United States Patent

De Lorenzo et al.

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[54] **HOODED CARTON WITH RECLOSURE LOCK**

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[52] **U.S. Cl.** .....**229/51 TC, 229/45**

[51] **Int. Cl.** **B65d 5/54**

[58] **Field of Search** .229/51 TC, 51 SC, 51 TS, 44 R, 229/45, 44 CB

[56] **References Cited**

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[57] **ABSTRACT**

A reclosable, paperboard folding carton including a body with a hinged cover having a depending hood enclosing upper marginal areas of the body and including means on the body engageable with means on the cover hood for providing an interlocking connection therebetween upon reclosure of the carton after initial opening.

5 Claims, 7 Drawing Figures

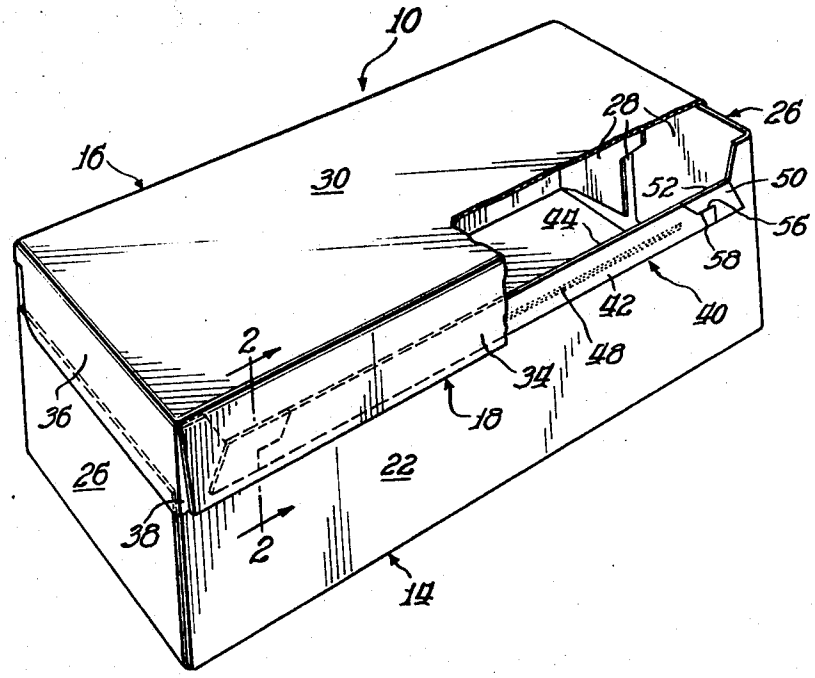


Fig. 3

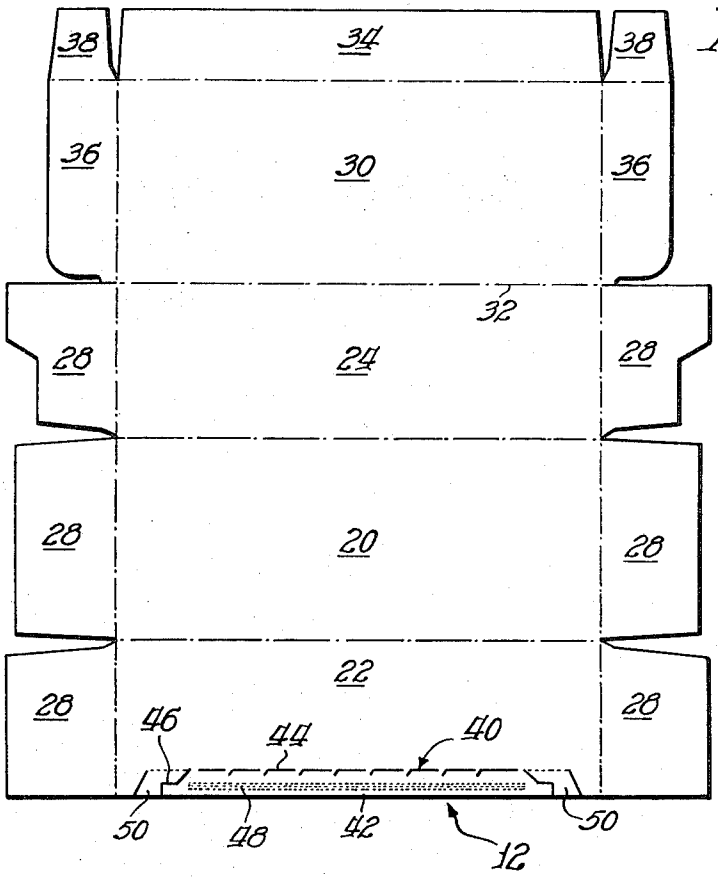


Fig. 4

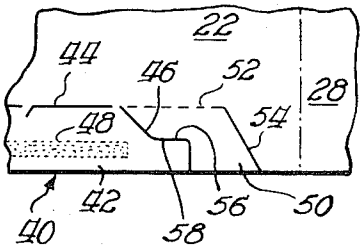


Fig. 2

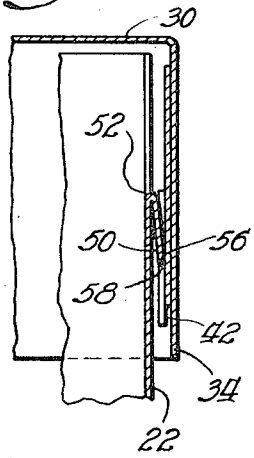
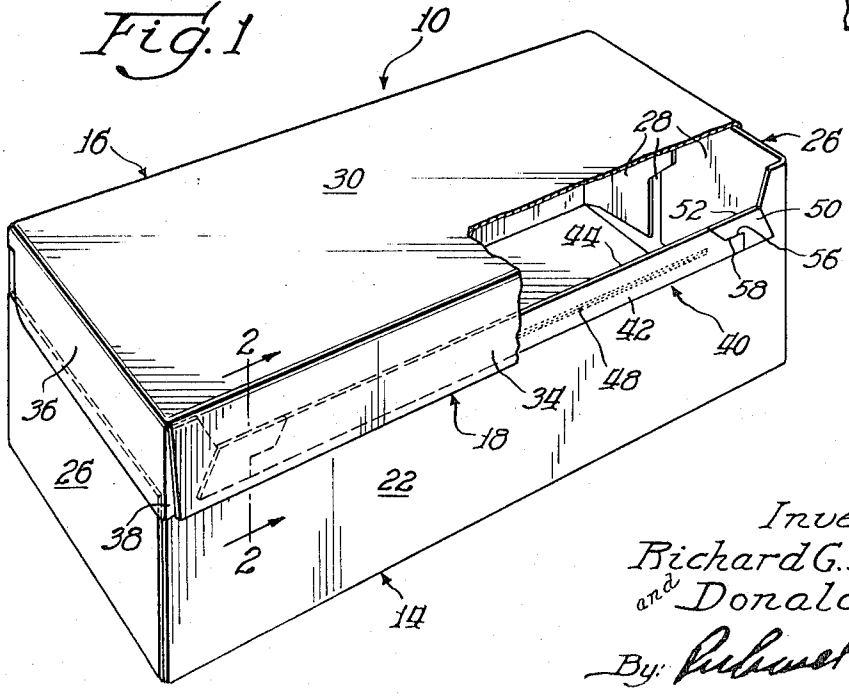


