March 1, 1955 J. F. BRASCH 2,703,197

CARTON HANDHOLE REINFORCEMENT

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FIG.1.

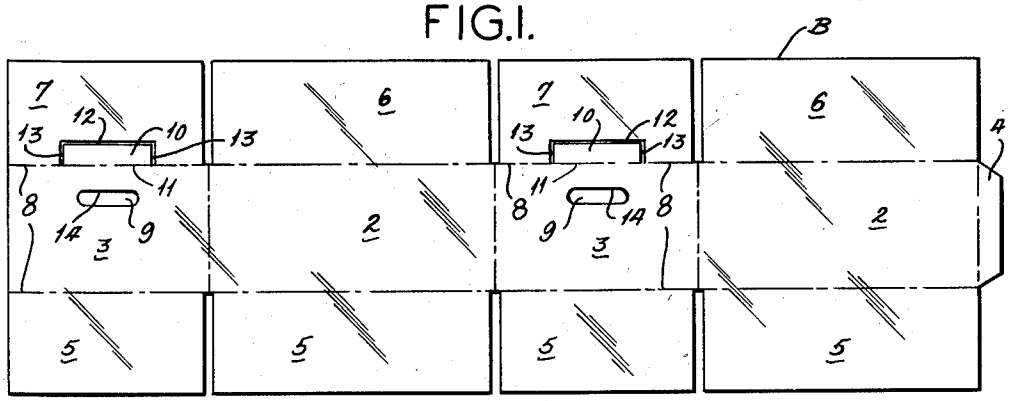


FIG.2.

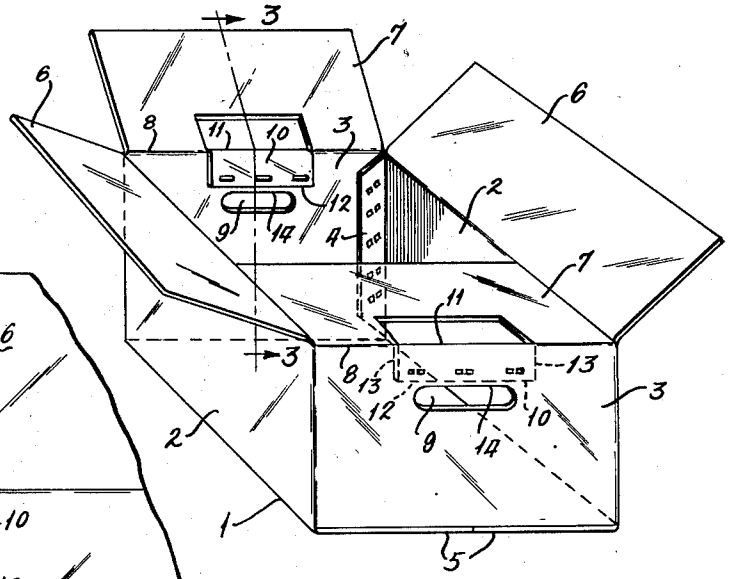
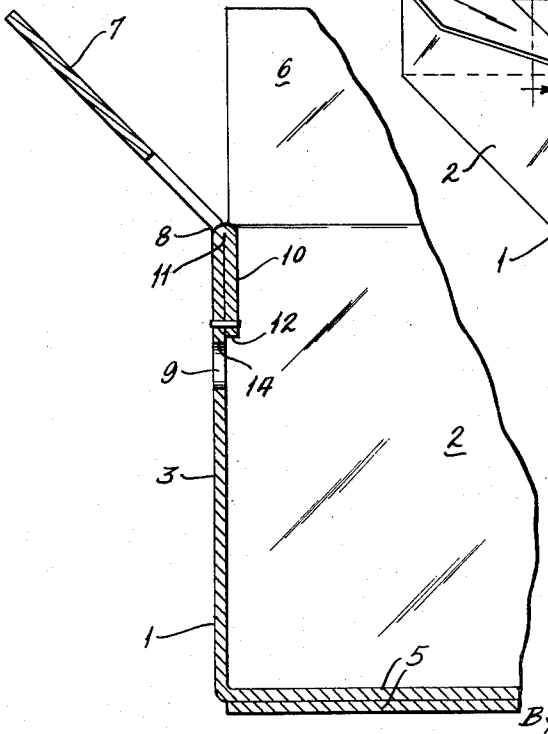


FIG.3.



