

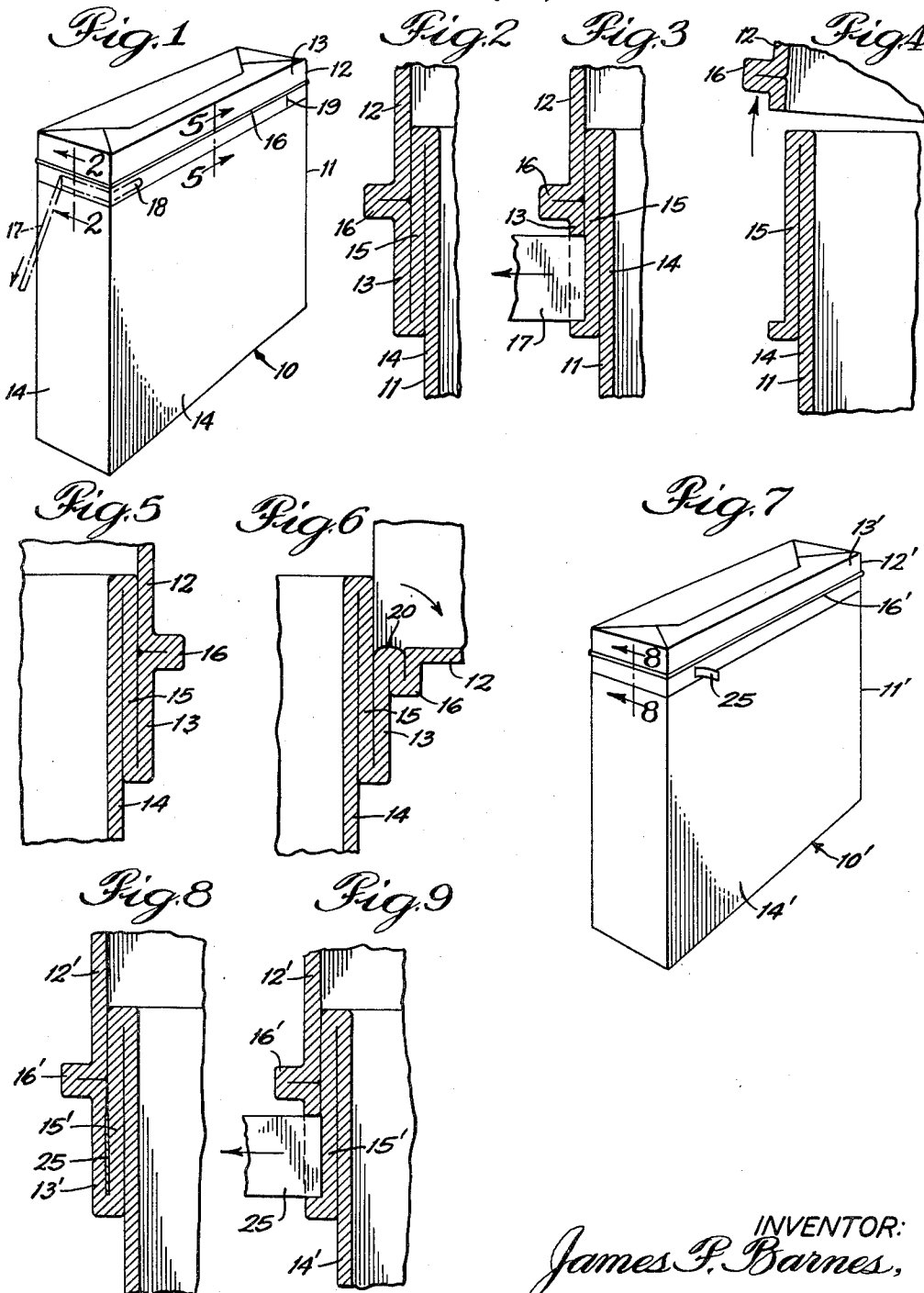
Jan. 30, 1962

B. F. BARNES

3,018,939

CARTON

Filed July 23, 1958



INVENTOR:
James P. Barnes,
BY *Demers, Little, Fallon & Leongumme,*
ATTORNEYS.

1

3,018,939
CARTON

James F. Barnes, Van Nuys, Calif., assignor to Foil Process Corporation, Van Nuys, Calif., a corporation of California

Filed July 23, 1958, Ser. No. 750,475

2 Claims. (Cl. 229-44)

This invention relates to a carton, and more specifically, to a carton which is constructed of foldable sheet material and which ordinarily serves some continued use after the initial opening thereof, such as, for example, a cigarette package, box and the like.

