

[54] **EASY-OPEN WALL**

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[52] U.S. Cl. **220/48, 220/54**

[51] Int. Cl. **B65d 17/00**

[58] Field of Search **220/54, 48**

[56] **References Cited**

UNITED STATES PATENTS

3,744,667	7/1973	Fraze et al.	220/54
3,749,275	7/1973	Smith, Jr. et al.	220/48

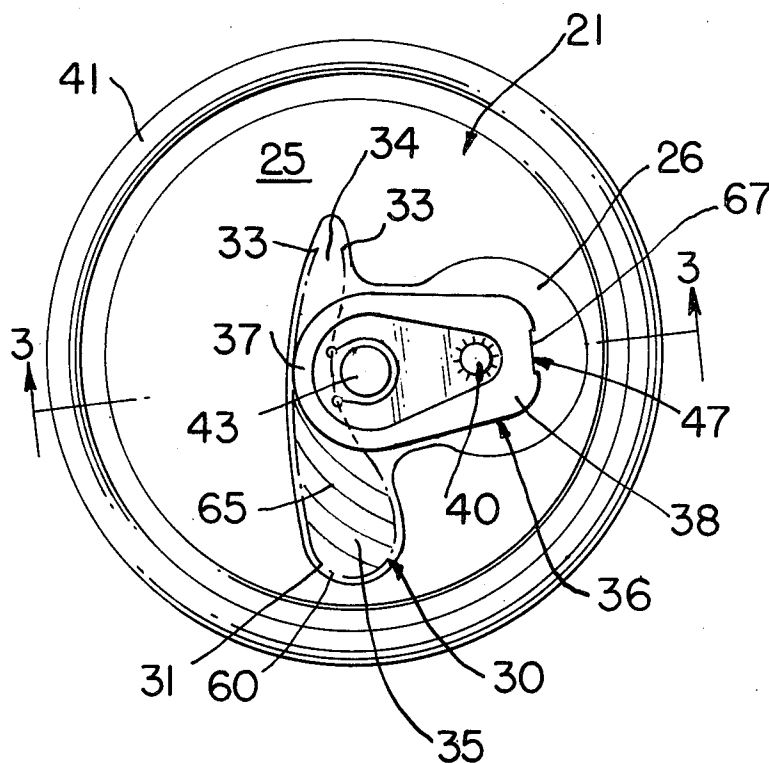
Primary Examiner—George T. Hall

[57]

ABSTRACT

An easy-open wall is provided for a container and comprises an approximately U-shaped score line in such wall with the score line having a bight and a pair of extensions extending from the bight and terminating in spaced ends having a portion of the wall therebetween. The score line defines a panel which is completely severable from the wall along the bight and along parts of the extensions adjoining the bight while remaining attached at the wall portion to define an opening in the wall. A non-detachable tab is attached substantially flatly against the wall and the tab has a forward portion which overlies part of the panel and has a rear portion. The rear portion is easily grasped and lifted to urge the forward portion against the panel to thereby sever such panel and move it within the container with the wall portion holding the panel securely to the wall.

