Dec. 23, 1952 H. M. KIECKHEFER 2,622,785

CONTAINER

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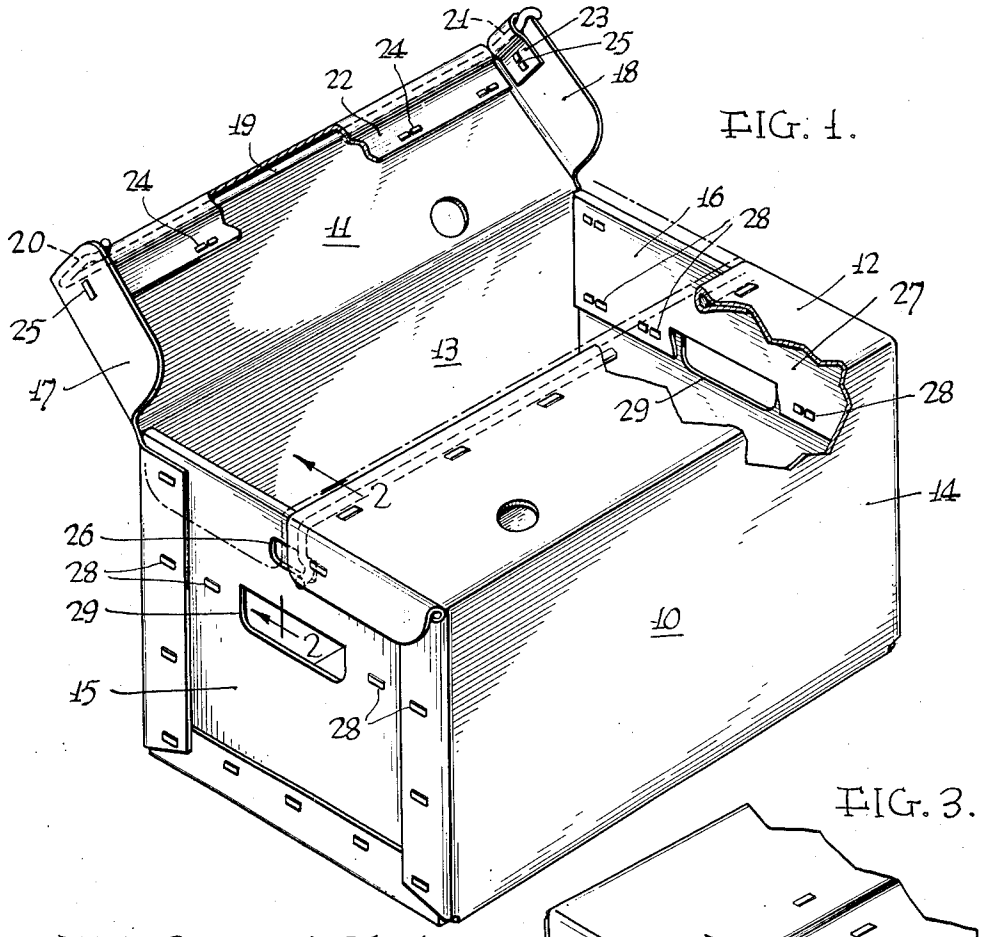


FIG. 1.

FIG. 3.

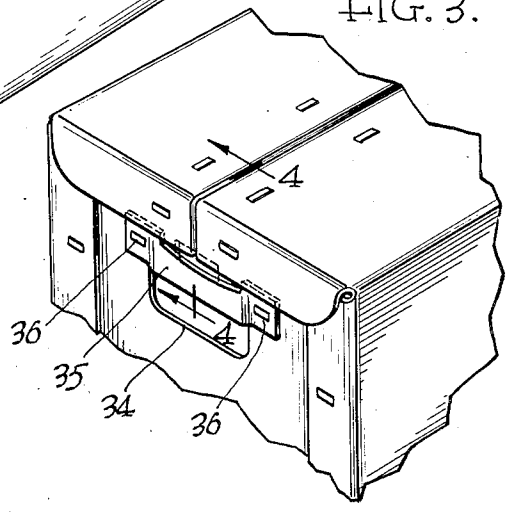


FIG. 2.

