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O. J. ALVAREZ

2,443,440

COLLAPSIBLE SWIMMING AND BATHING POOL

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Fig. 1.

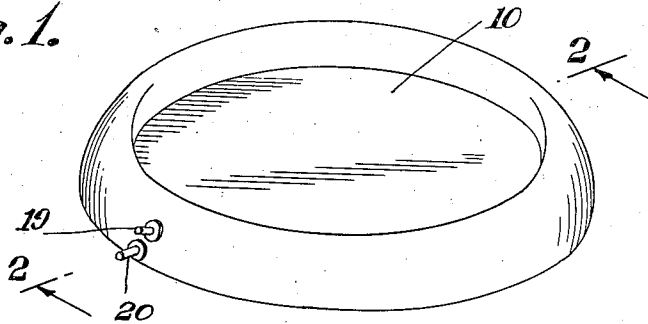


Fig. 2.

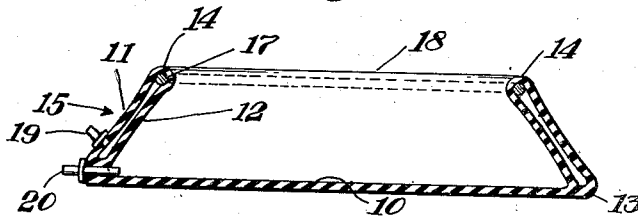


Fig. 3.

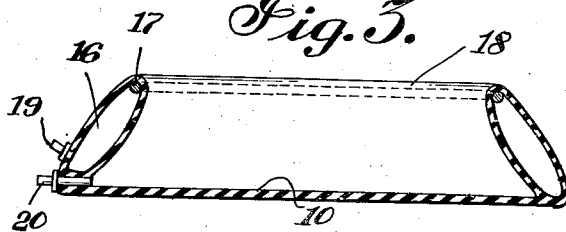
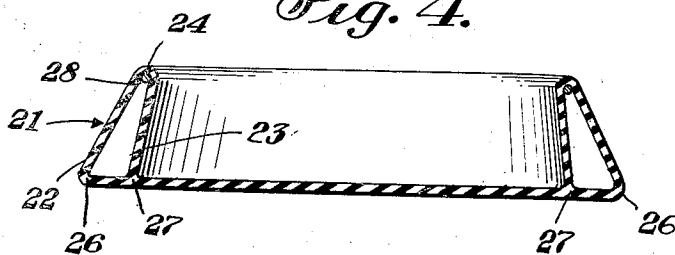


Fig. 4.



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COLLAPSIBLE SWIMMING AND BATHING
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2 Claims. (Cl. 4—177)

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My present invention relates to collapsible swimming or bathing pools and more particularly to collapsible pools made of flexible and foldable sheet material.

It is an object of my present invention to provide a collapsible swimming or bathing pool which is of simple construction and easy to manufacture.

It is also an object of my present invention to provide a collapsible swimming or bathing pool the side wall or walls of which are held in operative erected position by the buoyancy of the side wall or side walls themselves.

It is a further object of my present invention to provide a collapsible pool which can be easily put into operative position ready for use simply by inflating the same.

It is still a further object of my present invention to provide an inflatable swimming or bathing pool which after inflation is in operative position, without the necessity of relying upon water pressure to expand the side walls of the pool.

It is another object of my present invention to provide a collapsible pool the side walls of which are constructed so that it is impossible to bend them outward when the pool is filled with water, thus eliminating the possibility of undesired overflow.

Finally, it is also an object of my present invention to provide a swimming or bathing pool which is very sturdy in construction so that it can be very well used by children as outdoor wading pool.

With the above objects in view, my present invention mainly consists of a collapsible swimming or bathing pool comprising in combination a water impervious bottom wall, and a water impervious inwardly inclined tubular collapsible side wall arranged along the perimetral edge of the water impervious bottom wall.

By inwardly inclining this tubular side wall, the same will rest partly on the water and be forced upward by its buoyancy; thus, it is possible to prevent outward bending of this wall and eliminate the possibility of undesired overflow of water.

As the inwardly inclined tubular side wall is made of highly flexible and also at least slightly stretchable material, I have found it of great

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importance to secure a reinforcing cord or cable to the tubular side wall along its upper perimetral edge. This reinforcing cord or cable has to have the same length as the upper perimetral edge of the tubular side wall; of course, thus it is shorter than the lower perimetral edge of the tubular side wall and the perimetral edge of the water impervious bottom wall to which this tubular side wall is secured.

The tubular side wall has preferably an elliptical cross section when inflated. However, it is also possible to use differently shaped tubular members: Thus, for instance, good results were also obtained with a collapsible side wall having a triangular, rectangular or otherwise shaped cross section.

The tubular side wall has to be joined to the water impervious bottom wall so that any possibility of leakage of water along the perimetral edge is avoided. Preferably, the entire bottom wall and the tubular side wall are made of water impervious sheet material, e. g. a plastic coated fabric or a plastic, e. g. rubber sheet, and the tubular side wall is joined to the bottom wall by integrally uniting the plastic coatings or plastic sheets along the perimetral bottom edge of the side wall.

In order to inflate and deflate the tubular side wall, I provide a valve in this wall. I also provide another valve in the bottom wall or along the perimetral bottom edge of the same reaching into the space within the pool so as to enable introduction of water into the pool or draining it therefrom.