33 Claims, 15 Drawing Figures



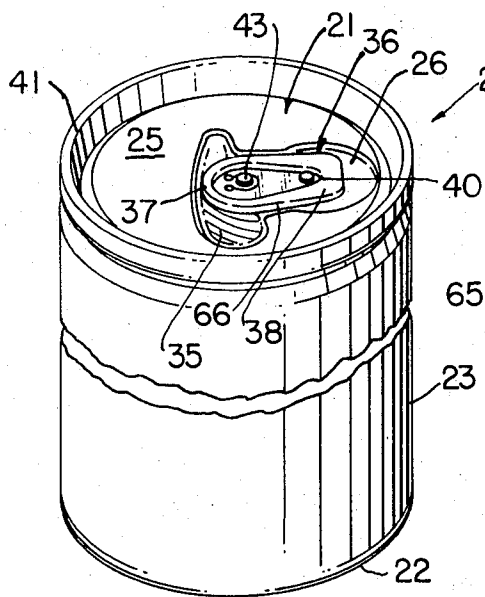


FIG. 1

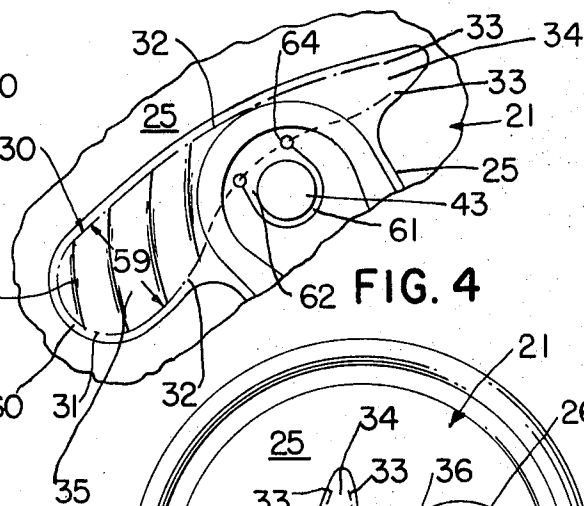


FIG. 4

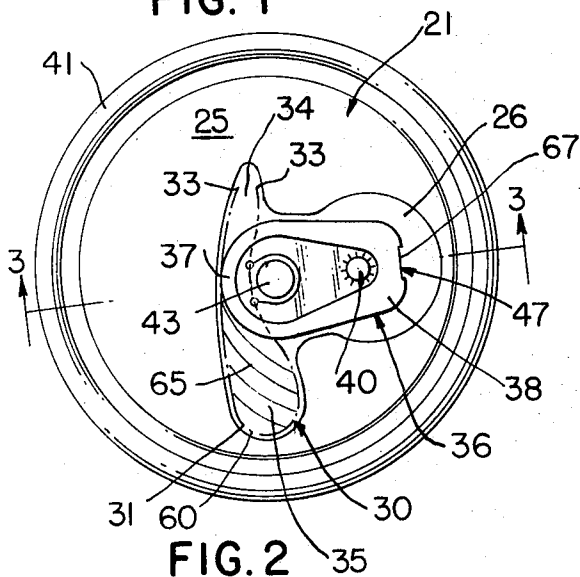


FIG. 2

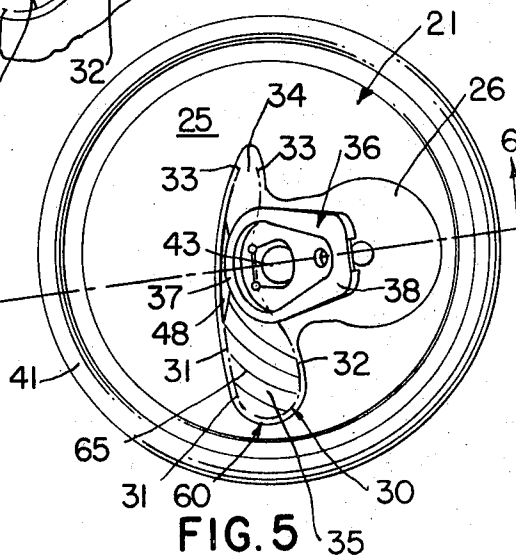


FIG. 5

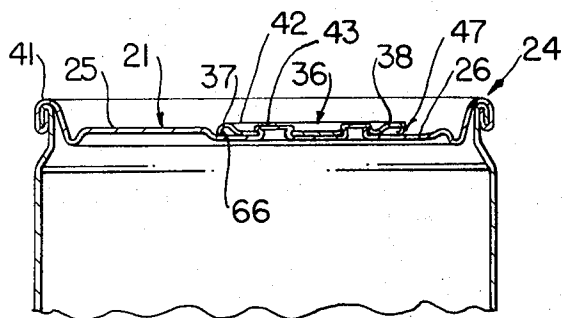


FIG. 3

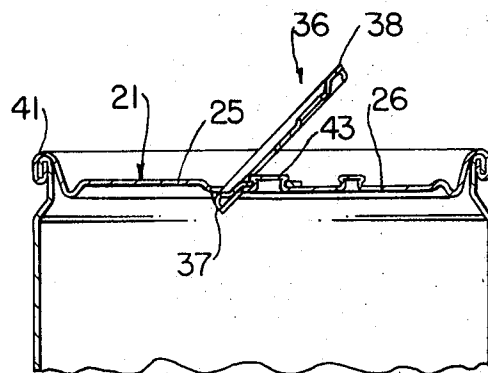


FIG. 6

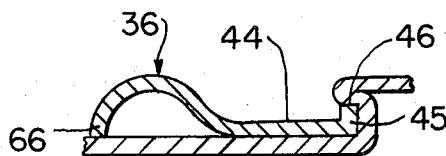


FIG. 3A

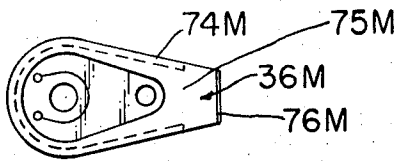


FIG. 12

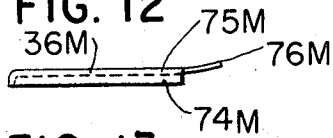


FIG. 13

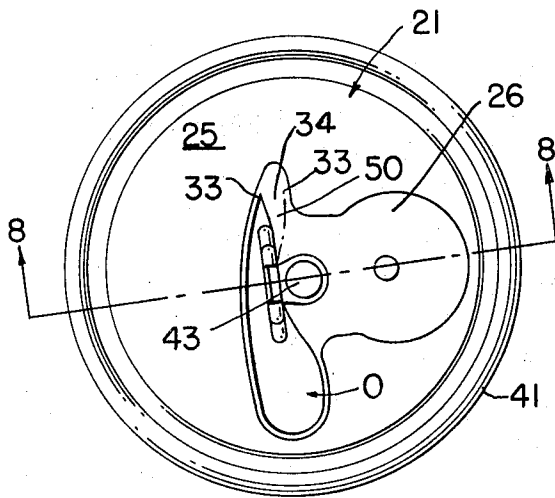


FIG. 7

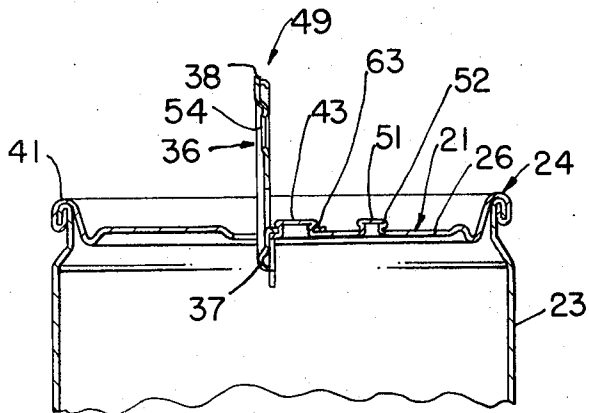


FIG. 8

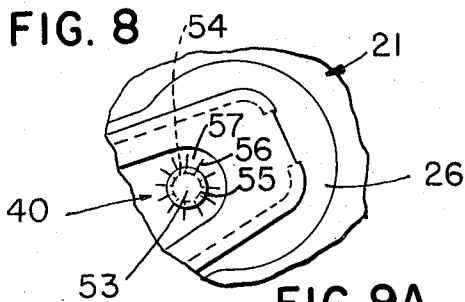


FIG. 9A

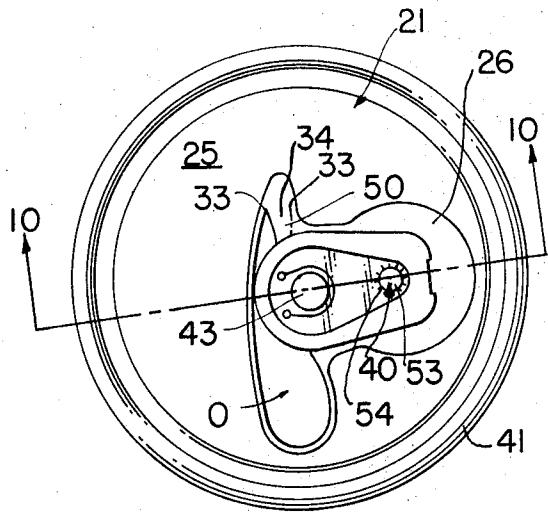


FIG. 9

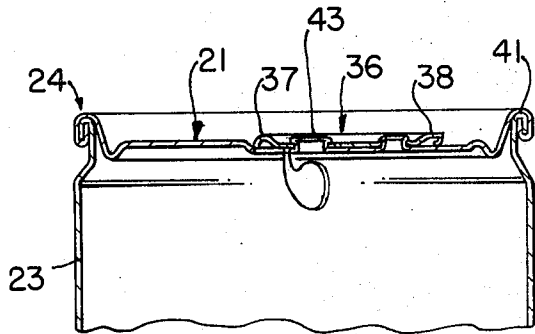


FIG. 10

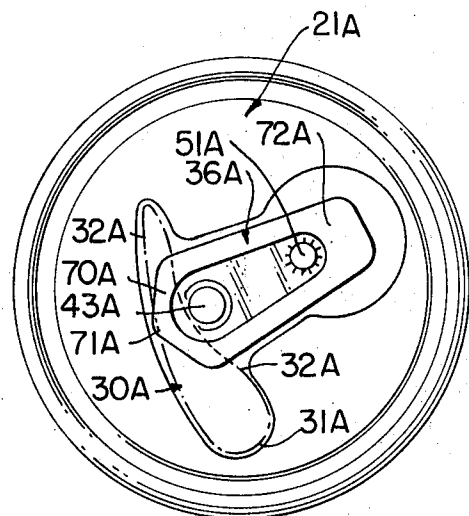


FIG. 11

EASY-OPEN WALL

BACKGROUND OF THE INVENTION

There are numerous containers such as beverage cans, for example, in current use wherein each has a comparatively small tear strip provided in an end wall thereof and each has a pull device attached to the tear strip to enable severing of the tear strip and removal thereof from the end wall to provide an opening in such end wall. These completely severed tear strips have sharp edges and are difficult to handle safely. In addition, the severed tear strips with their attached tabs are often carelessly discarded and pose not only a serious litter problem but particularly in recreational areas such as playgrounds, beaches, and the like, where people are likely to walk barefoot the sharp edges on these tear strips often cause serious cuts.

SUMMARY

This invention provides an improved easy-open wall which is particularly adapted to be used as an end wall for a beverage container and comprises an approximately U-shaped score line in the wall with the score line having a bight and a pair of extensions extending from the bight and terminating in spaced ends having a portion of the wall therebetween. The score line defines a panel which is completely severable from the wall along the bight and along parts of the extensions adjoining the bight while remaining attached to the wall portion to define an opening in the wall. A non-detachable tab is provided and attached substantially flatly against the wall with the tab having a forward portion which overlies part of the panel and a rear portion. The rear portion is easily grasped and lifted to urge the forward portion in a pivoted manner against the panel to thereby sever the panel and move it in the container with the wall portion holding the panel securely to the wall.