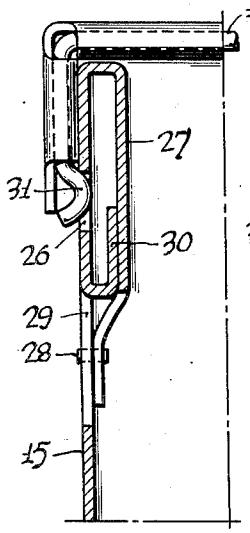
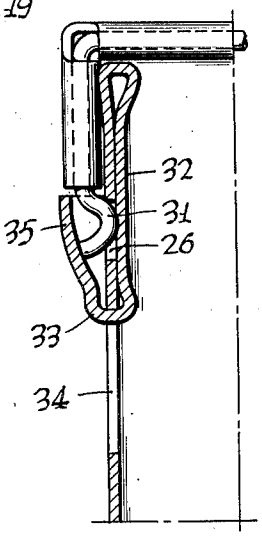


FIG. 4.



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CONTAINER

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6 Claims. (Cl. 229—44)

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This invention relates to box-like containers and more particularly to returnable containers of the type which are commonly used to encase beverage bottles, milk cartons, and like articles. Such containers are commonly formed of heavy cardboard, and they are used repeatedly and are therefore subjected to considerable wear and tear. A common form of such containers comprises an open-top box-like structure, and a pair of cover flaps hinged to the opposed side walls of said structure.

Prior containers of this type have not been entirely satisfactory for a number of reasons. A common fault of such a container is that the cover flaps tend to fly open when the container is roughly handled as is frequently the case. Another objection to some prior containers is that some of the edges are left unprotected against wear, particularly where the edges come together when the cover flaps are closed, and such edges tend to wear very rapidly particularly when the container is roughly handled. A common form of such containers is one having depending flanges along the free edges of the cover flaps, which flanges extend through slots in the end panels of the container when the cover flaps are closed. The slotting of the end panels weakens them, and when the container is carried with one hand, the lowermost end panel is subjected to the weight of the contents and may fold or collapse, particularly if the cover opens or if the small flange breaks so that the end panel is unsupported. Still another objection is inherent in a container of the character above-mentioned. Where it is desired to have an odd number of rows of the encased articles such as bottles in a container—as is the case where bottles are arranged in three longitudinal rows each having four bottles—the cover flaps must be of unequal width, since otherwise the depending flanges would strike the tops of the bottles in the center row. This is objectionable, particularly from the standpoint of filling the open containers on conveyors. It is desirable to have a minimum amount of clearance on both sides of a conveyor which carries the containers with the cover flaps open. However, if one flap is wider than the other, it is necessary to provide greater clearance on one side of the conveyor than on the other side.

The principal object of the present invention is to provide a container which is free of the above-mentioned objections of prior containers.

A further object of the invention is to provide a container which is strong and durable, and which is capable of withstanding the handling to which such containers are subjected.

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Another object of the invention is to provide a container which is simple in construction and which is capable of low cost manufacture.

Other objects and features will be apparent from the following detailed description with reference to the accompanying drawing wherein:

Fig. 1 is a perspective view of a container constructed according to the present invention, with certain portions broken away for the purpose of illustration;

Fig. 2 is a fragmentary sectional view taken along line 2—2 of Fig. 1;

Fig. 3 is a fragmentary perspective view of another embodiment of the invention;

Fig. 4 is a fragmentary sectional view taken along line 4—4 of Fig. 3.

Referring first to Figs. 1 and 2, there is shown a container comprising an open-top box-like structure designated generally by reference character 10, and a pair of cover flaps 11 and 12 hinged respectively to two opposed walls of said structure. In its preferred form the container is rectangular so that it has side walls 13 and 14, and end walls 15 and 16, the cover flaps being hinged to the side walls.

In accordance with the present invention each cover flap is formed so that it has depending flanges 17 and 18 only at its ends, the unhinged longitudinal edge of the flap being free of any depending flange. A rod 19, preferably formed of metal and having substantial stiffness but being somewhat resilient, is secured to the underside of the cover flap adjacent the longitudinal edge thereof, and this rod has bent end portions 20 and 21 associated with the end flanges 17 and 18 and secured thereto. Preferably the rod 19 is secured to the cover flap and to its end flanges by means of inwardly turned portions 22 and 23, which are stapled as at 24 and 25. This arrangement adds greatly to the stiffness and strength of the cover flaps.

Each of the end walls 15 and 16 has an uninterrupted upper edge and has a recess or aperture 26 in spaced relation to said edge and adapted to receive the ends of the rods. As shown in Fig. 2, the upper portion of each end wall is of double thickness, the wall having a down-turned extension 27 which is stapled at 28. A finger slot 29 is provided in each end wall, and a flap 30 is turned inwardly from said slot into engagement with the extension 27. The aperture 26 is provided in the outer side of the double wall portion, and the associated end of each rod is bent as shown at 31, to provide a detent adapted to seat in the slot 26.

