

[54] CONTAINER CONSTRUCTION	2,993,590	7/1961	Denton.....	206/78 B
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[22] Filed: July 12, 1972	2,997,043	8/1961	Flynn	220/53 UX
[21] Appl. No.: 270,945	R26,477	10/1968	Baermann et al.....	220/53 X

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- [58] Field of Search... 206/56 AA, 42, 56 AB, 78 B, 206/80 A; 215/42; 220/53

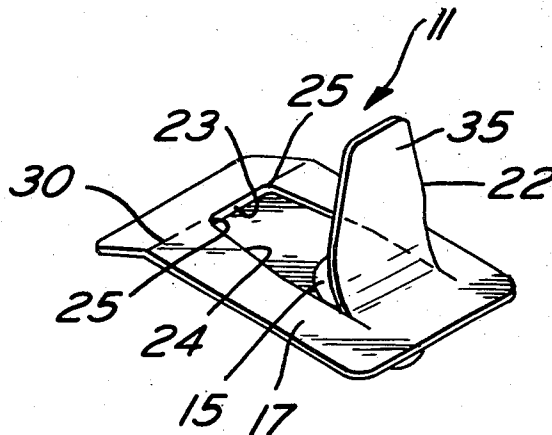
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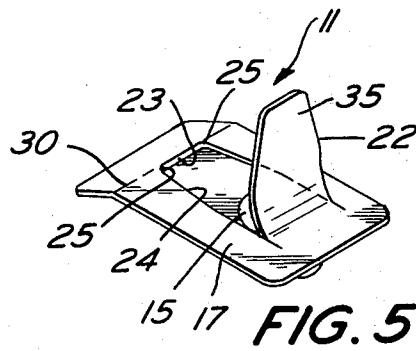
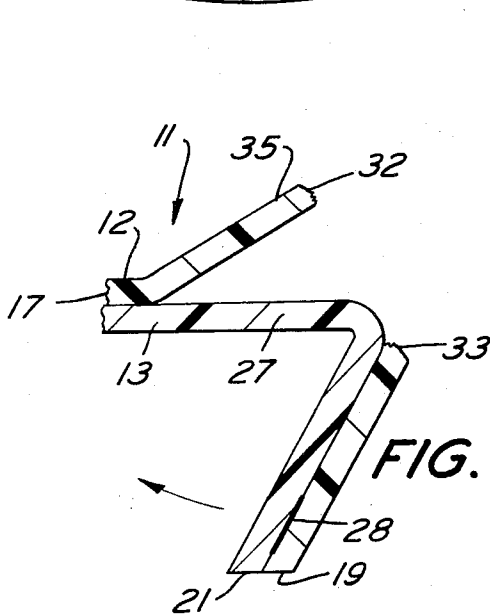
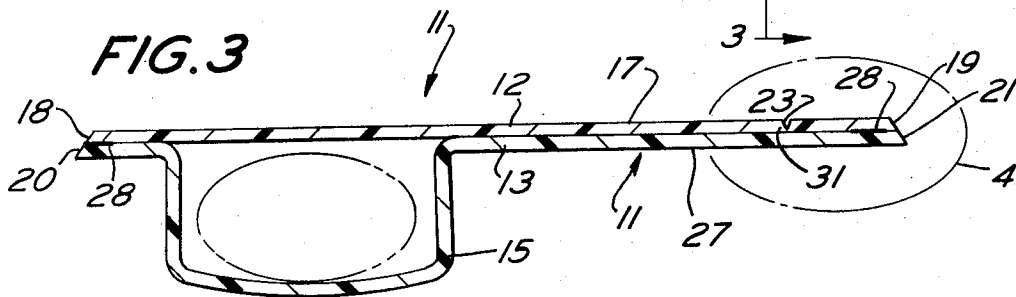
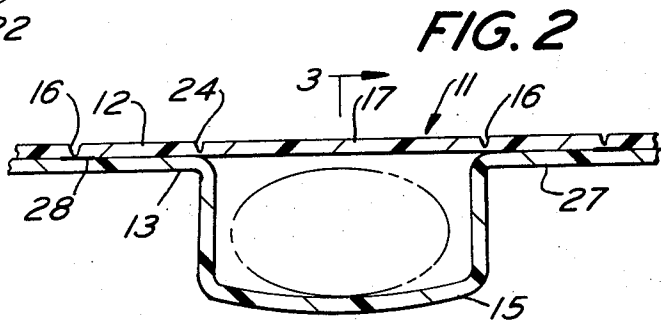
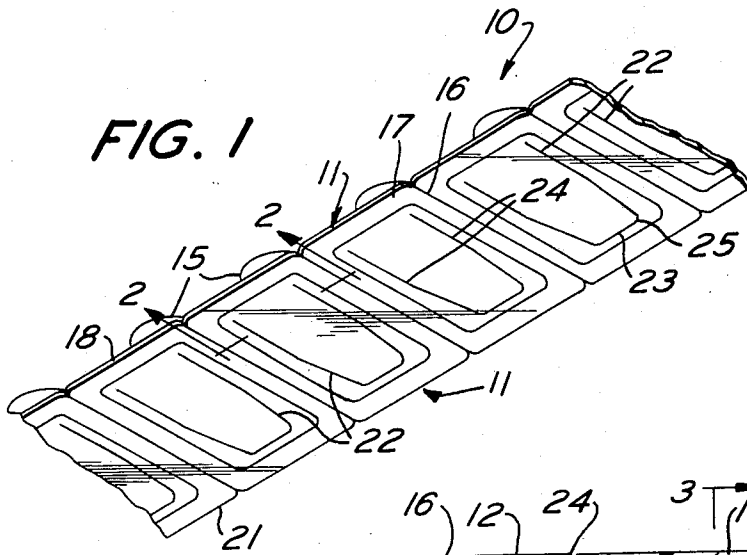
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[57] **ABSTRACT**

