Jan. 28, 1969 H. F. DRNEC ETAL 3,424,369

REINFORCED COVER FLANGE FOR CONTAINERS

Filed Nov. 20, 1967

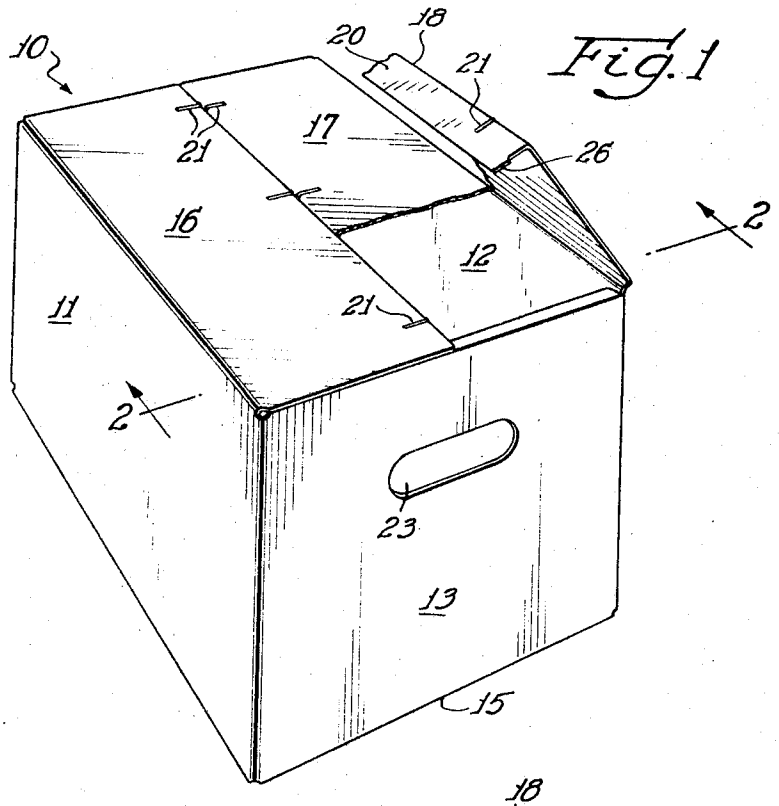


Fig. 1

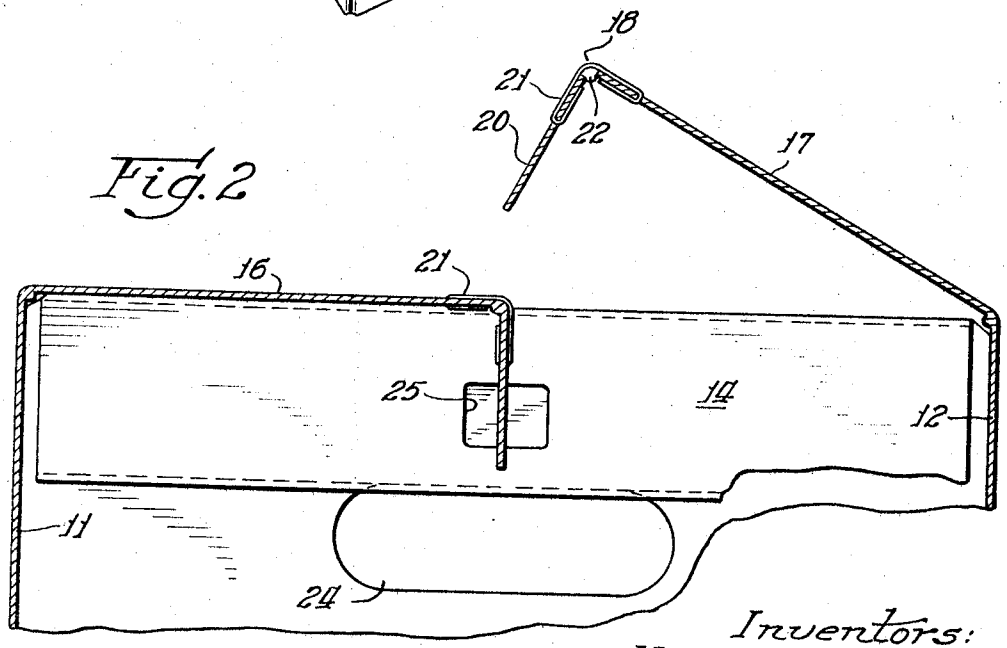


Fig. 2

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United States Patent Office 3,424,369
Patented Jan. 28, 1969

3,424,369

REINFORCED COVER FLANGE FOR CONTAINERS

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Filed Nov. 20, 1967, Ser. No. 684,194
U.S. Cl. 229—44 2 Claims
Int. Cl. B65d 5/10, 43/16

ABSTRACT OF THE DISCLOSURE

A container of relatively thick, foldable paperboard having side walls, end walls, a bottom, and cover panels hinged on the upper edge of each side wall, each cover panel having a fold line near its free edge, one or more metal or plastic staples secured in the panel across the fold line and bent together with the paperboard to form a flange, the flange being integral with the panel, the staples retaining the flange at a predetermined angle with the panel and allowing retention of the flange in the interior of the container when the cover is closed.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to a container made of relatively thick, foldable paperboard and a method of making the same and, more particularly, to a container having a reinforced cover panel flange where reinforcement is provided by the use of metal or plastic staples, and a method of forming the same.

The prior art

The containers having cover panels formed with flanges are known in the art and are used in today's packaging industry. The advantage of such containers lies in the relatively small quantity of paper consumed in the manufacture. When the container cover panels are closed, the flange, which is formed at an angle with the panel, must be situated in the interior of the container to effect proper closing of the cover. Heretofore, however, the flanges did not maintain proper angular relationship with the respective cover panel and, therefore, did not retain their position within the container, but overlapped on the top thereof causing the container to open. It has been attempted to correct this situation by constructing flanges of greater thickness than the panels. But this proved to be a wasteful construction due to the additional paperboard required.

The construction and method of the present invention overcomes the disadvantages known in the prior art and provides for an effective closure for a container of the type described without substantially increasing the manufacturing costs of such a container and utilizing a lesser amount of paper as used heretofore.