By means of the structure above described a

number of advantages are obtained. The rods support the end panels when the cover flaps are closed, and prevent either end panel from folding or collapsing when the container is carried with one hand, even if the flanges are turned away from the end panels. Since the unhinged longitudinal edges of the cover flaps are free of depending flanges, the flaps may be of the same width even where it is desired that the container shall encase an odd number of rows of bottles or like articles. Moreover, the said longitudinal edges of the cover flaps, as well as the end flanges thereof, are strengthened and rigidified by the rods. Further still, the structure provides for positive interlocking of the cover flaps with the end walls, and there is no tendency for the flaps to fly open even when the container is roughly handled. Further still, the structure leaves no unreinforced edges which are subject to wear. In this connection it will be noted that the upper edges of the end walls are reinforced by virtue of the double thickness, as are also the upper edges of the finger openings **29** where lifting force is applied.

In Figs. 3 and 4 there is illustrated another embodiment of the invention wherein the end wall structure is somewhat different than in the previously described embodiment. In this instance each end wall has a down-turned flange **32** which engages the inside of the wall proper, and a portion **33** of said extension extends through the finger slot **34** and is formed to provide a guard **35** over the associated end portions of the rods. As may be seen in Fig. 3, the ends of the guard **35** are stapled at **36**. In this instance, the detent end portion of each rod extends substantially below the cover flange, as may be seen in Fig. 4, and the guard **35** prevents contact with the end portions of the rods during handling of the container with the cover flaps closed. Aside from the differences mentioned, the embodiment of Figs. 3 and 4 is similar to that of Figs. 1 and 2.

It will be seen that the invention provides a container which is free of the various objections of prior containers of this general type. Moreover, the container provided by the invention is strong and wear-resistant, particularly at the points which are subject to greatest wear during use and handling of the container. Furthermore, the container is simple in construction and is capable of low cost manufacture.

While certain embodiments of the invention have been illustrated and described, it is to be understood that the invention is not limited thereto but is capable of various other embodiments.

I claim:

1. A container comprising side and end walls and a bottom forming an open-top box-like structure, each of said end walls having an uninterrupted upper edge and having a recess in spaced relation to the upper edge, a pair of cover flaps hinged respectively to said side walls, each cover flap having flanges only at its ends, and a member carried by each cover flap and extending completely along the underside of the cover flap adjacent the free longitudinal edge thereof and along the inside of said flanges and serving to reinforce the cover flap, the end portions of each member being formed to constitute with the recesses in said end walls snap latch means to hold each cover flap in closed position and to permit opening thereof.

2. A container comprising side and end walls and a bottom forming an open-top box-like structure, each of said end walls having an uninterrupted upper edge and having a recess in spaced relation to the upper edge, a pair of cover flaps hinged respectively to said side walls, each cover flap having flanges only at its ends, and a rod carried by each cover flap and extending completely along the underside of the cover flap adjacent the free longitudinal edge thereof and along the inside of said flanges and serving to reinforce the cover flap, the end portions of each rod being shaped to provide detent elements removably seatable in the recesses in said end walls to effect snap latching of each cover flap in closed position and to permit opening of each cover flap.

3. A container according to claim 2, wherein each of said rods is held by looped extensions on the associated cover flap and its end flanges.

4. A container comprising side and end walls and a bottom forming an open-top box-like structure, each of said end walls having a down-turned extension at the upper part thereof providing double thickness of said part, and also having a slot opening in the outside of said part, a pair of cover flaps hinged respectively to said side walls, each cover flap having flanges only at its ends, and a reinforcing rod carried by each cover flap and extending completely along the underside of the cover flap adjacent the free longitudinal edge thereof and along the inside of said flanges, the end portions of each rod being shaped to provide detent elements removably seatable in the slot openings in said end walls to effect snap latching of each cover flap in closed position and to permit opening of each cover flap.

5. A container according to claim 4, wherein each of said end walls has a finger slot therein below the first-mentioned slot opening, and a flap is turned inwardly from said finger slot into engagement with the aforementioned down-turned extension.

6. A container according to claim 4, wherein each of said end walls has a finger slot therein below the first-mentioned slot opening, and each of said down-turned extensions has a portion projecting through the associated finger slot and forming a cover guard for the associated end portions of said rods.

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