Nov. 16, 1948. J. HARHAY 2,453,908

BOTTLE CARRIER

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Fig. 1.

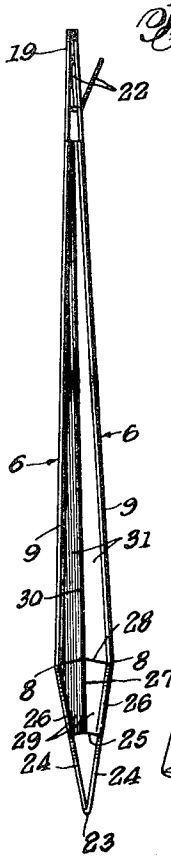


Fig. 2.

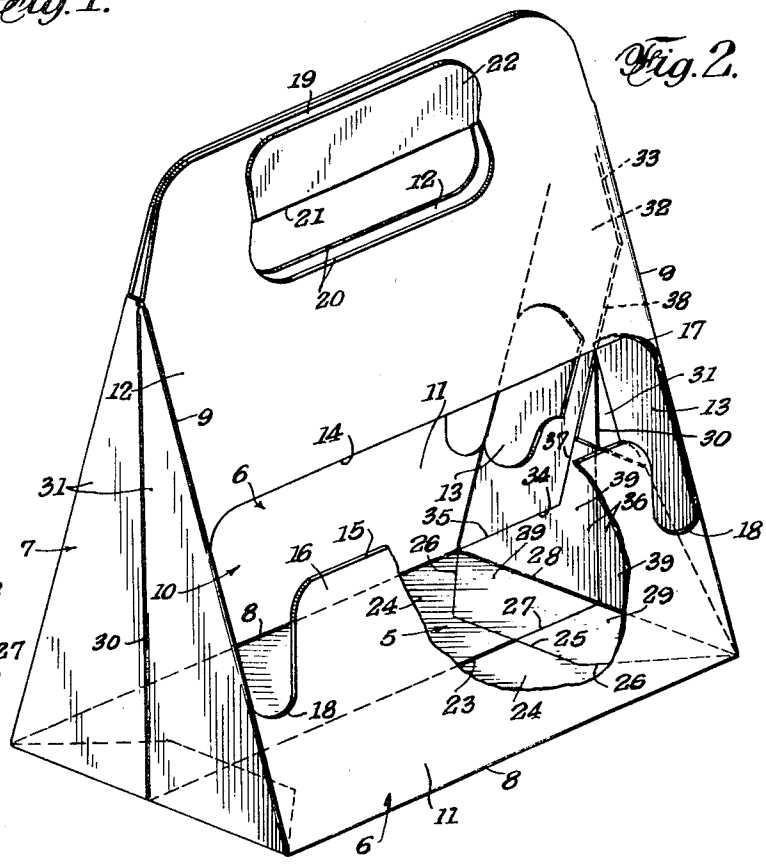
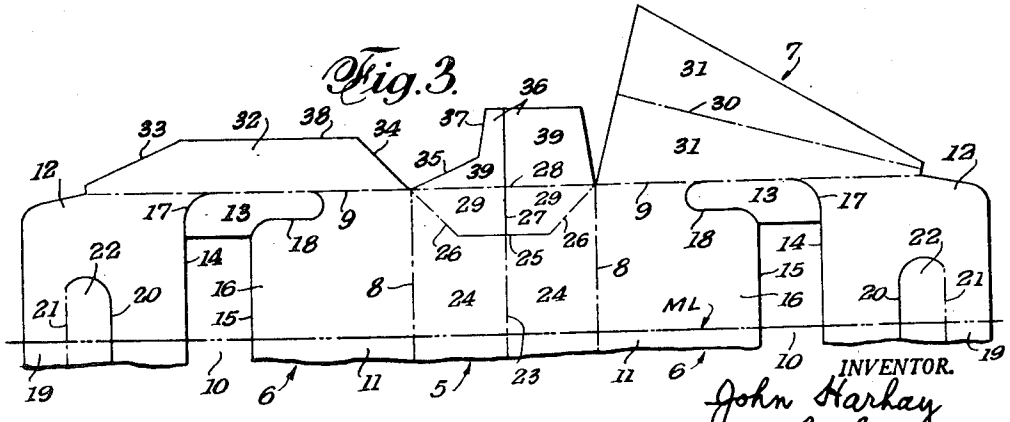


Fig. 3.



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BOTTLE CARRIER

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4 Claims. (Cl. 229—52)

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This invention relates to cartons of the type used for carrying containers such as bottles and cans.