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CARTON HANDHOLE REINFORCEMENT

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5 Claims. (Cl. 229—37)

This invention relates in general to cartons and containers of the type used for packaging and carrying products, especially bottled products. In particular, this invention relates to means for reinforcing the handhole of a carton without requiring the use of extra or thicker material and without sacrificing the function or purpose of any element of the carton.

Various means have been employed to strengthen an end wall in a carton above a handhole therein to prevent said handhole from tearing or otherwise failing when the carton is lifted or carried, especially when lifted or carried with one hand. However, such means have generally been complicated, expensive, required additional material, or destroyed the function of another element of the carton.

The principal object of the present invention is to provide a handhole reinforcement for a carton without using a separate piece of material and without eliminating the function of the end cover panels. This object is effected by utilizing a portion of the end cover panel, which portion remains hingedly connected to the end wall and depends from the upper margin thereof, thereby leaving the remaining portion of the end cover panel to fulfill its function as such.

Another object of this invention is to provide a simple, inexpensive reinforcement which will allow the handholes to be used individually without damaging or weakening the end wall. These and other objects and advantages will become apparent hereinafter.

The invention is embodied in an improved one-piece carton having a reinforced handhole in an end wall and an end cover panel extending perpendicularly inwardly from said end wall and extending over a portion of the goods in said carton thereby forming an extra thickness in the cover of said carton.

The invention also consists in the parts, and combination of parts hereinafter described and claimed. In the accompanying drawings which form a part of this specification and wherein like numerals and letters refer to like parts wherever they occur:

Fig. 1 is a top plan view of the inner face of a one-piece blank embodying one form of the present invention and showing handhole reinforcing flaps formed from portions of end cover flaps.

Fig. 2 is a perspective view of a carton folded from the blank shown in Fig. 1 showing each reinforcing flap secured to the inner face of the end wall above the handhole, and

Fig. 3 is a vertical cross sectional view of the assembled carton taken along the line 3—3 of Fig. 2.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a carton 1 folded from a blank B having serially connected side walls 2, end walls 3, and a marginal tab or manufacturer's tab 4. Hingedly secured to the bottom margin of each side and end wall 2 and 3 is a bottom panel 5. Hingedly secured to the upper margin of each side wall 2 is a side cover panel 6. The upper margin of each end wall 3 is provided with an end cover panel 7 hingedly connected thereto along scorelines 8.

Each of the end walls 3 is provided with a handhole 9 in the upper central portion thereof. A reinforcing flap 10 is cut from each end cover panel 7 directly above said handhole 9 and is adapted to be folded downwardly about a score 11 in conterminous relation with scorelines

8 and secured in parallel relation to the inner face of the end wall 3 directly above said handhole 9. Each reinforcing flap 10 has an outer edge 12 and two end edges 13, said outer edge 12 and the upper edge 14 of the handhole 9 being substantially equidistant from said score 11. The width of said reinforcing flap 10, or the distance between the end edges 13, is at least as great as the straight upper edge 14 of the handhole 9 and is preferably greater than the overall width of said handhole 9.

The reinforcing flaps 10 may be folded downwardly and fastened to the end walls 3 by staples, glue, or other suitable means before the carton 1 is folded from the blank B, or if desired, the reinforcing flaps 10 may be attached to the end walls 3 after the carton 1 has been folded. This can be done by the blank manufacturer or at a later time by the user. The carton 1 is folded from blank B by folding the side and end walls 2 and 3 along the vertical scores into box-forming relation and securing the marginal tab 4 to the inner face of the adjacent wall by staples or other suitable means. The end bottom panels 5 are folded inwardly and the side bottom panels 5 are folded inwardly to lie in overlapping relation with the end bottom panels 5 to which they are secured to form the bottom of the carton 1. After the reinforcing flaps 10 have been secured to the end walls 3, preferably by the blank manufacturer, and after the carton 1 has been loaded, the end cover panels 7 are folded downwardly and inwardly along scorelines 8 to cover the open end portions of said carton 1. The side cover panels 6 are folded downwardly and inwardly over said end cover panels 7 to which they are sealed to form the outer cover of the carton 1, thereby completely covering the openings in said end cover panels 7 formed by folding said reinforcing flaps 10 downwardly.

