United States Patent [19]

Beck et al.

[11] **3,926,362**

[45] **Dec. 16, 1975**

[54] **TELESCOPIC CONTAINER MEMBERS**

[75] Inventors: **Herman D. Beck**, Los Angeles; **Thomas H. Cook**, La Puente, both of Calif.

[73] Assignee: **Owens-Illinois, Inc.**, Toledo, Ohio

[22] Filed: **June 10, 1974**

[21] Appl. No.: **477,628**

[52] **U.S. Cl.** ..... **229/23 BT**; 229/32; 229/51 DB

[51] **Int. Cl.**[2] **B65D 13/04**

[58] **Field of Search** ..... 229/23 BT, 32, 33, 35, 229/51 DB, 23

[56] **References Cited**

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3,469,761	9/1969	Howell	229/32

Primary Examiner—William I. Price
Assistant Examiner—Bruce Hale Bernstein
Attorney, Agent, or Firm—A. J. Steger; E. J. Holler

[57] **ABSTRACT**

A telescoping container is formed by utilizing a one-piece corrugated paperboard blank which is scored and slotted in a predetermined pattern and severable into two blanks which are adapted to be folded into telescoping cover and body members. Longitudinal pairs of offset fold lines are formed in the blank by the use of male-to-male offset scoring heads on the corrugator. The blank is then scored to form fold lines in the transverse direction by the use of male-to-female or male-to-flat scoring heads. Two connected portions are thereby adapted to be separated from each other and folded to form matching cover and body members for a telescoping carton.

