United States Patent

Blunsdon

[15] **3,680,771**

[45] **Aug. 1, 1972**

[54] CLOSURE DEVICE FOR CONTAINERS

[72] Inventor: **Ronald L. Blunsdon,** Hamilton, Ontario, Canada

[73] Assignee: **Continental Can Company of Canada Limited,** Toronto, Ontario, Canada

[22] Filed: **April 1, 1970**

[21] Appl. No.: **24,616**

[52] **U.S. Cl.**.....**229/65,** 150/3, 229/17 G

[51] **Int. Cl.**.....**B65d 33/16**

[58] **Field of Search**.....229/65, 47, 17 G; 150/3

[56] **References Cited**

UNITED STATES PATENTS

3,463,380	8/1969	Cooperstein	229/47
2,336,503	12/1943	Ringler	229/65
2,533,539	12/1950	Vivian	229/65
1,915,027	6/1933	Meyer-Jagenberg	229/65
2,124,409	7/1938	Andrews	229/47

FOREIGN PATENTS OR APPLICATIONS

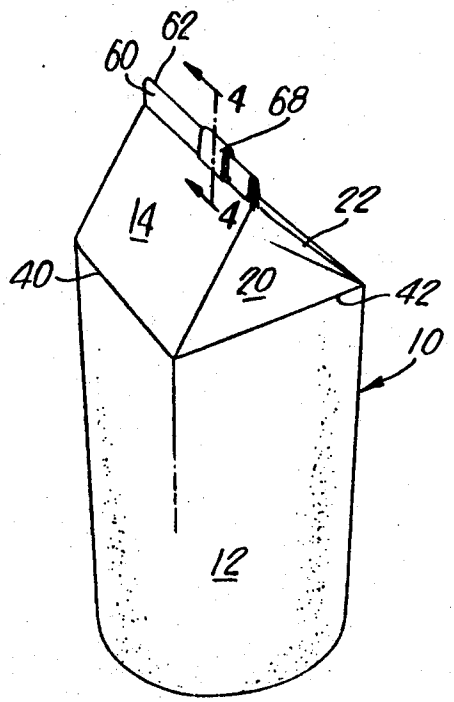
423,018	7/1947	Italy	229/65

Primary Examiner—George E. Lowrance
Assistant Examiner—Stephen Marcus
Attorney—Alan Swabey

[57] **ABSTRACT**

A container closure formed by a pair of panels in side-by-side relationship, a rigid projection on one of the panels and a clip adapted to cooperate with the ridge and panels to hold the panels in closed position with the rigid projection tending to prevent withdrawal of the clip.