In manufacturing the blank B for the carton 1, the handhole 9 provided in each end wall 3 may be completely punched out as shown, or if desired, the handhole 9 may be slit along the ends and lower edge only, thus providing an integral handhole flap, not shown, hingedly secured to the upper edge 14 of the handhole 9, said hand hole flap being adapted to be folded upwardly and secured to the exposed face of the reinforcing flap 10, thereby providing a relatively wide and smooth edge for carrying.

If desired, the reinforcing flap 10 can be made larger so that its lower edge can be shaped to register with the curved ends of the handhole as well as its straight upper edge, said flap having the extreme end portions of its outer edge terminating on a line substantially conterminous with the bottom edge of the handhole or therebelow. In other words, the reinforcing flap can be shaped to partially or fully circumscribe the handhole if desired.

This invention is intended to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

What I claim is:

1. A one-piece blank for a carton comprising a pair of end walls and a pair of side walls, said side and end walls having bottom forming panels foldably connected thereto, said side walls having side cover panels foldably connected thereto, each of said end walls having an end cover panel and a reinforcing panel foldably connected thereto along a score, said reinforcing panels being formed from a portion of said end cover panels and having an outer edge and two end edges, said end walls having handholes in the upper portion thereof, the outer edges of said reinforcing panels and the upper edge of said handholes being substantially equidistant from said scores, said reinforcing panels being adapted to be folded about said scores and secured to the top portions of said end walls above said handholes.

2 In a carton, an end wall having a handhole therein and a cover panel hingedly connected thereto along the upper margin thereof, said cover panel being adapted to extend inwardly at right angles to said end wall, a rein-

forcing flap struck from said cover panel and folded downwardly along the upper portion of said end wall above said handhole, thereby reinforcing said end wall and said handhole.

3. An end wall for a carton, said end wall having a handhole therein, and an end cover panel hingedly connected to the upper margin of said end wall, said end wall having reinforcing means hingedly connected to the upper margin thereof in conterminous relation with said end cover panel, said reinforcing means being formed from said end cover panel, said reinforcing means comprising a flap having an outer edge and two end edges, said outer edge of said flap and the upper edge of said handhole being equidistant from the upper margin of said end wall, said flap extending downwardly along the inner face of said end wall and secured to the upper portion thereof.

4. A carton folded from a one-piece blank comprising a bottom and opposing pairs of side and end walls, said side and end walls having side and end wall cover panels, each of said end walls having a handhole therein, and means for reinforcing each of said end walls between the upper margin thereof and the upper edge of said handhole, said reinforcing means comprising a reinforcing flap formed from said end cover panel, said flap being hingedly connected to the upper margin of said end wall

and depending therefrom, said reinforcing flap being secured to the upper portion of said end wall, the lower edge of said reinforcing flap terminating at the upper edge of the handhole.

5. A carton folded from a one-piece blank comprising a bottom and opposing pairs of side and end walls, said side and end walls having side and end wall cover panels hingedly connected thereto, each of said end walls having a handhole therein, and means for reinforcing each of said end walls between the upper margin thereof and the upper edge of said handhole, said reinforcing means being hingedly connected to said upper margin of said end wall in conterminous relation with said end cover panel, said means being formed from said end cover panel, said reinforcing means comprising a flap having an outer edge and two end edges, said outer edge of said flap and the upper edge of said handhole being equidistant from the upper margin of said end wall, said flap depending from the upper margin of said end wall and secured to the upper portion thereof.

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