4 Claims, 4 Drawing Figures

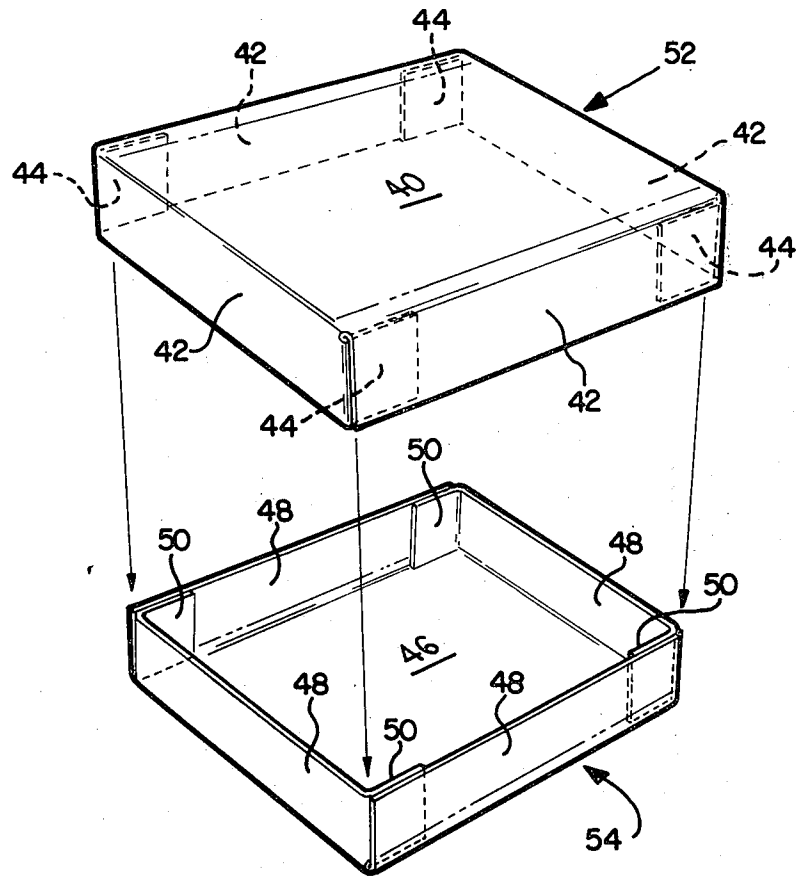


FIG. 1

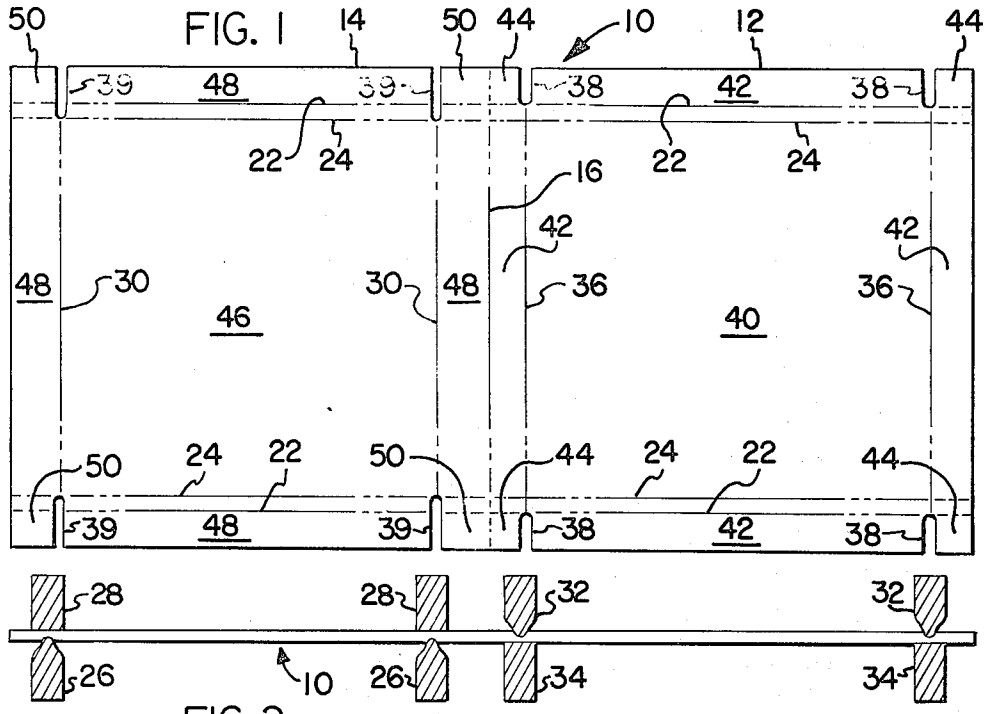


FIG. 2

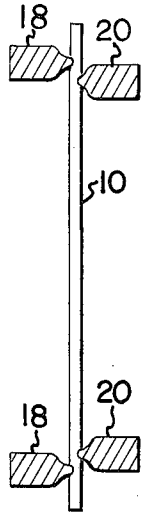
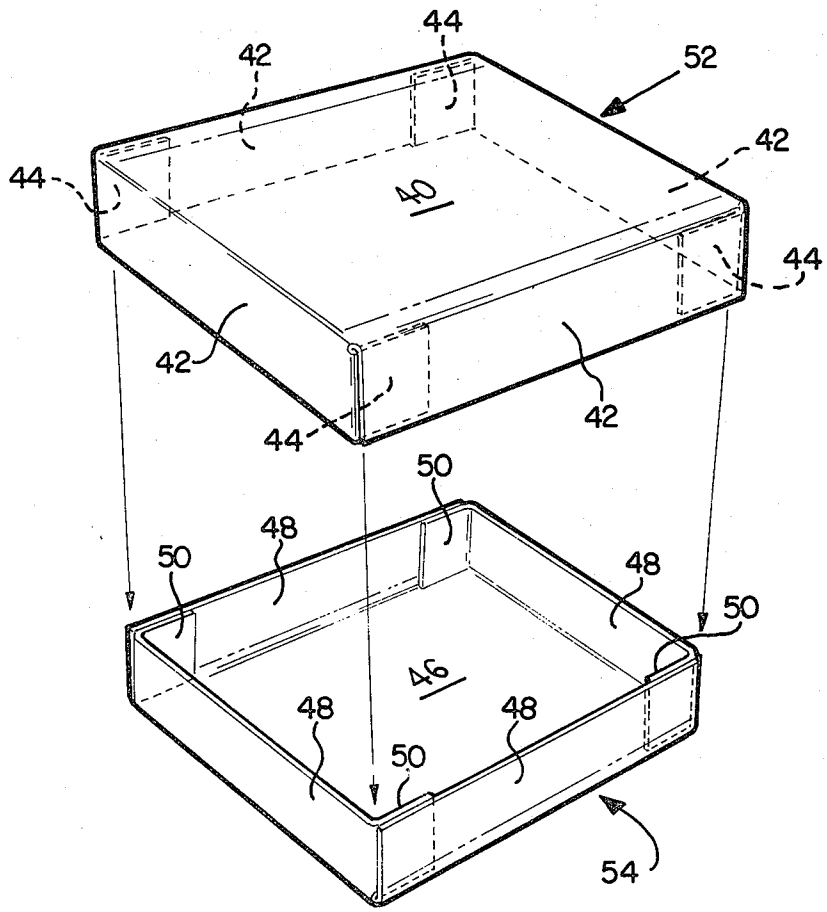