The novel features which I consider as characteristic for my invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of a swimming pool according to my present invention;

Fig. 2 is a cross section of the swimming pool shown in Fig. 1, along line 2—2 of Fig. 1, in non-inflated condition;

Fig. 3 is a cross section through the swimming pool shown in Fig. 1 in inflated condition; and

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Fig. 4 is a cross section through a modified embodiment of a swimming pool according to my present invention having side walls with triangular cross section.

The collapsible pool shown in Figs. 1 to 3 has a circular bottom wall 10 consisting of a water impervious sheet e. g. water impervious impregnated fabric or a plastic, e. g. rubber sheet. As clearly shown in Figs. 2 and 3, the side wall 15 of the pool consists of two substantially equally shaped superimposed conical bands 11 and 12 of water impervious sheet material, e. g. a plastic coated fabric or a plastic, e. g. rubber sheet firmly united along their perimetral bottom edges 13 and their perimetral top edges 14.

This side wall is joined at its bottom edge 13 to the perimetral edge 14 of the circular bottom wall 10.

The connection between side wall and bottom wall 10 has to be absolutely water impervious. This can be obtained by integrally connecting with each other the plastic materials with which the fabrics forming the conical side and bottom walls are coated, or by integrally connecting the sheets themselves if the same consist entirely of plastic material, e. g. rubber.

As clearly shown in Figs. 2 and 3, the conical bands form an inwardly inclined conical tubular side wall 15 when air is introduced into the closed space formed by the conical bands 11 and 12.

Side wall 15 appears in uninflated condition as shown in Fig. 2, i. e. the two bands 11 and 12 forming this wall are in contact with each other. I wish to note in this connection that the showing in Fig. 2 has been chosen only to show the condition of side wall 15 in uninflated condition. The fact is that in such uninflated condition the side wall 15 will not stay up as shown, but will collapse and rest upon the bottom wall 10.

Fig. 3 shows the pool described above in inflated condition. In this condition, the conical bands 11 and 12 forming the conical side wall 15 are spaced from each other and this wall has an elliptical cross section 16. In this condition, the conical tubular side wall 15 is self supporting. It should, however, be stressed that if the pool is filled with water the same will compress the lower portion of the tubular side wall and its upper portion will actually rest on the water supported by its buoyancy.

As the textile material and/or plastic material of which the pool mainly consists are to a certain degree elastic and stretchable, I found it of great importance to provide at the top of the conical tubular side wall 15 a reinforcing cord 17 extending along the upper perimetral edge 18 of the wall. This cord has to be non-stretchable and shorter than the perimetral edge 14 of the bottom wall 10.

Preferably, the reinforcing cord 17 is arranged within the tubular side wall 15 as shown in Fig. 3; however, it is also possible to secure this reinforcing cord to the outer face of the side wall along the upper perimetral edge 18 thereof.

In order to enable inflation and deflation of the tubular side wall 15, I provide in the outer face of this wall an air valve 19 by which the space within the wall can be connected with means for introducing air into the same. Of course, by opening this valve it is also possible to deflate the side wall whenever desired.

I also arrange a water valve 20 provided at the perimetral edge 14 of the bottom wall 10 and serving for introducing water into the pool and draining it therefrom whenever desired.

In Fig. 4 I have shown a modified swimming or wading pool according to my present invention. The side wall 21 of this pool is formed by two conical fabric bands 22 and 23 of different shape: The difference between these two fabric bands is that the angle formed by them is different so that they cannot be superimposed and attached to the bottom wall along the same line.

Actually, the two fabric bands forming the side wall are connected along their upper perimetral edges 24 to each other while their bottom edges are joined to the bottom wall 25 spaced from each other. The outer fabric band 22 is joined to the bottom wall 25 along its perimetral edge 26, while the fabric band 23 is joined to the bottom wall spaced from its perimetral edge 26 as indicated in Fig. 4 by numeral 27. The thus formed tubular side wall 21 is inwardly inclined and has a triangular cross section, as shown.

A reinforcing cable 28 is provided within the tubular wall 21 along the upper perimetral edge 24 thereof.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of collapsible containers for water and other fluids, differing from the types described above.

While I have illustrated and described the invention as embodied in collapsible swimming or bathing pools, I do not intend to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of my invention.

Without further analysis, the foregoing will so fully reveal the gist of my invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What I claim as new and desire to secure by Letters Patent is:

1. A collapsible swimming or bathing pool comprising in combination a water impervious bottom wall; a collapsible inflatable side wall consisting of two superimposed bands of water impervious flexible material having each a longer and a shorter perimetral edge and joined along said longer perimetral edges to each other and firmly joined along said longer joined perimetral edges to the perimetral edge of said water impervious bottom wall so as to form an inwardly inclined inflatable side wall having an upper joined perimetral edge being shorter than said perimetral edge of said water impervious bottom wall; and reinforcing means along said upper perimetral edge of said inwardly inclined inflatable side wall.

2. A collapsible swimming or bathing pool comprising in combination a water impervious bottom wall consisting of a water impervious flexible sheet material; a collapsible inflatable side wall consisting of two substantially equally shaped superimposed inwardly inclined conical bands of water impervious flexible sheet material having each a longer and a shorter perimetral edge and joined along said longer perimetral edges to the perimetral edge of said water impervious bottom wall so as to form an inwardly inclined inflatable side wall having an upper joined perimetral edge being shorter than said

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perimetral edge of said water impervious bottom wall; and a cord-shaped reinforcing member having the length of said shorter joined perimetral edge of said collapsible inflatable side wall and secured to the same along said shorter joined perimetral edge.

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