One of the main objects of the present invention is to provide an inexpensive carton of unitary construction which has readily separable cover and body sections adapted to form a snug frictional inter-fit upon reclosure thereof. Another object is to provide a carton formed from a single sheet of foldable material having structurally reinforced and integrally formed cover and body sections which may be wholly or partially separated from each other and which may be frictionally joined together after such separation. In this connection, it is a specific object to provide a carton having integral body and cover sections, the latter having side walls which extend downwardly about the side walls of the body section and which are reinforced to retain their shape even after complete separation of the sections.

Other objects will appear from the specification and drawings in which:

FIGURE 1 is a perspective view of a carton or container embodying the present invention;

FIGURE 2 is an enlarged vertical section taken along line 2-2 of FIGURE 1;

FIGURE 3 is an enlarged sectional view similar to FIGURE 2 but showing the structure during separation of the cover and body sections;

FIGURE 4 is a broken vertical section similar to FIGURES 2 and 3 but showing the cover and body sections after separation thereof;

FIGURE 5 is an enlarged broken vertical section showing the rear hinge construction of the carton and being taken along line 5-5 of FIGURE 1;

FIGURE 6 is an enlarged vertical section similar to FIGURE 5 but showing the cover section of the carton in open or rearwardly folded condition;

FIGURE 7 is a perspective view of a carton or package incorporating a modified form of the invention;

FIGURE 8 is an enlarged vertical section taken along line 8-8 of FIGURE 7; and

FIGURE 9 is an enlarged vertical section similar to FIGURE 8 but illustrating the carton during separation of the cover and body sections thereof.

In the embodiment of the invention illustrated in FIGURES 1 through 6, the numeral 10 generally designates a container or carton having a lower body section 11 and an upper cover section 12. As shown most clearly in FIGURES 2 and 5, the cover section 12 is provided with depending side walls 13 having lower portions which extend downwardly about the upper portions of upstanding body walls 14. An intermediate segment 15 is sandwiched between the overlapping portions of the cover and body sections and extends between the top of the body section and the bottom of the cover section.

The cover and body sections and the intermediate connecting segment are all integrally formed, as illustrated in FIGURES 2 and 5. Preferably, the entire carton is formed from a single sheet of foldable material such as paper, cardboard, corrugated board, metal foils, and suitable plastic materials. Thus, in the formation of the carton, the sheet material may be first provided with a lon-

2

gitudinal pleat or double fold to define the areas which will later become the cover and body sections of the carton. The side walls or panels of the carton, as well as the folded upper and lower ends thereof, may be formed in the conventional manner by a standard box folding machine. Since such machines and the operations thereof are well-known in the art, a detailed discussion thereof is believed unnecessary for the purpose of disclosing the present invention.

While the cover and body sections of the carton are integrally formed from a single sheet of foldable material, it will of course be understood that the sheet material may be laminated or composed of several layers. For example, a particularly suitable sheet material is the metal foil laminate disclosed in Patent 2,830,001 issued April 8, 1958. This patent discloses a directionally-oriented tearing metal foil sheet material consisting of two superimposed sheets of metal foil bonded together by a layer of non-tacky adhesive material, one of the sheets having smooth surfaces while the other having a grid pattern embossed thereon. The result is a metal foil sheet which may be torn in a substantially straight line parallel with the grooves defined by the rectilinear grid pattern embossed thereon.

In the illustration given, it will be noted that the cover section is provided with a perimetric and outwardly projecting fold 16 disposed intermediate the lower edge of the cover section and the upper edge of the body section. Directly below this reinforcing fold is a tear strip 17 which, in the embodiment illustrated in FIGURES 1 through 6, constitutes an integral portion of the cover section and extends about three sides of the carton. As shown in FIGURE 1, one side or panel of the cover section may be die cut to define a starting tab 18 and a terminal slit 19 for the tear strip. Therefore, when the strip is pulled outwardly, commencing at tab 18 and terminating at slit 19, the cover and body sections of the carton will be separated along three sides and the cover may be folded back about the hinge-defining unsevered portion of the fourth side.

Referring to FIGURE 6, it will be seen that hinge 20 is defined in part by the reinforcing rib or fold 16. Hence, the reinforcing rib not only strengthens the entire cover and resists deformation thereof but also defines the fold line directly therebelow which forms the hinge 20 for the cover after the tear strip or segment has been removed. In addition, rib 16 provides a means for grasping the hinged cover and for pivoting it rearwardly into open position to expose the contents of the carton.