Fig. 1



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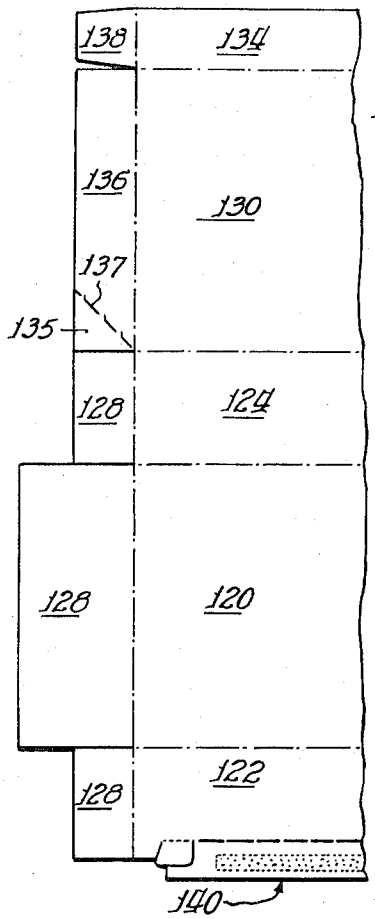
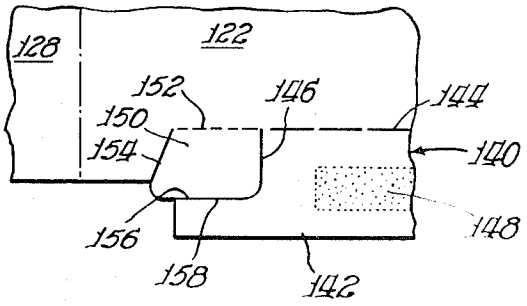


Fig. 6

Fig. 7



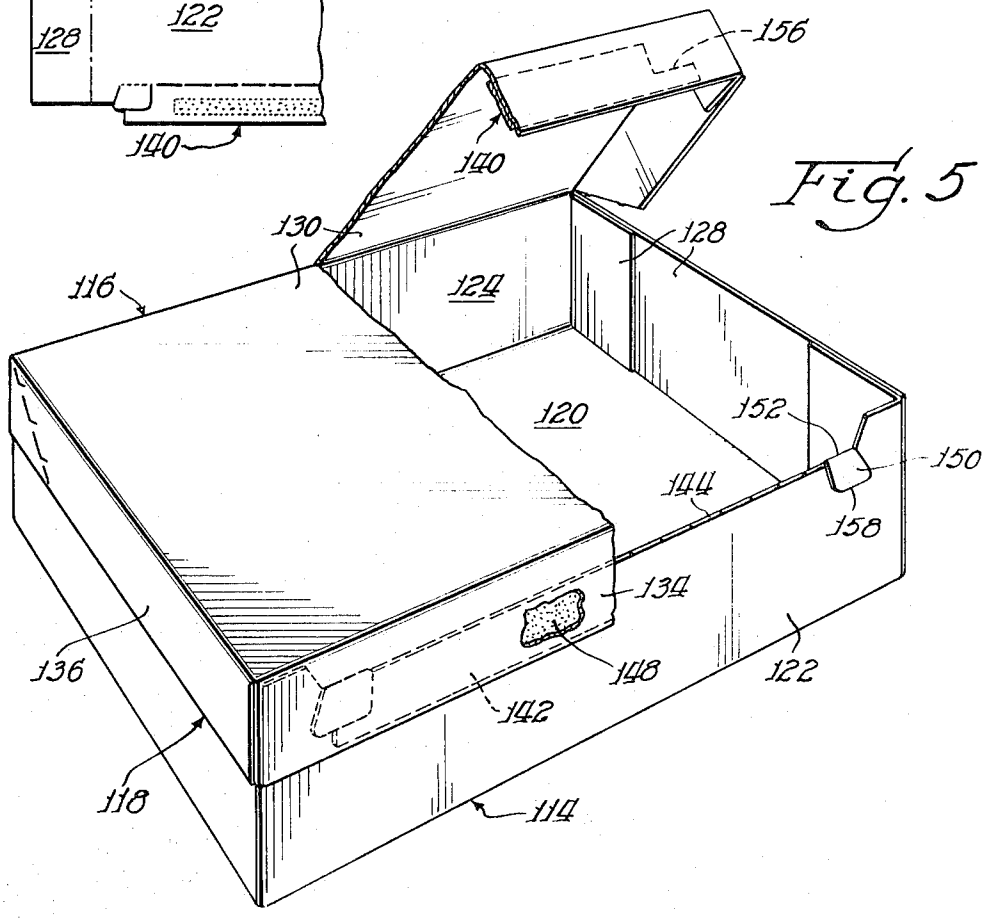


Fig. 5

HOODED CARTON WITH RECLOSURE LOCK

This invention relates to folding paperboard cartons, and more particularly to the so-called hooded or flip-top style carton wherein the cover, which is hingedly attached to the body of the carton, includes a hood for enclosing upper marginal areas of the carton body.