Other details, uses, and advantages of this invention will become apparent as the following description of the exemplary embodiments thereof presented in the accompanying drawings proceeds.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings show present preferred embodiments of this invention, in which

FIG. 1 is a perspective view of an exemplary container with the central portion thereof broken away and illustrating an easy-open wall of this invention provided as a top wall of such container;

FIG. 2 is a view looking perpendicularly toward the top wall of the container of FIG. 1;

FIG. 3 is a fragmentary cross-sectional view taken essentially on the line 3—3 of FIG. 2;

FIG. 3A is an enlarged fragmentary cross-sectional view illustrating the detailed construction of the pull tab comprising the top wall of FIG. 2 in the area adjoining a rivet used to attach such tab to the top wall;

FIG. 4 is a fragmentary plan view of the central portion of the top wall of FIG. 2 drawn to an enlarged scale;

FIG. 5 is a top plan view illustrating the pull tab comprising the top wall of the container of FIG. 1 partially lifted to commence severing the severable panel provided in such top wall;

FIG. 6 is a fragmentary cross-sectional view taken essentially on the line 6—6 of FIG. 5;

FIG. 7 is a view similar to FIG. 5 illustrating the tab of FIG. 5 raised to a substantially vertical position;

FIG. 8 is a fragmentary cross-sectional view taken essentially on the line 8—8 of FIG. 7;

FIG. 9 is a view similar to FIG. 2 and illustrating the tab returned to its original position flatly against the top wall and fastened in position by fastening means comprising such top wall;

FIG. 9A is a fragmentary view of the central portion of the top wall particularly illustrating the tab fastening means;

FIG. 10 is a fragmentary, cross-sectional view taken essentially on the line 10—10 of FIG. 9 and showing the panel pushed within the container while being held thereto at one end portion thereof;

FIG. 11 is a view similar to FIG. 2 illustrating another exemplary embodiment of a top wall which may be used interchangeably with the top wall of FIG. 2 on the container of FIG. 1;

FIG. 12 is a plan view illustrating a modified form of tab; and

FIG. 13 is a side elevation of the tab of FIG. 12.

DESCRIPTION OF ILLUSTRATED EMBODIMENTS

Reference is now made to FIG. 1 of the drawings, which illustrates one exemplary embodiment of a container which is designated generally by the reference numeral 20 and which utilizes an easy-open wall in the form of a top wall 21 which is made in accordance with the teachings of this invention. The remainder of container 20 may be of any suitable conventional construction and includes a bottom wall 22 adjoined by a substantially right circular cylindrical side wall 23, and the bottom wall 22 and side wall 23 may be provided as a single piece construction or may be made of a plurality of pieces in accordance with known manufacturing techniques.

The top wall 21 may be fastened to the top portion of the side wall 23 using any suitable technique and in this example the top portion of the side wall 23 is necked inwardly to produce a smaller diameter tubular portion at the top of wall 23 and thereby enable top wall 21 to be fastened in position by a simple mechanical swaging technique to produce a top annular bead on the container as illustrated at 24 in FIG. 3, with such bead being within the circumferential outline of the cylindrical side wall 23.

The wall 21 has a planar portion 25 and a recess 26 provided in such planar portion and the purpose of such recess will be described in detail subsequently. The wall 21 also has an approximately U-shaped score line provided therein which is designated generally by the reference numeral 30 and the score line has a bight 31 and a pair of extension legs or extensions 32 extending from such bight and terminating in spaced ends 33 having a portion 34 of the wall 21 remaining therebetween. The score line 30 defines a panel 35 which is completely severable from the wall along the bight 31 and along the extensions 32 adjoining such bight while remaining attached to the wall portion 34 to define an opening 0 in the wall 21 and thus enable the contents of the container 20 to be poured therethrough regardless of whether such contents are in solid pellet form such as popcorn or liquid form such as a carbonated

beverage; however, for simplicity the description which follows will be directed to a top wall particularly adapted for use on a beverage can.

The wall 21 has a tab 36 which is attached thereto in a non-detachable manner and as will be described in more detail subsequently and the tab has a forward portion 37 which overlies a part of the panel 35 and a rear portion 38 which is arranged remote from such panel. The rear portion 38 of the tab 36 is easily grasped and lifted to urge the forward portion downwardly in a pivoted manner against the panel 35 to thereby sever the panel and move it within the container with the wall portion 34 holding the panel 35 securely to the wall.

The opening 0 defined by severing the panel 35 has all of the essential easy pouring characteristics of a similar opening defined in a top wall of a conventional can by completely severing and discarding a similar tear-out panel, yet the panel 35 and tab 36 remain attached to the wall 21. Further, if desired the tab 36 may be returned to its original position substantially flatly against the wall 21 due to its construction and arrangement and in the event it is desired to hold such tab substantially in its original position fastening means is provided for fastening such tab in position and in a manner to be described subsequently and such fastening means is designated generally by the reference numeral 40.

The major portion of the top wall 21 including planar portion 25, tab 36, etc., is recessed beneath the top annular edge 41 of container 20 so that the tab 36 is in a protected position. In addition, the tab 36 is nested within the recess 26 so that its top surface 42 is parallel to and approximately coplanar with the planar portion 25, see FIG. 3.

The tab 36 is attached to the wall 21 by a rivet 43 at a location between the forward portion 37 and rear portion 38 of such tab and the rivet serves as a pivot allowing pivoting movement of the tab thereabout. The rivet 43 is defined as an integral part of such wall at a location closely spaced from and near the center of one of the pair of extensions 32 (see FIGS. 2, 3, and 3A) and is located so that substantially the entire forward portion 37 of the tab overlies the center portion of the panel 35. The rivet 43 is in the form of a substantially cylindrical hollow member with an inverted cup-like shape and a wall thickness which is substantially equal to the thickness of the remainder of wall 21. Nevertheless, it will be appreciated that tab 36 may be attached in position by other suitable means such as additional attaching means.

