Sept. 23, 1952 W. C. GEORGE 2,611,530

SHIPPING CARTON WITH HANDHOLE REINFORCING AND FLAP SECURING CLIP

Filed Oct. 1, 1948

FIG. 1.

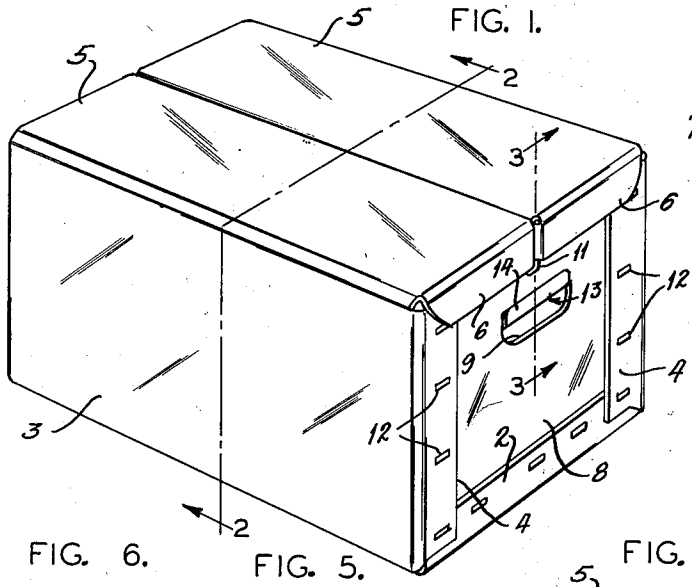


FIG. 3.

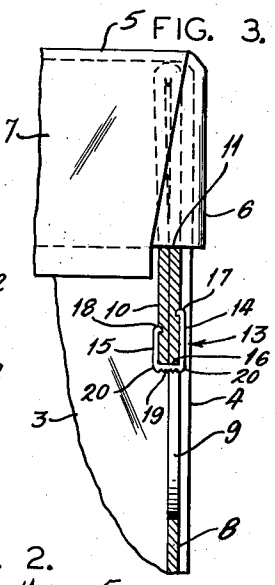


FIG. 6.

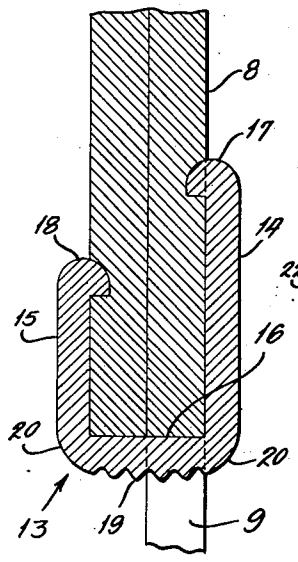


FIG. 5.

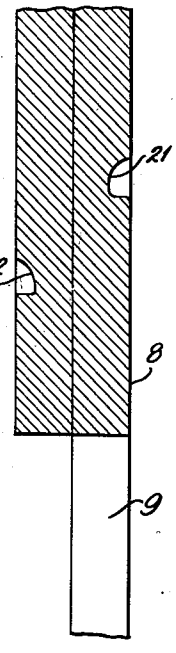


FIG. 2.

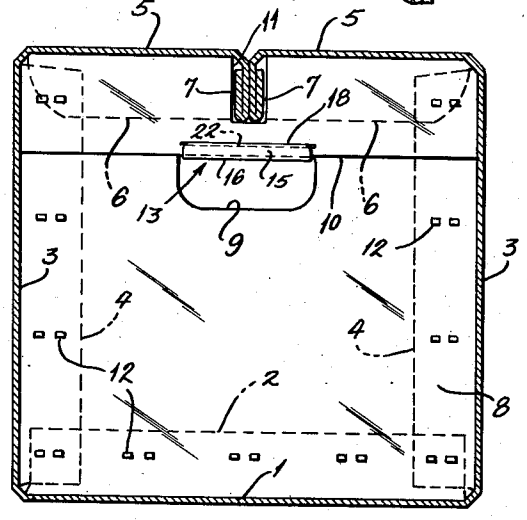


FIG. 4.

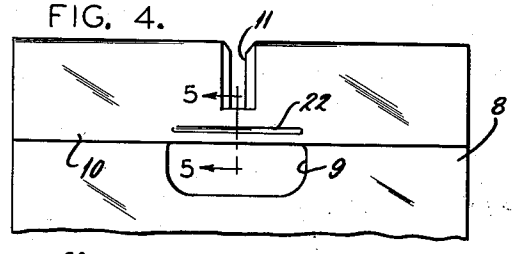


FIG. 7.