FIG. 3

FIG. 4



TELESCOPIC CONTAINER MEMBERS

BACKGROUND OF THE INVENTION

This invention generally relates to boxes and containers formed from corrugated paperboard material and, more particularly, it relates to telescopic containers in which an outer cover member is formed to matingly slide over an inner body member to form a telescoping container.

It has generally been the practice to form such telescoping containers from cover and body members which are formed from separate blanks. The blanks utilized to form the cover member have been of slightly different dimensions than those utilized to form the body member, so that when folded, the cover member is sized to fit over the body member. The utilization of different sized blanks to form the cover and body members has required a separate inventory of each size blank. The required maintenance of duplicate inventories creates the possibility that imbalance in the quantity of available cover or body blanks may cause a termination of the packaging operation until the supply of deficient blanks can be replenished.

A solution to the problem of forming telescopic containers from different sized cover and body blanks is taught by U.S. Pat. No. 3,469,761 (J. R. Howell). The Howell patent discloses a universal blank which is adapted through the use of longitudinal and transverse pairs of score lines to be folded to form either a cover or a body member. With the utilization of the structure taught by the Howell patent, it is necessary to inventory only one style of blank, as this blank is adapted to be folded to form either a cover or a body portion of a telescopic container. While the universal blank of the Howell patent has been quite successful in commercial operations, it has resulted in two shortcomings. First, it requires the use of male-to-male offset scoring heads to form the pairs of fold lines in both the longitudinal and transverse directions. These male-to-male offset scoring heads are not usually standard equipment on printer-slotter equipment and frequently have to be specially ordered. Further, the reversibly folding universal blank of the Howell patent has created a problem in the area of printing in that the printing intended for the outer surface of the blank when it is folded into a cover member is located on the inside surface of the blank when it is folded to be a body member. In the packaging of some products, for example food and other perishables, the presence of the printing ink on the inside surface of the body member can be quite undesirable.

SUMMARY OF THE INVENTION

With the foregoing in mind, there is provided in accordance with this invention, a corrugated paperboard blank which is formed and scored so as to be severable into two portions which form telescoping cover and body members. Since the mating cover and body members are formed as part of a single blank, the use of this invention avoids the inventory problems associated with the different sized blanks of the prior art. In addition, since the concept of this invention utilizes male-to-male offset scores in only one direction, it eliminates the need for the use of this specialized type of scoring apparatus in the other direction. Since the cover and body portions are formed as part of the same total blank, printing may be accomplished on only a portion of the total blank, so as to eliminate the presence of the undesirable printing ink on the interior of the body member. Other features and advantages of this invention will become obvious upon reference to the following detailed description of a preferred embodiment of the invention and the drawings thereof.

