illustrated and described herein, it is to be understood that minor variations may be made both in the carton and the blank without departing from the spirit of the invention.

I claim:

**1.** A carton having the general appearance of a book, said carton comprising first and second sections hinged together for opening in a book opening-like action, said first section being of a hollow construction for receiving a product therein and including inner and outer panels with said inner panel having a product display opening formed therein, and a support panel assembly interconnecting said inner and outer panels, said support panel assembly having a free edge portion disposed in face-to-face readily separable relation to the inner face of said outer panel along a free edge of said outer panel remote from said second section and cooperating therewith to define a locking flap anchoring slot, and said second section having a closure panel terminating in a locking flap receivable in said anchoring slot to retain said carton in a closed state.

**2.** The carton of claim **1** wherein said free edge portion has a rounded free edge to facilitate the entry of said locking flap into said anchoring slot.

**3.** The carton of claim **1** wherein said support panel assembly includes a panel opposing the outer surface of said inner panel, and a strap extending between said free edge portion and said panel of said support panel assembly and stiffening said free edge portion against deflection from said outer panel.

**4.** The carton of claim **1** wherein said free edge portion is narrow as compared to an adjacent portion of said support panel assembly and has a rounded free edge to facilitate the entry of said locking flap into said anchoring slot.

**5.** The carton of claim **1** wherein said free edge portion has a rounded free edge to facilitate the entry of said locking flap into said anchoring slot, said support panel assembly includes a panel opposing the outer surface and said inner panel, and a strap extending between said free edge portion and said panel of said support panel assembly and stiffening said free edge portion against deflection from said outer panel.

**6.** The carton of claim **1** wherein said free edge portion is part of a securing panel the remainder of which is adhesively secured to said outer panel.

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