6 Claims, 5 Drawing Figures



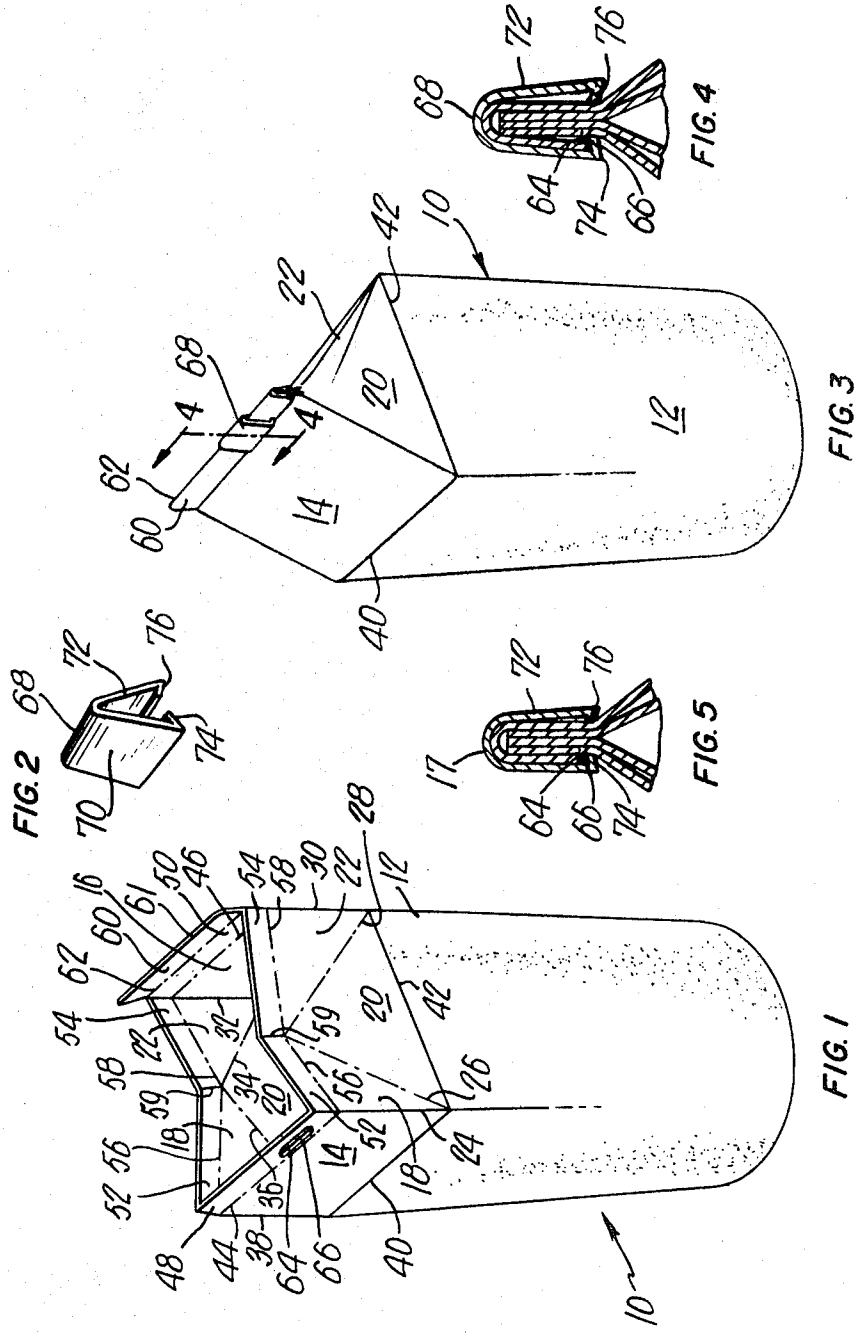


FIG. 1

FIG. 2

FIG. 3

FIG. 4

FIG. 5

INVENTOR
Ronald L. BLUNSDON

ATTORNEY

CLOSURE DEVICE FOR CONTAINERS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a container closure. More particularly the present invention relates to a clip-type closure for a gable topped container.

2. Description of Prior Art

Conventionally, gable topped containers are closed either by heat sealing through the multiple board thickness at the top of the container or by stapling when a liquid tight closure is not required. Staple closures are not generally satisfactory for many purposes, particularly since they do not provide a convenient means for opening of the container, nor is there a convenient means for applying the staple.

SUMMARY OF INVENTION

It is thus the main object of the present invention to provide a new closing system that facilitates closing and reopening of containers.

Broadly, the present invention relates to a carton closure formed by a pair of panels, an elongated rigid projection extending substantially longitudinally of one of said panels and latching means adapted to cooperate with said rigid projection and said panels to hold said panels closed. The latching means preferably is in the form of a substantially U-shaped clip which overlies the panels and has means for cooperation with said latching means to lock said clip in position and maintain the carton closed.

BRIEF DESCRIPTION OF DRAWINGS

Further features, objects and advantages will be evident from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is an isometric view of a container incorporating the latching means of the present invention;

FIG. 2 is an isometric view of a clip adapted to cooperate with the latching means to close the container;

FIG. 3 is an isometric view of a closed container;

FIG. 4 is a section along the line 4—4 of FIG. 3; and

FIG. 5 is similar to FIG. 4 but showing a slightly modified arrangement.

DESCRIPTION OF PREFERRED EMBODIMENTS

As shown in the drawings, the illustrated carton **10** comprises a body section **12** having a conventional closure formed by side panels **14** and **16** and gusset-forming panels **18**, **20** and **22** at opposite ends of the carton. These panels **14**, **16**, **18**, **20** and **22** are interconnected by fold lines **24**, **26**, **28**, **30**, **32**, **34**, **36** and **38**. The panels **14** and **16** and panel **20** are connected to the body portion **12** by fold lines **40** and **42** respectively (only one of each shown).

Connected to the panels **14** and **16** by fold lines **44** and **46**, substantially parallel to the fold line **40**, are ridge-forming panels **48** and **50**. Similarly, inner ridge-forming panels **52** and **54** are connected to the panels **18** and **22** by fold line **56** and **57** respectively and are interconnected by fold line **59**. The panel preferably has a closure flap **60** connected thereto by a fold line **62** which is substantially parallel to the fold lines **40** and **46**. The flap **60** terminates in a free edge **61** substantially parallel to the fold line **62**.

A relatively rigid projection **64** which preferably forms an elongated ridge extends substantially longitudinally of and is secured to the outer surface of the panel **48**. This projection **64** has a surface **66** on its side remote from the free edge of the carton, which face **66** is spaced from the free edge of panel **48** and from the fold line **44** and preferably extends substantially parallel thereto. The face **66** is adapted to cooperate with means on the latching means which takes the form of a closure clip **68** (see FIG. **2**) to hold the carton closed as will be described hereinbelow. In the illustrated arrangement, the ridge **64** only extends part way along the panel **48**, but in some cases, it may extend the full length of the panel i.e. from fold line **24** to fold line **38**.