The invention is particularly concerned with the provision of a means for providing interlocking engagement between the carton and carton body after the carton has been initially opened.

It is therefore a primary object of this invention to provide, in a carton of the type described, simple and economical locking means for the carton body and cover which does not require any additional paperboard than would be required for a conventional hooded carton, of the same size and shape, which does not have an interlocking feature.

Another object of the invention is the provision, in a carton of the type described, of a locking arrangement wherein the material used for the locking device is formed entirely from stock cut from one of the panels in the carton.

A more specific object of the invention is to provide, in a carton of the type described, a lock strip formed from material of the carton body front wall and divided into a pair of sections, one of which eventually becomes part of the carton cover, which are engageable with each other upon reclosure of the carton to provide interlocking engagement therebetween.

These and other objects of the invention will be apparent from an examination of the following description and drawings, wherein:

FIG. 1 is a perspective view of a folding carton embodying features of the invention;

FIG. 2 is a fragmentary vertical section taken on line 2—2 of FIG. 1;

FIG. 3 is a plan view of the blank from which the structure of the other views may be formed;

FIG. 4 is an enlarged view as a portion of the structure illustrated in FIG. 3; and

FIGS. 5, 6, and 7 are views similar to FIGS. 1, 3, and 4, respectively, but illustrate a slightly modified form of the invention.

It will be understood that, for purposes of clarity, certain elements have been intentionally omitted from certain views where they are believed to be illustrated to better advantage in other views.

Referring now to the drawings for a better understanding of the invention, and particularly to FIGS. 1 and 3, it will be seen that the carton indicated generally at 10, as shown in FIG. 1, may be formed from a unitary blank 12 of foldable paperboard, as shown in FIG. 3.

The carton includes a box-like body 14, open at the top, to which is attached a cover indicated, generally at 16, having a depending hood 18 adapted to enclose upper marginal areas of the carton body 14.

Carton body 14 includes a bottom wall 20, a front wall 22, a rear wall 24, and a pair of opposed end walls 26, which are hingedly interconnected to form a box-like structure open at the top. It will be noted that end walls 26 may each be formed from a plurality of end flaps 28 hingedly attached to the end edges of the bottom, front, and rear walls and folded and secured in overlapped relation.

Cover 16 includes a top wall 30 hingedly attached at its rear edge along hinge line 32 to the upper edge of body rear wall 24. The cover also includes a front panel 34 and pair of side panels 36 which are interconnected at the corners of the carton, by side wall panel flaps 38 hinged to the edges of related side wall panels 36, to form an integral depending hood 18 for enclosing upper marginal portions of the body front and side walls. Thus, it will be noted that the carton so far described is the standard flip-top or hooded style carton.

The novelty in this carton resides in the provision of the locking means including a lock strip indicated generally at 40 which, as best seen in FIG. 3, is formed entirely from material lying within the periphery of the carton body front wall 22. Lock strip 40 includes a first or central section 42 detachably secured to the upper edge of carton body front wall 22 along a transversely extending line of weakness 44 which serves both as a hinge line and later as a line of separation. The first section is separated from the second or end sections 50 by a pair of cut lines 46 which are offset, so that the first and second sections will have portions in alignment with each other for a reason hereinafter described in the specification.

Second or end sections 50 are hingedly attached to the upper edge of carton body front wall 22 by hinge lines 52 which are aligned with weakened line 44 connecting the first section to the carton body front wall. The sides of each end section are defined by the previously mentioned cut lines 46 on the inside and other cut lines 54 on the outside. This carton embodiment is normally shipped to the packer from the carton manufacturer in the form of a flat blank which can be erected, filled, and closed by the packer.

The carton is set up in the form of a tray with the body bottom, front, and rear wall end flaps adhesively secured together in overlapped relationship to form the end walls. After the carton is filled the cover is then folded over to a closed position with the lock strip being reversed folded so as to lie against the outer surface of the body front wall beneath the cover hood front wall panel. The flaps and panels of the cover are then adhesively interconnected to form the hood which is adhesively secured to the first or center section lock strip of the carton body.