IN THE DRAWINGS

FIG. 1 is a plan view of a blank in accordance with the subject invention which may be severed into portions which form telescoping cover and body members;

FIG. 2 is a sectional view of male-to-male offset scoring heads as they are utilized to form longitudinal score lines in the blank of FIG. 1;

FIG. 3 is a sectional view of male-to-flat scoring heads which are utilized to form transverse fold lines in the blank of FIG. 1; and

FIG. 4 is a perspective view of the telescoping cover and body members formed from the blank of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As used herein, the term "fold line" shall be used to designate a line of weakness in a sheet of corrugated paperboard material, whereby the sheet may be conveniently bent or folded along this line. Typical examples of such fold lines include scores, creases and perforations, all of which are well known in the art. For purposes of this description, scoring heads are used to impress the fold lines into the blank.

Referring to the drawings, FIG. 1 shows a blank **10** of foldable sheet material, such as corrugated paperboard which is provided with fold lines and slotted edges in accordance with this invention. Blank **10** is generally rectangular in configuration and is divided into two severable portions **12** and **14** by means of a severance line **16** which may be formed by any suitable means, such as slitting. As will become apparent, the portion **12** is scored and slotted so as to be adapted to form a cover member and portion **14** scored and slotted so as to be adapted to form a body member.

The blank **10**, minus the transverse slots and fold lines, will exit the corrugating apparatus in which it was formed in the longitudinal direction as viewed in FIG. **1**. The corrugating apparatus may be supplied with two pairs of male-to-male offset scoring heads indicated by the numerals **18** and **20** in FIG. **2**. As viewed in FIG. **2**, the scoring heads **18** will form the fold lines **22** in the top surface of the blank **10** and the scoring heads **20** will form the fold lines **24** in the lower surface of blank **10**. These fold lines **22** and **24** extend the full length of blank **10**. The blank **10**, once it has been removed from the corrugating apparatus, may be fed to a suitable apparatus, such as a printer-slotter, for the formation of the remaining slots and fold lines. As shown in FIG. **3**, the blank **10** is being fed through a series of male-to-flat scoring heads. The male scoring heads **26** coact with flat scoring heads **28** to result in fold lines **30** in the undersurface of the blank **10**. Similarly, male scoring heads **32** coact with flat scoring heads **34** to form fold lines **36** in the top surface of blank **10**. Cover portion **12** of blank **10** includes four slots **38** which are formed therein and extend inwardly approximately to the fold lines **22** in the upper surface of blank **10**. Similarly, body portion **14** includes four slots **39** which are formed therein and extend inwardly to the fold lines **24** in lower surface of blank **10**. Slots **38** and **39** may be formed into the blank **10** by any suitable slotting equipment compatible with the press that includes the scor-

ing heads **26, 28, 32** and **34**. Thus, through the provision of the previously described fold lines, cover portion **12** now includes a top panel **40**, four sidewall panels **42** and four side closure flaps **44**. Similarly, body portion **14**, through the provision of fold lines **24** and **30**, now includes a bottom panel **46**, four sidewall panels **48**, and four side closure flaps **50**.

Thus, the blank **10**, as it appears in FIG. **1**, may be shipped as one piece to a customer, thereby affording him the opportunity to inventory only this blank for the formation of telescopic containers. The blank **10** may be severed along slit or separation line **16** to form separate portions **12** and **14** which are adapted to form cover member **52** and body member **54**, as shown in FIG. **4**. Cover member **52** may be formed from cover portion **12** by folding the four sidewall panels **42** upwardly along the fold lines **22** and **36** and folding sidewall closure flaps **44** into contact with the adjacent sidewall panels **42**. The sidewall closure flaps **44** may be positioned on either the inside or the outside of the adjacent sidewall panels **42**. The body member **54** may be formed from body portion **14**, as shown in FIG. **4**, by folding the sidewall panels **48** downwardly along fold lines **24** and **30** and simultaneously folding the sidewall closure flaps **50** into contact with the adjacent sidewall panels **48**. As was the case with cover member **12**, the sidewall closure flaps **50** in body member **14** may be folded into contact with either the inside or the outside surfaces of the adjacent sidewall panels **48**. Thus, as can be seen in FIG. **4**, the cover member **12** is sized so as to be slightly larger than body member **14**, so that it can be telescopingly positioned over the body member **14** to form a telescopic container.