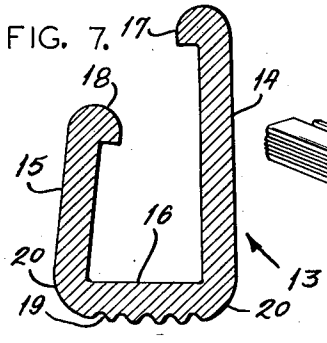
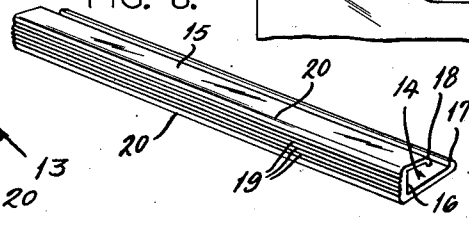


FIG. 8.



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SHIPPING CARTON WITH HANDHOLE REINFORCING AND FLAP SECURING CLIP

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3 Claims. (Cl. 229—52)

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This invention relates to fiberboard containers, particularly bottle shipping cartons of the kind having separate end walls with horizontally elongated hand holes therethrough and upper marginal flaps that are folded downwardly against the inner faces of the end walls to about the upper edges of the hand holes and are stapled to the end walls above the hand holes. The principal object of the present invention is to provide a carton of the above type having simple and economical, quick attachable self-holding means which will firmly secure the lower edge of the downturned upper marginal flaps of the end walls against the inside faces thereof along the upper edges of the hand holes therethrough, and which will increase the strength of the end walls above the hand holes, protect said edges of said flaps and hand holes and provide a smooth and comfortable grip for the fingers. Other objects are simplicity and cheapness of construction and compactness of design.

The invention consists in providing a carton of the above type with clips that embrace the upper margins of the hand holes in the end walls and the lower margins of the downturned upper marginal flaps of the latter; it also consists in the means for securing the clips in place; it also consists in the folded end wall blank and hand hole reinforcing and flap securing assembly; and it also consists in the hand hole reinforcing and flap retaining clip.

In the accompanying drawings, which form part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a perspective view of a shipping carton embodying my invention,

Fig. 2 is a vertical cross-sectional view on the line 2—2 in Fig. 1,

Fig. 3 is an enlarged fragmentary vertical longitudinal sectional view on the line 3—3 in Fig. 1,

Fig. 4 is an inner face view of the upper portion of the folded blank for one of the end walls before the attachment of the clip thereto,

Fig. 5 is a fragmentary vertical section on the line 5—5 in Fig. 4,

Fig. 6 is a view similar to Fig. 5, showing the clip straddling the upper edge of the hand hole and the lower edge of the end wall flap.

Fig. 7 is a cross-sectional view of the detached clip; and

Fig. 8 is a perspective view of the detached clip.

In the accompanying drawings, my invention is shown embodied in a carton comprising a bottom 1 with upstanding end flanges 2, side walls 3 with end flanges 4, and two hinged half covers 5 having depending flanges 6 along their ends and depending flanges 7 along their meeting side edges, all formed from a single blank of fiberboard or other bendable material. The

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carton is preferably provided with separate end walls 8 that are formed from fiberboard blanks and have horizontally elongated hand holes 9 therethrough near their upper ends and upper marginal flaps 10 that are folded downwardly flat against the inner faces of said end walls with their lower edges substantially flush with the upper edges of said hand holes.

The end walls 8 have central transverse notches 11 in the folded upper edges thereof of a depth sufficient to receive and support the meeting side marginal flanges 7 of the hinged half covers 5 in the closed position thereof, the end flanges 6 of the closed covers overhanging the outer sides of said end walls. The end flanges 2 of the bottom 1 and the end flanges 4 of the side walls 3 overlap and are rigidly secured by staples 12 flatwise to the outer faces of the end walls 8, the uppermost securing staples for the end flanges of the side walls also passing through the end portions of the downturned upper marginal flaps 10 for securing them to said end walls.

The downturned upper marginal flap 10 of each end wall 8 is secured thereto above the hand hole therein by means of a channel-shaped clip or clamp 13 which straddles and tightly embraces the lower marginal portion of said flap and the portion of said end wall that defines the upper edge of said hand hole. The channel shaped clip 13 extends substantially from end to end of the hand hole 9 and preferably comprises a relatively deep upstanding outer side flange 14 which engages the outer face of the end wall, a relatively shallow upstanding inner side flange 15 which engages the inner face of the downturned upper marginal flap 8 of the end wall, and a bottom connecting web 16 for said flanges.

The relatively deep outside flange 14 of the clip 13 is thickened along its upper edge to form a round-topped rib or bead 17 that extends from end to end of said flange and overhangs the inner face thereof; and a similar overhanging bead 18 is formed along its upper edge of the relatively shallow inner side flange 15 of said clip. The web 16 of the clip 13 has a transversely convex, longitudinally corrugated bottom surface 19, and the lower longitudinal corners of said clip are rounded, as at 20. The overhanging inner side portion of the upper marginal rib 17 of the relatively deep outer side flange 14 of the clip 13 seats in a preformed horizontal groove or score 21 provided therefor in the outer face of the end wall 8; and the overhanging portion of the similar upper marginal rib 18 of the relatively shallow inner side flange 15 of said clip seats in a similar preformed horizontal groove or score 22 provided therefor in the exposed face of the downturned upper marginal flap 10 of said end wall.