When the carton is initially opened the lock strip central or first section 42, which is adhesively secured to the inside of the cover hood front panel 36, becomes detached from the body front wall and thereafter forms an integral part of the carton hood.

It will be noted that on reclosure of the carton the lock strip first section 42 presents an upwardly facing abutment edge surface 56 which is engageable with the downwardly facing abutment edge surfaces 58 on the end or second sections 50 of the lock strip to provide interlocking connection between the cover and body of the carton.

Now turning to FIGS. 5 through 7 of the drawings, it will be seen that a structure similar to the previously described is shown. This carton functions in basically the same manner as the previously described carton and contains essentially the same elements. Elements of this embodiment have been designated by numerals similar to those used for the first embodiment.

The primary difference resides in the fact that the second embodiment, shown in FIGS. 5–7, is formed and shipped to the packer as a collapsed tube by the carton manufacturer.

In forming the tube the lock strip **140** is reversed folded against the outer surface of body front wall **122** and adhesively secured to the inside surface of the cover front wall panel **134**.

When the packer receives the carton, it is erected to the shape of a tube and end loaded, after which the end flaps of the various walls and panels are glued and folded to erected position as shown in FIG. **5**.

Cover side panels **136** may each be provided with a rear corner section **135** joined to the remainder of panel **136** by a diagonal weakened line of tear **137**, so that when the carton is opened, by lifting the cover, sections **135** remain adhered to the other end flaps and will become detached from the remainder of panels **136**.

Also, it will be noted that corner flaps **138** are hinged to front panels **134** rather than to side panels **136** as in the case of the previous embodiment. The purpose of this is to accommodate the formation of a tube structure as distinguished from the tray structure of the previous embodiment.

Upon opening of the carton the same effect is achieved as in connection with the previously described embodiment and the same interlocking feature is applicable to this embodiment.

It will therefore be understood and appreciated that in each embodiment there is provided an interlocking feature for a hooded carton without using anymore material for the carton blank than is used in a conventional hooded carton not having an interlocking feature.

We claim:

1. A reclosable, hooded, carton with an integral locking feature, formed from a unitary blank of foldable paperboard, comprising in combination:

a. a body having bottom, front, rear, and side walls hingedly interconnected to form a box-like structure open at the top;

b. a cover having a top wall hinged at its rear edge to an upper edge of said body rear wall and having depending from its front and side edges front and side panels which are interconnected at the corners of the cover to form a hood for enclosing upper marginal areas of the body front and side walls, respectively;

c. means for providing interlocking engagement between said cover hood front panel and said body front wall, upon reclosure of the carton after initial opening, comprising a relative narrow, transversely extending lock strip formed from stock of an upper marginal portion of said body front wall and reverse folded outwardly and downwardly between said body front wall and said cover hood front panel;

d. said lock strip comprising:

i. one section detachably connected at its upper edge to an upper edge of said body front wall, free from attachment to another section of said lock strip, and adhesively secured to said cover hood front panel so that when the cover is initially opened said one section will be detached from said body front wall and will become a part of said cover hood front panel;

ii. said one section having spaced end portions aligned with spaced mating portions on said other section and presenting an upwardly facing edge surface engageable with a downwardly facing edge surface on said other section to prevent accidental opening of the cover after the cover has been reclosed;

e. said body front wall being characterized by the absence of said lock strip thereon after initial opening but for the presence of the spaced mating portions of said lock strip thereon.

2. A carton according to claim **1**, wherein said hood front and side panels are connected to each other at the corners of the hood by flaps hinged to the side panels and adhesively secured to the front panel.

3. A carton according to claim **1**, wherein said hood front and side panels are connected to each other at the corners of the hood by flaps hinged to the front panel and adhesively secured to the side panels.

4. A carton according to claim **1**, wherein said carton is formed as a tray with the end walls secured before the tray is filled from the top and the cover is closed.

5. A carton according to claim **1**, wherein said carton is formed as a tube and the cover is secured to the body front wall before the carton is filled from the end and the end walls are secured.

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