The main object of the present invention is to provide a collapsible article carrying carton which is flat when folded for shipment and which is readily and quickly opened for use.

Another object of the invention is to provide a novel and improved article carrying carton which is quickly opened from a flat folded condition by merely setting the lower edge fold thereof on a flat surface and pressing bodily downward.

Another object of the invention is to provide an article carrying carton the ends of which are triangular in shape for improved strength and yet affording economy of material.

Another object of the invention is to provide an article carrying carton which is formed with inwardly sloping opposed side walls integrally connected to an outwardly foldable bottom and inwardly foldable ends whereby the carton, from a collapsed condition, can be readily opened for use by a mere straightening of the folded bottom.

My invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangement of parts, which will more fully appear in the course of the following description. However, the drawings merely show and the following description merely describes one embodiment of the present invention, which is given by way of illustration or example only.

In the drawings, like reference characters designate similar parts in the several views.

Fig. 1 is an end elevational view, in folded condition, of an article carrying carton embodying the features of the present invention.

Fig. 2 is a partly broken perspective view showing the carton open for use.

Fig. 3 is a view of the blank from which the carton is formed, one half of the blank being shown, the other half being symmetrical on the medial line ML.

The carton which is illustrated in the drawing is integrally formed of a single sheet of suitable cardboard or like material. Essentially, the carton comprises a bottom 5, substantially identical sides 6, and substantially identical ends 7. The

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bottom and sides are arranged in aligned relation with the bottom between the sides and connected therewith along scored or fold lines 8. The ends 7 are connected to one of the sides 6 along scored or fold lines 9 on each side edge of said side.

Inasmuch as the sides 6 are alike, the following description of one will serve to describe the other. A transverse opening 10 is formed in the side to divide the same into lower and upper portions 11 and 12, respectively. At each end of the opening 10, there is provided a tab 13 connected along the fold line 9 and extending from the lower edge 14 of the upper portion 12, downwardly past the upper edge 15 of the lower portion 11, to a point approximately midway between said edge 15 and the fold line 8. In this manner the upper part 16 of the portion 11 is free to be bent or flexed out of the normal plane of the side 6. The tab 13 is formed by a curved cut or slit 17 severing the same from the portion 12 and by a reversely curved cut or slit 18 severing the tab from the portion 11.

The carton is provided with a hand grasping portion 19 by cutting a transverse slit 20 in the side portion 12, curving the ends of said slit upwardly to meet a scored or fold line 21 and thereby defining a tab 22 foldable on said fold line 21.

The bottom 5 is formed with a scored or fold line 23 extending longitudinally to divide said bottom into like panels 24. The fold line 23 terminates, at each end, at a transverse slit 25 whose ends meet scored or fold lines 26 extending at approximately 45° from the corners of the bottom. A slit 27 is provided from each end of the fold line 23 and extends to a fold line 28 defining the ends of the bottom 5. In this manner the bottom is formed with pairs of opposed trapezoidal shaped portions 29 each defined by the slits 25 and 27 and the fold lines 26 and 28.

Each end 7 is of generally triangular form and is more specifically isosceles in shape. A central longitudinal scored or fold line 30 divides each end into similar opposed right-triangular panels 31.

The side 6, not having the ends 7 thereon, is provided along each fold line 9 with a tab 32 of uniform width except at its ends which are cut at an angle as shown. The angle cut 33 is formed to suit the angle which the opposite side 6 assumes when the carton is assembled as seen in Fig. 2. The angle cut 34 is formed so as to coincide with the angled edge 35 of a tab 36 provided at each end of the bottom 5. The tab 36 is also formed with an edge 37 designed to coincide with the outer edge 38 of the tab 32 when

the carton is assembled. Fig. 2 best shows this arrangement. By extending the slits 27 to the outer end of each tab 36, the latter is divided into separate smaller tabs 39.

The blank which is formed in the above described manner is made up into a carton by gluing or cementing the tabs 39 to the inner surfaces of the triangular panels 31 and similarly securing the tab 32 to the outer of said triangular panels. It will be noted that the tab 32 overlaps across the other panel 31. However, these overlapping portions are not glued or cemented but one serves to support the other against inadvertent outward forces to lend greater rigidity to the carton in use.