SUMMARY OF THE INVENTION

The present invention overcomes the disadvantages of the prior art and provides for a construction of properly closable container which remains closed until it is desired to open the same. Generally, the container is formed of relatively thick, bendable paperboard or fibreboard and comprises side walls, end walls and a bottom. The cover of the container is normally constructed of two panels which are hinged at the top of the side walls, and which are provided with a fold line located inwardly adjacent the inboard edges thereof. One or more metal or plastic staples are secured in a panel across the fold line and are bent together with the paperboard to construct a flange which maintains a predetermined angular relationship

with the remainder of the panel. This angular relationship is retained when the flange is positioned within the interior of the container when the cover panels are closed.

As a modification of the embodiment of this invention, one or more openings may be provided through the panel at the fold line before securing the staples therein, so that the staples, when placed in the panel, overlie the openings. The provision of the openings relieves the strain on the paperboard under the bent staple.

DRAWING

FIGURE 1 is a perspective view of the container of the present invention showing a portion of one of the cover panels in an open position; and

FIGURE 2 is a sectional view taken generally along the line 2—2 of FIGURE 1.

While this invention is susceptible of embodiment in many different forms, there is shown in the drawing and will herein be described in detail, an embodiment of the invention with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The scope of the invention will be pointed out in the appended claims.

Referring now to the drawing, more specifically to FIGURES 1 and 2, there is shown a rectangular container generally designated **10**. The container has side walls **11** and **12**, end walls **13** and **14** and a bottom **15**. The walls and the bottom are interconnected with one another in the usual manner. A pair of cover panels **16** and **17** are hinged on the upper edges of the side walls **11** and **12**, respectively. Since cover panels **16** and **17** are identical in construction and function, a detailed description of only one panel will be presented herein.