As pointed out above, the tear strip or segment 17 of the structure illustrated in FIGURES 1 through 6 actually consists of a portion of the cover section 12 below horizontal rib 16. The vertical dimensions of this strip remain substantially uniform as the strip is drawn outwardly because of the property of the sheet material which tends to cause the tearing along directionally-oriented lines. For instance, where the carton or box is formed from a laminated metal foil, this uni-directional tearing property may be obtained by embossing one of the foil layers as disclosed in Patent 2,830,001. Where board materials are used, uni-directional tearing may be obtained by scoring, partially cutting, or perforating the sheet material from which the carton is formed.

Since withdrawal of strip 17 necessarily involves the removal of the lower portion of the cover section 12 along three sides thereof, and since the portion of the cover below rib 16 on the fourth side remains intact after the strip has been pulled out, it is apparent that upon reclosure of the cover the free edges thereof may be forced downwardly below their original positions. As this occurs, the upper portion of the carton body sec-

tion will tend to spread or force outwardly the side walls of the cover section with the result that a tight frictional fit will be obtained. Such a seal is particularly important where tobacco-containing articles and the like are contained within the package because of moisture and flavor retention.

The modification illustrated in FIGURES 7 through 9 is similar to the above-described first embodiment of the invention except that the pull segment for opening carton 10' is not formed integrally with the walls 13' and 14' of sections 11' and 12' but instead comprises a separate strip or member 25 folded or interposed between cover section 12' and the intermediate section 15' below perimetric rib 16'. In addition, member 25 extends about substantially the entire perimeter of the cover section so that when the member is pulled outwardly (FIGURE 9) the entire cover section will be completely released from the body section of the carton. Member 25 may be formed from plastic, metal, cloth or any other suitable material.

Like rib 16, rib 16' reinforces the removable telescoping cover section 12' and provides a surface projection which facilitates gripping and removal of the cover by a user. In both forms of the invention, the downwardly turned intermediate segments or sections 15 and 15' greatly strengthen and reinforce the upper portions of the respective body sections 11 and 11' after the draw strips have been pulled outwardly.

It is believed apparent that while a hinged cover has been disclosed in connection with a draw strip formed integrally with the body and cover sections, the hinge of the first embodiment might be used in conjunction with the severing means illustrated in FIGURES 7 through 9, and conversely, that the draw member 25 might be substantially shorter than the perimeter of the carton so that a hinged area will remain after complete withdrawal of that member.

While in the foregoing I have disclosed embodiments of the present invention in considerable detail for purposes of illustration, it will be understood by those skilled in the art that many of these details may be varied considerably without departing from the spirit and scope of the invention.

I claim:

1. A rectangular carton formed from a single sheet of foldable and deformable board material and having integrally formed cover and body sections, said cover section having lower side wall portions receiving in telescoping relation the upper side wall portions of the body section, a connecting segment formed integrally with said cover and body sections and extending between the upper side wall portions of said body section and the lower side wall portions of said cover section, the side walls of said cover section being folded to provide a perimetrically and outwardly extending rib disposed below the top of said body section, said lower side wall portions of said cover section being provided with a removable tear portion directly below said rib and above the bottom of said cover section along three sides of said carton, said tear portion being removable for severing the connection between said cover and body sections along three sides of said carton, said connecting segment providing a hinge along a fourth side of said carton and below said rib for pivoting said cover upwardly after said tear portion has been removed, whereby, said rib defines said hinge line and also reinforces the lower edge of said cover after said carton has been opened, said rib thereby reducing stretching and deformation of said cover and promoting a snug frictional fit between the cover and body sections when the carton is reclosed.

2. The structure of claim 1 in which said tear portion includes a tear element extending about three sides of said carton and disposed between said cover section and said connecting segment beneath said rib.

References Cited in the file of this patent

UNITED STATES PATENTS

900,953	Reber	Oct. 13, 1908
1,615,930	Burns	Feb. 1, 1927
2,223,695	Mayfield	Dec. 3, 1940
2,474,523	Guyer	June 28, 1949
2,496,568	Tomarin	Feb. 7, 1950
2,694,502	Henchert	Nov. 16, 1954
2,699,285	Bell et al.	Jan. 11, 1955
2,830,001	Barnes et al.	Apr. 8, 1958