The clip is made of any suitable material having sufficient resilience to enable the side flanges 14 and 15 to be sprung outwardly when the clip is forced upwardly over the flush edges of the hand hole 9 and upper marginal flap 10 of the end wall 8 and to permit the beaded upper edge 17 of the outer side flange to snap into the groove 21 in said end wall and the beaded upper edge 18 of the inner side flange to snap into the groove 22 in said flap when the bottom web 16 of said clip seats against said flush edges. As shown in Fig. 7, the clip 13 may be initially made with the width of the bottom of the groove therein corresponding substantially to the combined thickness of the end wall 8 and the downturned upper marginal flap 10 thereof and with the side flanges 14 and 15 disposed on upwardly converging lines so as to increase the clamping effect of said clip. The clip may be further secured to the end wall 8 and flap 10 thereof by means of a suitable adhesive.

The hereinbefore described construction has numerous important advantages. The clip serves to strengthen and protect the upper edge of the hand hole and the lower edge of the downturned flap of the end wall and provides a decorative trim along said hand hole and a smooth and comfortable grip for the fingers in lifting and handling the carton. The clip may be made of plastic which will maintain its strength and rigidity and resiliency over a wider range of temperature and moisture conditions than will the fiberboard material from which the carton is made; and it may be made of different colored plastic to add to the appearance of the end of the carton. The clip serves to securely clamp the lower edges of the flap to the end wall between the ends of said flap, thereby dispensing with the extra staples hereinbefore required to secure this portion of the flap to the end wall, and the relatively deep side flange of the clip serves to position the groove of the clip in line with the flush edges of the hand hole and flap when the clip is forced over said edges. The clip is firmly held in place by the interlocking engagement of the upper marginal ribs of the side flanges of the clip and the grooves in the end wall and its downturned flap; and the rounded tops of said ribs serve to pilot the clip over the flush edges of the hand hole and flap. In practice, the upper marginal flap of the end wall blank may be folded down upon the blank and the clip applied thereto by the manufacturer and the folded blank and clip assembly shipped as a unit to the user for ready assembly with the end flanges of the bottom and side walls of the carton.

What I claim is:

1. A wall of fiberboard or like bendable and compressible material having an elongated hand hole therethrough, said wall having a reinforcing wall part associated therewith, the wall part having an edge portion extending along the upper edge of said hand hole, the upper edge of the hand hole and said edge portion of the wall part being flat and extending substantially flush with each other, the upper edge of the hand hole being parallel to the upper edge of said wall, the wall and the wall part each being provided with an elongated pre-formed anchoring groove in its outer face having a flat bottom wall extending inwardly therefrom at substantially a right angle thereto and parallel with and adjacent to the upper edge of said hand hole, said grooves each being of a length substantially equal to the length of the hand hole opening, and a combined hand grip and spring clamp of channel formation comprising straight side flanges and a bottom web having a flat inner side face, said flanges each being substantially coextensive in length with the upper edge of said hand hole and each flange having thereon at its free end an inwardly projecting rib that has a flat bottom face extending at substantially a right angle to the inner face of the flange, the bottom web of the clamp being no greater in width than the combined thickness of said wall and wall part, the flanges of the clamp initially before the clamp is applied to said wall and wall part extending outwardly on converging lines and the distance between opposite outer portions of the flanges being less than the combined thickness of said wall and wall part, said clamp being sprung over the edges of said hand hole and wall part to straddle the same with the inner face of its bottom web seated flatwise against the free lower edge of the wall part and the upper edge of the hand hole, the location of said grooves relative to the upper edge of the hand hole and the width of said flanges of the clamp being such that the ribs of the flanges snap into and are locked in said anchoring grooves of the wall and wall part with the flat bottom faces of the ribs fitting against the flat bottom faces of said grooves, the inner side faces of said flanges throughout the extent thereof between the juncture of the same with the bottom web and the ribs at the free ends thereof bearing flatwise against and exerting inward pressure upon the remote faces of said wall and wall part whereby said aligned edges of said hand hole and said wall part are immovably held in fixed relation under sustained compression against the bottom web and flanges of the clamp, and the clamp is securely held to the wall and wall part against accidental displacement and provides a hand grip in the upper part of the hand hole.

2. A construction of the character defined in claim 1 and wherein each of said ribs is in the form of a bead having a transversely rounded outer face overlying the flat bottom wall of the rib and acting to pilot the rib over the edges of the wall and reinforcing wall part when the clamp is slipped thereover.

3. A construction of the character defined in claim 1 and wherein the grooves in the outer faces of said wall and reinforcing wall part are located different distances from the upper edge of the hand hole, and one flange of the clamp is of less width than the width of the other flange of the same.

WALTER C. GEORGE.

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