In the illustrated embodiment, the projection **64** is in the form of an elongated ridge. Preferably, the projection or ridge **64** is formed on the carton by means of a plastic bead adhered to the outer surface of the panel **48**.

The clip **68** is preferably a spring clip having a suitable U-shaped body with a pair of legs **70** and **72**, each of which terminates in an inwardly directed flange **74** and **76** respectively. These flanges **74** and **76** preferably extend at an angle of less than 90° to their respective legs **70** and **72** so that they overhang their respective legs to facilitate sliding same down over the top ridge of the container when locking the container closed. With a molded plastic clip, there need be no overhang. The outward face of the flanges may simply be sloped so that they tend to wedge the clip **68** open when the clip is pushed onto the container. Preferably, the clip will be substantially symmetrical so that it need not be oriented for application to the carton i.e. there will always be a flange in position to engage the projection **64**. However, one of the flanges **74** or **76** may be deleted. In the arrangement illustrated in FIGS. **4** and **5** the flange **76** could be deleted. The legs **70** and **72** of the clip **68** confine the closure panels **48** and **50** and the flap **60** in position when the carton is latched closed. In the illustrated arrangement, the clip is about the same length as the ridge **64**, obviously it may be slightly larger or shorter than the ridge and may even extend the full length of the panels **48**. In the latter case, the ridge **64** will preferably extend the full length of panel **48**.

The clip **68** may be made of any suitable material e.g. of steel or suitable synthetic plastic having the required degree of resilience.

To close the carton **10**, the top is closed in the conventional manner by moving the panels **20** inwardly and downwardly by bending along the fold lines **26**, **28** and **42** to move the panels into the position shown in FIG. **3**, wherein the panels **52** and **54** are in face-to-face relationship and the panels **48** and **50** are spaced apart by the panels **52** and **54** and may be substantially parallel to each other. The flap **60**, if it is provided, is folded over the panel **48** into a position substantially in face-to-face relationship therewith. The projection **64** may either be located under the flap **60**, as shown in FIG. **4**, or slightly below the free edge **61** of the flap **60**, as shown in FIG. **5**. In the former case, the flap **60** does not quite lie in face-to-face relationship with the panel **48**, while in the latter case the flap **60** and panel **48** may be in face-to-face relationship.

In either of the cases illustrated in FIGS. 4 and 5, the flange 74 is advanced to hook about the ridge or projection 64 and into a position wherein the flange either engages or will engage the face 66 of the projection 64 upon attempted upward withdrawal of the clip.

The clip may be pushed down directly over the projection 64 and the legs sprung apart by the wedging action of the flap 60 and panel 50 acting on the flanges 74, 76 to snap into position below the face 66. Alternatively, the U-shaped clip 68 may be positioned at the end of the closure ridge formed by the panels 48, 50 and flap 60 and slid laterally into position with the flanges 74 or 76 underlying the face 66 of the projection 64. In either case the clip is prevented from withdrawal axially of the carton by the projection 64 and the legs 70 and 72 hold the panels 48 and 50 and flap 60 in closed position.

To open the carton, it is only necessary to slide the clip 68 laterally beyond the projection 64 and lift same off or simply slide it laterally off the edge of the container.

Having described the present invention, modifications will be evident to those skilled in the art without departing from the scope of the invention as defined in the appended claims.

I claim:

1. In a container, a pair of panels each having a free edge, a rigid projection extending substantially longitudinally of and formed on the outer surface of one of said panels remote from the free edge of said one panel, said rigid projection having a latching face substantially parallel to said free edge, a flap foldably connected to the other of said two panels and folded into overlying relationship with said one panel and wherein said rigid projection is positioned between said flap and said one panel, a substantially U-shaped resilient clip having a pair of legs embracing said pair of panels and flap, at least one of said legs terminating in an inwardly directed flange, said flange being urged by said resilient leg to engage said latching face.

2. A container as claimed in claim 1, wherein said rigid projection is an elongated bead of plastic material adhered to said outer surface remote from the free edge of said one panel.

3. A container as defined in claim 1, wherein said rigid projection extends substantially the full length of said one panel.

4. In a container, a pair of panels each having a free edge, a rigid projection extending substantially longitudinally of and formed on the outer surface of one of said panels remote from the free edge of said one panel, said rigid projection having a latching face substantially parallel to said free edge, a flap foldably connected to the other of said two panels and folded into overlying relationship with said one panel and wherein said rigid projection is positioned adjacent the free edge of said flap, a substantially U-shaped resilient clip having a pair of legs embracing said pair of panels and flap, at least one of said legs terminating in an inwardly directed flange, said flange being urged by said resilient leg to engage said latching face.

5. A container as claimed in claim 4, wherein said rigid projection is an elongated bead of plastic material adhered to said outer surface remote from the free edge of said one panel.

6. A container as defined in claim 4 wherein said rigid projection extends substantially the full length of said one panel.

* * * * *