The tab 36 is subjected to substantial tearing forces in the area 44 thereof adjacent the rivet 43, see FIG. 3A. To counteract any tendency for the tab to tear at this location an integral reinforcing flange 45 of tubular configuration is defined in the tab and such flange has a top annular surface 46 against which the head portion of rivet 43 is riveted to firmly attach the tab 36 in position. The tubular reinforcing flange 45 also defines an improved pivot connection for the tab 36.

Having described the major portions of the easy-open top wall 21, the description will now proceed with a brief presentation of the manner in which the wall 21 may be easily opened and the contents thereof, such as a beverage or the like, poured therefrom in the usual manner yet with the severable panel 35 and pull tab 36 remaining attached to the wall 21. In particular, it will be seen that it is a simple matter to insert an object such as a fingernail or the like beneath the terminal edge of

the rear portion 38 of tab 36 as illustrated at 47 in FIGS. 2 and 3 whereupon such tab may be pivoted about the rivet 43 to sever the panel 35.

Initial pivoting movement of the tab 36 from planar portion 25 through an angular increment illustrated in FIG. 6 provides an initial severing of the panel 35 to define a narrow elongated opening 48 in the top wall 21 as shown in FIG. 5. Further pivoting movement of the tab 36 to a substantially vertical position as illustrated at 49 in FIG. 8, results in practically the entire panel 35 being severed to define the opening 0. In general, only the wall portion 34 holds the panel 35 securely attached to the top wall 21 and portion 34 is more than adequate for this purpose, however, occasionally the panel 35 may also remain attached to wall 21 along a terminal portion of the extension 32 closely adjacent the rivet 43 as illustrated at 50. The opening 0 thus defined is such that a beverage may be poured from the lower enlarged end thereof in an unobstructed manner because the panel 35 is attached to the opposite end of the opening 0.

The tab 36 may be left in the substantially vertical position illustrated in FIG. 8; however, for applications where container 20 contains a beverage and it is desired to drink directly through opening 0 the tab 36 may be readily returned to its original position flatly against the wall 21 and, if desired, held in position by the fastening means 40 as shown in FIG. 9.

The tab 36 is shown in a substantially vertical position in FIG. 8 of the drawings; however, it will be appreciated that such tab may be moved through an angle substantially greater than 90°, if desired, to assure that the opening 0 is essentially as shown in FIGS. 7, 9 and 10 and unobstructed by the panel 35 to enable smooth free pouring or drinking therethrough.

The fastening means 40 will be described making particular reference to FIGS. 8, 9, and 9A of the drawings and such fastening means comprises a member 51 which is defined as an integral part of the wall 21 and member 51 is in the form of a cylindrical hollow member having a wall thickness which is substantially the same thickness as the top wall 21. The member 51 of this example has a head portion 52 which has particular maximum planar area 53 within its peripheral outline. The fastening means 40 also comprises a cooperating aperture 54 provided in the tab 36 and the cooperating circular aperture 54 has an area which is slightly smaller than the above-mentioned area 53 thereby enabling the tab 36 to be urged against the upper portion so that peripheral surface portions 55 thereof defining aperture 54 are wedged against the upper portion of the member 51 to fasten the tab flatly against the top wall 21.

The tab 36 also has a plurality of radial slits 56 provided therein which adjoin or intersect the circular aperture 54 and each pair of associated slits defines a yieldable resilient holding member 57 therebetween. As the tab 36 is pushed against member 51 the members 57 deflect slightly upwardly and the surface portions 55 engage the outside cylindrical surface of member 51 thereby locking the tab 36 in position preventing its upward pivoting movement. The members 57 of this example also snap beneath head portion 52 of member 51; however, in some applications where such head portion is not employed the members 57 are fully effective in locking the tab 36 flatly in position.

As seen particularly in FIG. 4 of the drawings, the bight 31 of the score line 30 has a maximum distance indicated at 59 thereacross and it will be seen that the ends 33 of the extensions 32 comprising the score line 30 are spaced apart a distance which is no greater than the maximum distance 59. In this example, the approximately U-shaped score line 30 has a roughly teardrop shape which has an enlarged portion defined by the bight 31 and adjoining portions of the pair of extensions 32 and the ends 33 of the extensions are spaced apart a distance which is substantially less than the maximum distance 59.

To facilitate the severing of the panel 35 the score line 30 extends into the wall 21 a greater amount along the enlarged portion of the teardrop shape mentioned above than along the remaining portions thereof to thereby enable such panel to be easily completely severed while remaining attached substantially only at the wall portion 34. Stating this concept in another manner, the score line 30 has the least amount of residual material at the central arcuate portion 60 of its teardrop shape and more residual material beneath the extensions 32. Preferably the residual material beneath extensions 32 increases in thickness at locations remote from the bight and in one application the residual material beneath each extension 32 increases in thickness in approximately direct proportion to the distance from the bight.