Referring now to the panel **17**, it can be observed that the panel is provided with a fold line **18** extending longitudinally in the panel. A flange **20** is formed at the fold line **18** to be positioned in the interior of the container **10** when the cover panel **17** is in a closed position. The flange **20** is integrally formed with the panel **17** and constitutes an angle of less than 90° with the panel **17**. The method of forming the flange is described hereinafter.

One or more metal or plastic staples **21**, having sufficient strength to hold the flange **20** in its bent position, are positioned across the fold line **18** by being secured in the panel **17** and flange **20** in such a manner that one end of the staple penetrates the panel, while the other end penetrates the flange. The provision of staples **21** insures retention of the desired angle between the flange **20** and the panel **17** when the flange is in its downward position, that is, within the container **10**.

In order to minimize the strain exerted on the bent paperboard under the staples **21**, small openings, or holes, **22** may be formed in the fold line **18**. When the container is formed with such openings **22**, the staples **21** are so positioned that they overlie the aforementioned openings.

As seen in FIGURE 1, the end wall **13** is formed with an opening **23** which corresponds to an opening **24** in the end wall **14**, best seen in FIGURE 2. The openings **23** and **24** are provided for insertion of hands while carrying the container.

As best seen in FIGURE 2, the end wall **14** is formed with a locking indentation **25** which secures the tip **26** of the flange **20** (best seen in FIGURE 1) within the container when the cover panel is closed.

In the formation of this container, after the blank has been suitably formed and scored and the fold line **18** provided inwardly adjacent the inboard edge of the cover panel, openings **22** may be made at the fold line extending through the entire depth thereof. A desired number

of staples **21** is then secured in the panel across the fold line **18**. After the staples are in place, they are bent together with the edge portion of the panel **17** to form the flange **20** having a predetermined angular relationship with the panel **17**.

The container of this invention may be totally or partially erected at the plant of the manufacturer or at the plant of the user. The formation of the flange and openings and securing of staples can be performed either at the plant of the manufacturer or at the plant of the user.

Without departing from the scope of the present invention, the container may be formed with a single cover panel (not shown) hinged on the upper edge of a side wall and extending across the top of the container. The formation of the flange, insertion of staples and provision of openings in the fold line in the single cover panel is identical to those described heretofore in connection with panel **17**. When the container is closed, the flange on the single cover panel is positioned within the container adjacent the side wall of the container opposite the side wall on which the panel is hinged.

We claim:

1. A container formed from relatively thick, foldable paperboard comprising:

(a) side walls, end walls and a bottom;

(b) at least one cover panel hinged on the upper edge of a side wall and extending across the top of the container;

(c) said cover panel having a longitudinal fold line located inwardly adjacent its inboard edge;

(d) a flange integrally formed with said panel at said fold line at a predetermined angle with said panel;

(e) at least one staple positioned across said fold line for retaining said panel and said flange at said predetermined angle.

2. A container formed from relatively thick, foldable paperboard comprising:

(a) side walls, end walls and a bottom;

(b) at least one cover panel hinged on the upper edge of a side wall and extending across the top of the container;

(c) said cover panel having a longitudinal fold line located inwardly adjacent its inboard edge;

(d) a flange integrally formed with said panel at said fold line at a predetermined angle with said panel;

(e) at least one staple bent at said fold line for retaining said panel and said flange at said predetermined angle;

(f) a relatively small opening extending through said panel at said fold line and underlying said staple.

References Cited

UNITED STATES PATENTS

2,047,809	7/1936	Usinger	229—49
2,933,228	4/1960	Guyer	229—49 X
3,095,137	6/1963	Reynolds	229—44
3,226,007	12/1965	Thies et al.	229—44 X

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U.S. Cl. X.R.

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