When the carton is formed as set forth, by pressing downward on the fold line 23, it can be arranged in the folded condition of Fig. 1 to occupy a minimum of space for shipment and storage. As the bottom 5 folds outwardly, the connection between the bottom panels 24, the trapezoidal shaped portions 29 and the end triangular panels 31 will cause said panels 31 to fold inwardly. Conversely, when the carton is folded, by placing the fold 23 on a flat surface and pressing bodily downward on the carton, the bottom 5 is opened or unfolded with a resultant unfolding of the ends 7. By merely folding back the tabs 13 as shown, and slipping one of the tabs 22 through the opening formed by the other, the carton is arranged for carrying articles such as bottles and cans. Because of the slope of the sides 6, the edges 14 thereof are generally adjacent. Articles in the carton can readily press said edges 14 toward each other without undue strain on the carton. Similarly, articles will press the portions 16 outwardly to provide suitable space for articles resting on the bottom and extending upwardly through the openings 10.

Although the weight of the articles resting on the bottom 5 seeks to collapse said bottom, this force is counteracted by the resistance to inward folding of the ends 7 by the lateral engagement and support of same by the articles. This collapsing force is further nullified by at least the bottoms of the end articles which rest upon the trapezoidal portions 29. Since these portions have an upward movement when the carton collapses, said articles prevent such movement.

While I have illustrated and described what I now regard as the preferred embodiment of my invention, the construction is, of course, subject to modifications without departing from the spirit and scope of my invention. I, therefore, do not wish to restrict myself to the particular form of construction illustrated and described, but desire to avail myself of all modifications that may fall within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A blank for an article carrying carton comprising an integral sheet divided by score lines to provide sides and a bottom arranged in alignment on said sheet with the bottom between the sides, triangular ends extending laterally from the end edges of one of the sides, laterally extending tabs on the bottom and the other side and adapted for connection with said ends respectively, a central score line extending from top to bottom of each end to divide the same into inwardly foldable triangular panels, a central score line in the bottom dividing the same into outwardly foldable panels, a transverse slit at each end of the latter score line, angularly arranged score lines connecting the ends of said slit and the respective corners of the bottom, and a slit forming an aligned extension of the score line in the bottom, said slits and angular score lines defining trapezoidal portions of the bottom which lie in the same plane with the mentioned triangular panels when the blank is formed into a carton and the carton is arranged in folded condition.

2. A blank for an article carrying carton comprising an integral sheet divided by score lines to provide sides and a bottom arranged in alignment on said sheet with the bottom between the sides, each side being formed with a transverse opening dividing the same into flexible upper and lower portions, triangular ends extending laterally from the end edges of one of the sides, laterally extending tabs on the bottom and the other side and adapted for connection with said ends respectively, a central score line extending from top to bottom of each end to divide the same into inwardly foldable triangular panels, a central score line in the bottom dividing the same into outwardly foldable panels, a transverse slit at each end of the latter score line, angularly arranged score lines connecting the ends of said slit and the respective corners of the bottom, and a slit forming an aligned extension of the score line in the bottom, said slits and angular score lines defining trapezoidal portions of the bottom which lie in the same plane with the mentioned triangular panels when the blank is formed into a carton and the carton is arranged in folded condition.

3. A blank for an article carrying carton comprising an integral sheet divided by score lines to provide sides and a bottom arranged in alignment on said sheet with the bottom between the sides, each side being formed with a transverse opening having offset slot portions directed toward said score lines to define a flexible portion in each side extending between said offset slot portions, triangular ends extending laterally from the end edges of one of the sides, laterally extending tabs on the bottom and the other side and adapted for connection with said ends respectively, a central score line extending from top to bottom of each end to divide the same into inwardly foldable triangular panels, a central score line in the bottom dividing the same into outwardly foldable panels, a transverse slit at each end of the latter score line, angularly arranged score lines connecting the ends of said slit and the respective corners of the bottom, and a slit forming an aligned extension of the score line in the bottom, said slits and angular score lines defining trapezoidal portions of the bottom which lie in the same plane with the mentioned triangular panels when the blank is formed into a carton and the carton is arranged in folded condition.

4. An article-carrying carton comprising sides that slope continuously toward each other from the bottom to the top of the carton, each side having a transverse opening to receive articles, each side along the end edges thereof having integral end portions and the end portions on each end of the carton cooperating to form triangular end walls, a central longitudinal score line in each end wall whereby the same is adapted to fold inwardly along the mentioned end edges of the sides, an outwardly foldable bottom integrally connecting the sides and formed at each end with an extension residing within and affixed to

each respective end wall, said bottom having a longitudinal score line on which the same folds, a transverse slit adjacent each end at which the ends of the latter score line terminate, and an angularly directed score line extending from each end of each transverse slit to each respective adjacent corner of the bottom, said slits and angularly directed score lines defining trapezoidal portions that form parts of the bottom when the carton is opened to carry articles and fold inward with the end walls.

JOHN HARHAY.

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