As best seen in FIG. 4, the tab 36 has a roughly semicircular slit 61 defining an attachment area 62 there-within and the attachment area 62 is attached to the wall 21 adjacent one of the pair of extensions 32 employing the integral rivet 43. In particular, an opening 63 (see FIG. 8) is provided in the attachment area 62 and such opening surrounds the lower portion of the rivet 43 whereupon the upper portion of such rivet is riveted thereover to define a head in the conventional manner and thereby attach the tab 36 in position. The tab 36 also has a pair of enlarged circular cutouts 64 adjoining the opposite ends of the semicircular slit 61 and the cutouts 64 define the end points of an imaginary substantially straight bend line for the tab upon lifting the rear portion 38 thereof in the manner previously described.

To assure that the panel 35 is moved within the container 20 in a most efficient manner the panel has a plurality of arcuate strengthening ribs 65 provided therein, see FIG. 5, for example, and such ribs are arranged in approximately parallel relation and extend across the narrow dimension of the elongated teardrop shaped panel. The strengthening ribs 65 are defined as an integral part of the wall 21 as raised projections each having a corresponding depression in the inside surface of the panel and it will be appreciated that the ribs extend roughly transverse the pair of extensions 32 of the score line 20.

To improve the rigidity of the tab 36 and enable lifting thereof in the manner illustrated in FIGS. 5 and 8 without deflection thereof, the tab 36 has a peripheral stiffening means 66 extending about the major portion of its periphery and has part 67 which was previously indicated at 47 in FIGS. 2 and 3 which is free of such stiffening means and part 67 is in the form of a single thickness portion of tab 36. The stiffening means 66 of this example is in the form of a partial bead or an integral flange-like portion.

The tab 36 of this example has its forward portion 37 provided with an arcuate configuration which is semicircular and which is particularly adapted to engage the panel 35 at a location immediately adjacent the extension 32 of the score line 30 which is arranged remote from the rear portion 38 of the tab 36. The terminal circular edge of the semicircular forward portion is arranged substantially in aligned relation immediately above the above-mentioned extension 32. This arrangement enables maximum pressure to be exerted against the panel 35 adjacent the score line and enables initial severing of the previously described comparatively wide slit-like opening 48 in the manner illustrated in FIG. 5 and merely by lifting upwardly on the rear portion 38.

Another exemplary embodiment of an easy-open wall of this invention is illustrated in FIG. 11 of the drawings. The wall illustrated in FIG. 11 is very similar to the top wall 21; therefore, such wall will be designated generally by the reference numeral 21A and parts of wall 21A which are similar to corresponding parts of the wall 21 will be designated by the same reference numeral as in the wall 21, also followed by the letter designation A and not described again. Only those component parts which are different from corresponding parts of the wall 21 will be designated by a new reference numeral, also followed by the letter designation A and described in detail.

The wall 21A differs from the wall 21 primarily in the construction of its tab 36A. In particular, instead of having a tab with a forward portion which has a substantially semicircular configuration, a forward portion 70A is provided which has a substantially arrowhead-shaped or wedge-shaped configuration which has an apex 71A and such apex is arranged in substantially vertical alignment above the extension 32A of score line 30A which is arranged remote from a rear portion 72A of the tab 36A. The top wall 21A may be used substantially interchangeably with the wall 21 of the container 20 and it will be appreciated that the panel 35A and tab 36A remain attached to the wall 21A in a similar manner as previously described in connection with the panel and tab of wall 21.

In this example the tab 36A has its attaching means or rivet 43A and fastening means, which includes member 51A, arranged on a central reference axis which is arranged on a diametral line of the basically circular wall 21A; however, it will be appreciated that such reference axis for tab 36A and a similar axis for tab 36 may be spaced from the center of its associated wall, if desired.

Another exemplary embodiment of a tab is shown in FIGS. 12 and 13 of the drawings and designated by the reference numeral 36M. With minor modification of its associated wall, the tab 36M may be used interchangeably with either the tab 36 or the tab 36A. The tab has peripheral stiffening means 74M extending about the major portion of its periphery and has a part 75M of its rear portion which is free of stiffening means. The stiffening means in this example is in a form of a roughly L-shaped flange 74M and the part 75M has an extension 76M extending therefrom which enables easier grasping of its rear portion 38M.

While present exemplary embodiments of this invention, and methods of practicing the same, have been illustrated and described, it will be recognized that this

invention may be otherwise variously embodied and practiced within the scope of the following claims.

What is claimed is:

1. An easy-open wall for a container comprising, an approximately U-shaped score line in said wall, said score line having a bight which has a particular distance thereacross and a pair of extensions extending from said bight and terminating in spaced ends having a portion of said wall therebetween, said score line defining a panel which is completely severable from said wall along said bight and along parts of said extensions adjoining said bight while remaining attached at said wall portion to define an opening in said wall, and a tab attached substantially flatly against said wall, said tab having a forward portion which overlies part of said panel and having a rear portion, said forward portion of said tab also overlies a central part of one of said pair of extensions of said score line while its terminal outer edge assures engagement and initial severing of said panel along the other of said pair of extensions at a location substantially directly opposite from said central part of said one extension, said rear portion being easily grasped and lifted to urge said forward portion against said panel to thereby sever said panel and move it within said container with said wall portion holding said panel securely to said wall.

2. An easy-open wall as set forth in claim 1 in which said ends of said extensions are spaced apart a distance which is no greater than said particular distance.