Therefore, this invention, as embodied in the blank of FIG. **1**, enables the user to form a telescopic container through the utilization of only a single blank member. This eliminates the disadvantages associated with prior art concepts wherein two separate and distinct blank members were utilized to form the cover and body members of the telescopic container. This invention also eliminates the disadvantages associated with the structure of the afore-described Howell patent, in that double-fold lines, as created by male-to-male offset scoring heads, are necessary in only one direction on the blank. Standard male-to-female or, as illustrated here, male-to-flat scoring heads may be utilized to form the remaining fold lines. Since the blank contains separate and distinct portions which are predetermined to form the resulting cover and body members of the telescopic container, desired portions of this blank may be printed without the possibility of the printing resulting on the interior surface of the body member. The use of a single blank which may be severed to form mating cover and body members also assures the ultimate user of an equal number of cover and body members. It should be apparent that, if desired, the blank may be severed so that the cover and body members are shipped and stocked separately prior to their utilization.

What we claim is:

1. A blank of foldable Material adapted to be separated into two portions which may be folded to form separate, complementary body and cover members of a telescopic container, said blank having a pair of outer longitudinal fold lines formed on a first side thereof and a pair of inwardly offset longitudinal fold lines formed on a second side thereof, said longitudinal fold lines terminating at the longitudinal extremities of said blank, a transverse separation means formed therein and terminating at the transverse extremities of said blank for separating the blank into bodyforming and cover-forming portions, opposed transverse slots extending inwardly at least to said inwardly offset longitudinal fold lines and interrupting the continuity of said outer longitudinal fold lines in the body-forming portion of said blank, transverse fold lines disposed intermediate the inner margins of said opposed transverse slots in said body-forming portion and formed on said second side of said blank, opposed transverse slots extending inwardly at least to said outer longitudinal fold lines in the cover-forming portion of said blank and transverse fold lines disposed intermediate the inner margins of said opposed transverse slots in said cover-forming portion and formed on said first side of said blank, whereby when said body-forming portion is separated from said cover-forming portion along said transverse separations means and is folded about said inwardly offset longitudinal fold lines and said transverse fold lines, respectively, on said second side of said blank a body member is formed, and when said cover-forming portion is folded about said outer longitudinal fold lines and said transverse fold lines, respectively, on said first side of said blank, a complementary cover member is formed.

2. A blank of foldable material as set forth in claim **1**, wherein said transverse separation means is a slit formed in said blank.

3. A telescopic container including separate, complementary body and cover members, each of which is formed from the same blank of foldable material, said blank having a pair of outer longitudinal fold lines formed on a first side thereof and a pair of inwardly offset longitudinal fold lines formed on a second side thereof, said longitudinal fold lines terminating at the longitudinal extremities of said blank, a transverse separation means formed therein and terminating at the transverse extremities of said blank for separating the blank into body-forming and cover-forming portions, opposed transverse slots extending inwardly at least to said inwardly offset longitudinal fold lines and interrupting the continuity of said outer longitudinal fold lines in the body-forming portion of said blank, transverse fold lines disposed intermediate the inner margins of said opposed transverse slots in said body-forming portion and formed on said second side of said blank, opposed transverse slots extending inwardly at least to said outer longitudinal fold lines in the cover-forming portion of said blank and transverse fold lines disposed intermediate the inner margins of said opposed transverse slots in said cover-forming portion and formed on said first side of said blank, whereby when said body-forming portion is separated from said cover-forming portion along said transverse separation means and is folded about said inwardly offset longitudinal fold lines and said transverse fold lines respectively, on said second side of said blank, a body member is formed, and when said cover-forming portion is folded about said outer longitudinal fold lines and said transverse fold lines, respectively, on said first side of said blank, a complementary cover member is formed.

4. A telescopic container as set forth in claim **3**, wherein said transverse separation means is a slit formed in said blank.

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