ABSTRACT OF THE DISCLOSURE

One of the important aspects of modern plastic containers is the ability to be reused, assembled and disassembled with ease, so as to effect savings in storage and material. The present container is prefabricated in such a way as to conform to these requirements. In a first embodiment, it is provided with a series of concentric, arcuated apertures on two opposite walls thereof for connection with rimers provided in the other two walls of the container. Other variances of the container are directed to U-shaped vertical edging in the walls for joining firmly the walls to one another; to dovetailed vertical edges in the walls; and to bulbous rimers provided in two opposing walls for insertion into expansion cuts provided in the two remaining walls of the container.

The present invention is related to synthetic plastic containers suitable for the transportation of articles such as fruits, vegetables, fish, and the like. Particularly, this invention concerns synthetic plastic boxes or containers having the walls thereof collapsible for storage room saving purposes.

Reference is made to the accompanying drawings, in which:

FIGURES 1 and 2 show assembled and disassembled, respectively, and schematically, the container of the invention;

FIGURES 3 and 4 show assembled and disassembled, respectively, a first embodiment for interlocking the container's walls;

FIGURE 5 shows in detail the interlocking means of FIGURES 3 and 4;

FIGURE 6 shows the section of FIGURE 5 cut along lines B—B;

FIGURES 7, 8 and 9 show three additional variants of embodiments for interlocking the container's walls; and

FIGURE 10 shows the section of FIGURE 9 cut along lines A—A.

With reference to the accompanying drawings, the container of the invention has a bottom floor, a first pair of equal and opposite vertical walls 2 having openings therein for carrying the container when assembled, and a second pair of equal and opposite vertical walls 3. All components are derived from a single, predeterminedly shaped piece and are foldable one on another by means of folds or junctions 4 which define a true and proper hinge along the folds.

A first embodiment for interlocking any two adjoining walls to each other is clearly shown in FIGURES 3 and 4. Walls 3 are provided with a series of arcuated apertures 13, 14 and 15. Each arcuated aperture (see FIGURE 5) has a common center of curvature positioned at the bottom of the walls 2 where folding line 4 lies. Each of said apertures 13, 14 and 15 is provided at one terminus thereof with a widening 16. On the other walls 2 there is provided a number of spokes or rimer 17 which possesses a bulbous head 18. The number of apertures 13, 14 and 15 and the number of spokes or rimers 17 corresponds and the spokes 17 are inserted in the apertures 13, 14 and 15 and angularly moved therealong, so as to firmly connect walls 3 to walls 2 of the container. Each aperture 13, 14 and 15 is provided with an opposite terminus 21 connected directly with a thickened section 22 of limited length. This reduction in the aperture has the purpose of causing the bulbous head 18 to be passed through the section 22 only with application of some effort. The terminus 21 has a diameter greater than the width of section 22 and serves to withhold firmly the rimer 17 therein. Section 22 is, furthermore, protruding from the surface or plane of the wall containing it by a predetermined amount. When the container is assembled, the rimers 17 are fixedly interlocked in termini 21 and the danger of accidental or involuntary disassembling is thus fully eliminated.

To assemble the container, as shown in FIGURE 4 of the drawings, the walls 2 are folded on hinges or folds 4 together with walls 3, so that the heads 18 of the rimers 17 pass simultaneously through the widenings 16. Walls 2 are then caused to rotate angularly toward the outside of the container so as to engage the rimers 17 within the apertures 13, 14, and 15 of the walls 3. Due to the action of the heads 18 of the rimers 17 upon the sections 22 and to the holding of the rimers 17 in the termini 21, the container is fixedly readied for use and is as rigidly stable as any container of the monolithic type.

Conversely, disengaging the walls 3 from the holding action of the heads 18 (see FIGURE 5), the container shows all its elements flattened (see FIGURE 3) and may be stored within minimum space. This feature renders the container particularly useful and adaptable to a variety of uses, among which the transportation of such articles as fish, fruits and vegetables.

With reference to FIGURE 7, the container has the vertical edges of walls 2 and 3 shaped like a letter U and enabling the assembler to set up the unfolded plastic with rapidity and ease, thanks to the plasticity of the plastic material employed. FIGURE 8 on the other hand, shows still another configuration of the edges of walls 2 and 3. The dovetailed connection is very readily accomplished by lodging head 6 firmly into seat 7. This type of assembly may be reinforced by employing an outer safety belt 8, which is placed in preformed guiding rails and has the purpose of widening the end use of the container.

Still another structural configuration is shown in the variant of FIGURES 9 and 10. The container has two of its four walls, for example, walls 2, provided along the lateral edges thereof with a plurality of rimers 9 with bulbous head 10 and expansion cuts 11. The other walls 3 have cuts 12 provided therein and matching the corresponding rimers. The rimers are seated forcibly in the cuts 12 for rigidity of the assembled container.

In any one of the illustrated and described variants, the individual elements or components of the container, that is, the walls 2 and 3, are foldable one upon the other so as to add to the storing ability and ease. Additional variants for assembling the container of the invention and interlock the walls thereof are readily within the skill of the artisan.

What is claimed is:

1. A collapsible container of synthetic plastic material comprising four vertical walls connected to a bottom floor and hingedly foldable along the edges connecting them to said bottom floor, characterized in that two opposite walls of said container have a plurality of concentric, arcuated apertures therein and two other
opposite walls have an equal plurality of headed rimers protruding therefrom for insertion into said arcuated apertures; said apertures having a common center of curvature, a first larger and circular terminal, a second narrower and circular terminal, and a restricted section intermediate said terminals in the arcuated portion of said aperture.

2. The container of claim 1 in which six arcuated apertures are provided on each of two opposing walls and the restricted section of each of four of said apertures has arcuated segments of different width, the segment near the narrower terminal being more restricted than the segment near the larger terminal of the aperture.

3. The container of claim 1 in which six arcuated apertures are provided on each of two opposing walls and the restricted section of each of four of said apertures has an arcuated segment intermediate the terminals of said section, which segment renders said section even more restricted.