3. An easy-open wall as set forth in claim 1 in which said tab is adapted to be easily returned to its original position flatly against said wall and thus enables unobstructed pouring of the contents of said container through said opening.

4. An easy-open wall as set forth in claim 1 in which said wall has a planar portion and a recess in said planar portion, said recess enabling said tab to be nested therewithin so that an outermost surface thereof is arranged substantially coplanar with said planar portion of said wall.

5. An easy-open wall as set forth in claim 1 and further comprising a rivet attaching said tab to said wall at a location between said forward and rear portions, said rivet serving as a pivot allowing pivoting movement of said tab thereabout.

6. An easy-open wall as set forth in claim 5 in which said rivet is defined as an integral part of said wall at a location spaced from and near the center of one of said pair of extensions of said score line to thereby enable substantially said entire forward portion of said tab to overlie the center portion of said panel.

7. An easy-open wall as set forth in claim 3 and further comprising means for fastening said tab against said wall once it is returned to said original position.

8. An easy-open wall for a container comprising, an approximately U-shaped score line in said wall, said score line having a bight which has a particular distance thereacross and a pair of extensions extending from said bight and terminating in spaced ends having a portion of said wall therebetween, said score line defining a panel which is completely severable from said wall along said bight and along parts of said extensions adjoining said bight while remaining attached at said wall portion to define an opening in said wall, and a tab attached substantially flatly against said wall, said tab having a forward portion which overlies part of said panel and having a rear portion, said rear portion being

easily grasped and lifted to urge said forward portion against said panel to thereby sever said panel and move it within said container with said wall portion holding said panel securely to said wall, said U-shaped score line having the central portions of its extensions arranged in roughly parallel relation and said tab having a reference axis arranged substantially perpendicular to said central portions.

9. An easy-open wall for a container comprising, an approximately U-shaped score line in said wall, said score line having a bight which has a particular distance thereacross and a pair of extensions extending from said bight and terminating in spaced ends having a portion of said wall therebetween, said score line defining a panel which is completely severable from said wall along said bight and along parts of said extensions adjoining said bight while remaining attached at said wall portion to define an opening in said wall, a tab attached substantially flatly against said wall, said tab having a forward portion which overlies part of said panel and having a rear portion, said forward portion of said tab also overlies a central part of one of said pair of extensions of said score line while its terminal outer edge is arranged substantially in vertical alignment over the other of said pair of extensions at a location substantially directly opposite from said central part of said one extension, said rear portion being easily grasped and lifted to urge said forward portion against said panel to thereby sever said panel and move it within said container with said wall portion holding said panel securely to said wall, said tab being adapted to be easily returned to its original position flatly against said wall and thus enabling unobstructed pouring of the contents of said container through said opening, and means for fastening said tab against said wall once it is returned to said original position.

10. An easy-open wall for a container comprising, an approximately U-shaped score line in said wall, said score line having a bight which has a particular distance thereacross and a pair of extensions extending from said bight and terminating in spaced ends having a portion of said wall therebetween, said score line defining a panel which is completely severable from said wall along said bight and along parts of said extensions adjoining said bight while remaining attached at said wall portion to define an opening in said wall, and a tab attached substantially flatly against said wall, said tab having a forward portion which overlies part of said panel and having a rear portion, said rear portion being easily grasped and lifted to urge said forward portion against said panel to thereby sever said panel and move it within said container with said wall portion holding said panel securely to said wall, said U-shaped score line having a roughly teardrop shape which has an enlarged portion defined by said bight and adjoining portions of said pair of extensions and said ends of said extensions being spaced apart a distance which is substantially less than said particular distance.

11. An easy-open wall as set forth in claim 10 in which said score line extends into said wall a greater amount along said enlarged portion than along the remaining portions thereof and said panel is easily completely severed while remaining attached at said wall portion.

12. An easy-open wall for a container comprising, an approximately U-shaped score line in said wall, said score line having a bight which has a particular distance

thereacross and a pair of extensions extending from said bight and terminating in spaced ends having a portion of said wall therebetween, said score line defining a panel which is completely severable from said wall along said bight and along parts of said extensions adjoining said bight while remaining attached at said wall portion to define an opening in said wall, a tab attached substantially flatly against said wall, said tab having a forward portion which overlies part of said panel and having a rear portion, said rear portion being easily grasped and lifted to urge said forward portion against said panel to thereby sever said panel and move it within said container with said wall portion holding said panel securely to said wall, said tab being adapted to be easily returned to its original position flatly against said wall and thus enabling unobstructed pouring of the contents of said container through said opening, and means for fastening said tab against said wall once it is returned to said original position, said fastening means comprising a member in said wall having an upper portion which has a particular maximum planar area and said tab having a cooperating aperture therein which is smaller in area than said particular area enabling said tab to be urged against said upper portion with surface portions thereof defining said aperture wedged against said upper portion.

13. An easy-open wall as set forth in claim 12 in which said member is defined as an integral part of said wall and is a cylindrical hollow member having a wall thickness which is the same thickness as said wall and said aperture has a substantially circular outline.