A container wherein one wall is flexible and formed with a score adapted to fracture upon flexure to provide an opening into the container.

6 Claims, 5 Drawing Figures





CONTAINER CONSTRUCTION

BACKGROUND OF THE INVENTION

While the container construction of the instant invention has been primarily developed and employed for use in the pharmaceutical industry, as a container for pharmaceuticals, and will be illustrated and described hereinafter with particular reference thereto, it is appreciated and understood that the advantageous features of the invention are capable of many varied and diverse applications, all of which are intended to be comprehended herein.

In the pharmaceutical field the goods are often packaged according to dosage, say one or two capsules per packaged unit, rather than bulk packaging, so that more accurate control of drug distribution is effected and maintained. Of course, such package units must be relatively inexpensive to warrant their use.

In one area of drug packaging it may be desired not only to minimize packaging costs, but also to simplify as much as possible the package opening procedure, without sacrificing the protective quality and distribution control afforded by the packaging.

In other areas of pharmaceutical distribution it may be desirable to provide packaging which is not only economical, protective of the contents, and adapted for properly controlled dispensation, but wherein the package opening procedure is of sufficient difficulty to thwart the imaginative curiosity of young children.

SUMMARY OF THE INVENTION

Accordingly, it is an important object of the present invention to provide a container construction which is admirably well suited to achieve the above-mentioned desiderata, being sufficiently economical to permit of small unit or dosage packaging to afford accurate control in distribution, which is adapted for highly effective protective enclosure of the contents, as from physical as well as chemical damage, and which is further capable of selective predetermination of the relative degree of ease or difficulty with which the package may be opened.

It is a further object of the present invention to provide a container construction having the advantageous characteristics mentioned in the preceding paragraph, wherein a wall of the container is flexible and scored for fracture along the score upon being flexed, to afford an opening into the interior of the package.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a bottom perspective view showing a strip of packages defining a container construction of the present invention, parts being broken away to illustrate interior structure thereof.

FIG. 2 is a sectional view taken generally along the line 2-2 of FIG. 1.

FIG. 3 is a sectional view taken generally along the line 3-3 of FIG. 2.

FIG. 4 is an enlarged partial sectional view similar to FIG. 3, showing the encircled region of the latter subsequent to an early stage in the opening procedure.

FIG. 5 is a bottom perspective view showing a single package of the present invention in a later stage of the opening procedure.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now more particularly to the drawings, and specifically to FIG. 1 thereof, an elongate package strip is there generally designated 10, and may include a plurality of individual packages 11 arranged in a side-by-side series or row and detachably connected together.

The strip 10 may be fabricated by automatic machinery of a pair of elongate sheets or films 12 and 13 disposed in facing relation with respect to each other and suitably secured together, as will appear presently.

The film sheets or layers 12 and 13 may be preformed to a desired degree, say the front sheet 13 being preformed at regular intervals with a forwardly extending, rearwardly facing cavity, recess or contents holding formation 15. The forwardly projecting formations 15 may be of the type referred to as blisters in the packaging art.

The other or rear sheet 12 may be preformed with certain scores, cuts or lines of weakening. For example, at spaced locations along the sheet 12, say on the rear side thereof, there may be formed a plurality of scores, cuts or lines of weakening 16, all of which extend in parallelism with each other entirely across the width of the film sheet or layer 12. The film layer 12 is thus subdivided by the several scores 16 into a plurality of generally rectangular sheets 17 each being located rearwardly of and in facing relation with a respective contents holding formation 15.

In the illustrated embodiment the film layers 12 and 13 are laterally coterminus or coextensive, the contents holding formations 15 all being located closer to one pair of coincident longitudinal or side edges of the film layers than the other pair of longitudinal side edges. Specifically, the side edges 18 and 19 of the rear film or layer 12 are respectively coincident with the side edges 20 and 21 of the film layer 13; and, the forward protrusions or contents holders 15 are located closer to the edges 18 and 20 than to the edges 19 and 21.