14. An easy-open wall as set forth in claim 12 and further comprising a plurality of radial slits provided in said tab about the periphery of said circular aperture with each pair of associated slits defining a resilient holding member therebetween, said holding members being adapted to engage said upper portion and fasten said tab flatly against said wall portion.

15. An easy-open wall as set forth in claim 1 and further comprising at least one strengthening rib provided in said panel to assure easy severing thereof upon engagement by said forward portion of said tab.

16. An easy-open wall as set forth in claim 1 and further comprising a plurality of arcuate strengthening ribs arranged in approximately parallel relation and extending across said panel.

17. An easy-open wall as set forth in claim 16 in which said arcuate strengthening ribs are defined as an integral part of said wall as raised projections each having a corresponding depression in the inside surface of said panel, said ribs extending roughly transverse said pair of extensions of said score line.

18. As easy-open wall as set forth in claim 1 in which said tab has means enabling easy grasping of said rear portion.

19. An easy-open wall as set forth in claim 1 in which said tab has peripheral stiffening means extending about the major portion of its periphery and having a part of said rear portion which is free of said stiffening means, said part of said rear portion defining an enlarged vertical space between said part of said rear portion and the wall therebeneath to enable easy grasping of said rear portion.

20. An easy-open wall as set forth in claim 19 and further comprising an extension extending from said part of said rear portion to enable easier grasping of said rear portion.

21. An easy-open wall as set forth in claim 1 in which said tab has a roughly semicircular slit defining an attachment area therewithin, said attachment area being attached to said wall adjacent one of said pair of extensions of said score line.

22. An easy-open wall as set forth in claim 21 in which said tab has a pair of enlarged cutouts adjoining the opposed ends of said semicircular slit, said cutouts defining an imaginary bend line for said tab upon lifting said rear portion.

23. An easy-open wall as set forth in claim 22 in which said cutouts are substantially circular cutouts.

24. An easy-open wall as set forth in claim 22 in which said forward portion of said tab has an arcuate configuration which is particularly adapted to engage said panel at a location immediately adjacent the extension of said score line arranged remote from the rear portion of said tab.

25. An easy-open wall as set forth in claim 1 made of aluminous material wherein said U-shaped score line has a teardrop shape and said bight has a particular amount of residual material arranged therebeneath with each of said extensions having residual material which increases in thickness in direct proportion to the distance from said bight.

26. An easy-open wall as set forth in claim 1 in which said forward portion has a semicircular configuration.

27. An easy-open wall as set forth in claim 1 in which said forward portion has a wedge-shaped configuration.

28. An easy-open wall as set forth in claim 3 and further comprising means attaching said tab to said wall at a location between said forward and rear portions and means for fastening said tab against said wall once it is returned to said original position.

29. An easy-open wall as set forth in claim 28 having a circular configuration and wherein said attaching and fastening means are arranged on an axis which overlies a diametral line of said circular wall.

30. An easy-open wall as set forth in claim 3 wherein said tab has an integral tubular reinforcing flange provided as an integral part thereof between its forward and rear portions and further comprising attaching means extending through said tubular flange and attaching said tab to said wall.

31. An easy-open end wall for a liquid container comprising, an approximately U-shaped score line in said wall, said score line having a bight which has a maximum distance thereacross and a pair of extensions extending from said bight and terminating in spaced ends having a portion of said wall therebetween, said score line defining a panel which is completely severable from said wall along said bight and along parts of said extensions adjoining said bight while remaining attached at said wall portion to define an opening in said wall, and a tab attached substantially flatly against said wall, said tab having a forward portion which overlies part of said panel and having a rear portion, said forward portion of said tab also overlies a central part of one of said pair of extensions of said score line while its terminal outer edge assures engagement and initial severing of said panel along the other of said pair of extensions at a location substantially directly opposite from said central part of said one extension, said rear portion being easily grasped and lifted to urge said forward portion against said panel to thereby sever said panel and

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move it within said container with said wall portion holding said panel securely to said wall, said tab being easily returned to its original position flatly against said wall to enable the liquid in said container to be poured through said opening unobstructed by said panel.

32. An easy-open wall as set forth in claim 1 made of aluminous material wherein said U-shaped score line has a teardrop shape and said bight has a particular amount of residual material arranged therebeneath with each of said extensions having residual material therebeneath which is greater in thickness at locations remote from said bight.

33. An easy-open end wall for a beverage container comprising, an approximately U-shaped score line in said wall, said score line having a bight which has a maximum distance thereacross and a pair of extensions extending from said bight and terminating in spaced ends having a portion of said wall therebetween, said ends being spaced apart a distance which is less than said maximum distance, said score line defining a panel which is completely severable from said wall along said

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bight and along parts of said extensions adjoining said bight while remaining attached at said wall portion to define an opening in said wall, and a non-detachable tab attached substantially flatly against said wall, said tab having a forward portion which overlies part of said panel and having a rear portion, said forward portion of said tab also overlies a central part of one of said pair of extensions of said score line while its terminal outer edge assures engagement and initial severing of said panel along the other of said pair of extensions at a location substantially directly opposite from said central part of said one extension, said rear portion being easily grasped and lifted to urge said forward portion against said panel to thereby sever said panel and move it within said container with said wall portion holding said panel securely to said wall, said tab being easily returned to its original position flatly against said wall to enable unobstructed drinking of the beverage in said container through said opening.

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