Generally centrally of each rear film layer sheet 17, spaced between each adjacent pair of transverse lines of weakening 16, may be a score or line of weakening 22, advantageously of U-shaped formation. Each U-shaped score formation 22 includes a bight region 23 extending generally longitudinally of the film layers 12 and 13, being located adjacent to and spaced inwardly from the side edge 19 of the bottom film layer 12. Thus, the bight region score 23 is spaced from the adjacent contents holding formation transversely of the strip 10. Each bight region score 23 may be generally straight or arcuate, depending upon the desired degree of difficulty of opening the resultant package, as will appear more fully hereinafter.

Extending from opposite ends of each bight region score 23, spaced inward from the adjacent subdividing scores 16, the U-shaped scores 22 each include a pair of leg scores 24 extending in general parallelism with each other toward and terminating short of the side edge 18, generally proximate to the associated forma-

tion 15. The leg scores 24 may be extensions from opposite ends of the bight score 23, each being joined to the latter by a juncture score or corner score 25 having a greater or lesser radius of curvature according to the desired degree of opening difficulty, which will be described more fully hereinafter.

Thus, each package 11 may be considered as extending between an adjacent pair of parallel scores or lines of weakening 16, including a forward sheet 27 substantially congruent to and in facing relation with a rear or bottom sheet 17. Each forward or front sheet 27 is formed with suitable contents holding formations, as at 15, while each rear sheet may be formed with a score 23, and score extensions 24. Thus, the sheets 17 and 27 of each package 11 extend in generally parallel facing relation with each other, except for the formation 15. About the bounding or marginal edge region of each package 11, the front and rear sheets 27 and 17 are secured together by any suitable means, such as adhesive, thermosealing, radio-frequency welding, or the like.

More specifically, an interface seal 28 of a closed or generally rectangular configuration serves to secure the package sheets 17 and 27 in their facing relation.

In practice it has been found advantageous to fabricate the front and rear strips or layers 12 and 13 of semirigid polyvinyl chloride, say of about .010 inches thickness. However, other suitable materials may be employed, having the requisite characteristics.

In use, a single package 11 may be detached from the strip 10, as by breakage along a line of weakening 16. As the lines of weakening 16 extend to the side edges of the strip 10, a manual tearing action will easily effect separation of the endmost package 11 from the remainder of the strip.

It is then only necessary to flex or bend the overlying layers of package sheets 17 and 27 as along the score or line of weakening 23. This may be effected by manually bending the lower edge region of the package 11, as seen in FIGS. 3 and 4 to the position shown in the latter figure. That is, the package sheet 27 is flexed to form a bend 30, see FIG. 4, and the residual material 31, see FIG. 3, along the score 23 is thereby broken or fractured, as shown in FIG. 4. This defines a pair of edges 32 and 33 along the former score 23. The edge 32 of the broken score 23 may be employed, as by finger-gripping or engagement of a fingernail therebeneath, to effect continued severance around the corner scores 25 and along the scoring sections 24 to define of the material therewithin a tab 35, see FIG. 5. The tab 35 affords access to the formation 15 for convenient removal of the contents.

According to the depth of cut or groove defining the score 22, the thickness of the residual uncut material, the brittleness or frangibility of the sheet 17, as well as the radius of curvature of corners 25, the degree of

ease or difficulty involved in opening the package may be selectively predetermined.

While the strip layers 12 and 13 have been illustrated and described as being of plastic, it is appreciated that any suitable material may be employed, to achieve the desired protective characteristics and difficulty of opening. For example, the material, thickness thereof and character of score lines may be selected to require several back-and-forth bending movements to effect the desired score fracture.

From the foregoing it is seen that the present invention provides a container construction which is extremely simple in structure, durable, protective and reliable in use, and which can be economically manufactured by mass production techniques.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention.

What is claimed is:

1. An hermetically sealed container construction comprising a pair of flexible facing sheets, securing means securing said sheets together about a closed outline configuration, the enclosed region within said configuration being unsecured for enclosing contents, an imperforate score on the enclosed region of one of said sheets, and imperforate scored extensions extending generally longitudinally of each other from spaced regions of said score, said one sheet being sufficiently frangible to fracture through said score upon flexure in bending of said sheets along said score to provide an exposed fingerpull edge for severing said score extensions, whereby said enclosed region is openable for access to the contents.

2. A container construction according to claim 1, said sheets being insufficiently frangible to fracture upon flexure except at said score.

3. A container construction according to claim 1, the other of said sheets including a contents receiving formation extending away from and facing toward said one sheet in the area between said score and score extensions, and said one sheet being generally flat.

4. A container construction according to claim 4, said other sheet being generally flat in the region adjacent to said score, to facilitate simultaneous flexing of both sheets along said score.

5. A container construction according to claim 1, said one sheet having the approximate frangibility of .010 inches thickness polyvinyl chloride.

6. A container construction according to claim 1, said one sheet being fabricated of semi-rigid polyvinyl chloride and having a residual thickness at the score so as to fracture upon manual flexure in bending.

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