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(54) **Adapter for eliminating support points on a reinforcing strut of a dismountable swimming pool**

(57) Adapter (1) for eliminating support points (5) on a reinforcing strut (2) that protrudes from a wall (4) of a dismountable swimming pool (3), with this adapter (1) including a lower reception area (6) intended to receive and conceal at last part of support point (5) of the reinforcing strut (2) outer surface, two side outer surfaces (10) intended to remain essentially vertical or with a slight inclination in relation to the vertical when the adapter (1)

is assembled on the reinforcing strut (2), and an upper outer surface (7), no part of which can be used as a support point when the adapter (1) is assembled on the reinforcing strut (2). The adapter (1) makes it possible to prevent a child from being able to support its foot and climb up towards the inside of the swimming pool (3), without needing to replace the reinforcing strut (2) with another one of a new design.

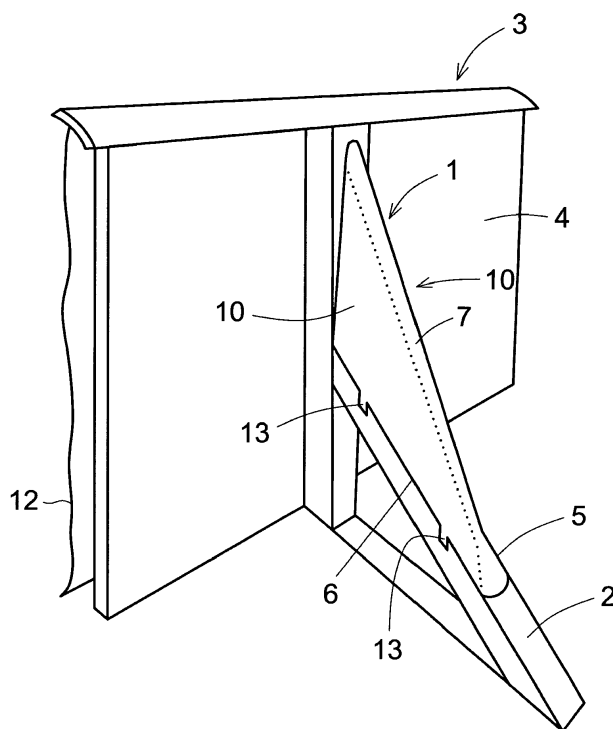


FIG.1

Description

Technical field

[0001] The invention relates to an adapter to be placed on a reinforcing strut of a dismountable swimming pool, with the purpose of preventing the reinforcing strut from being used as a support point, all in the aim of eliminating unwanted support points from the swimming pool which, otherwise, run the risk of being used by children in order to climb up into the swimming pool in an uncontrolled and dangerous manner.

Prior art

[0002] The use of a type of dismountable swimming pools is very widespread in the private, domestic or similar environment. A dismountable swimming pool is a type of swimming pool which is easy to install and does not require any building work for its assembly. Dismountable swimming pools must comply with certain safety requirements, some of which are standardized or in the standardization phase. For instance, in France there is standard NF P90-316, which regulates the safety requirements of swimming pools for private family use and of swimming pool kits, while also defining testing methods to examine fulfilment of these requirements.

[0003] Among the requirements established by this French standard is one that states that the swimming pool must not have support points on its outer area in the form of protuberances that might enable children younger than 5 years of age to climb onto them and reach the inside of the swimming pool. For this purpose, the standard establishes that any protuberance that projects outwards from the swimming pool must have tangent planes that form angles of at least 55° with the horizontal; this degree of inclination of the protuberance ensures that, in practice, the protuberance cannot be used as a support point by children because, if they put their feet on it, they will tend to slide downwards due to the inclination and will not be able to support themselves on it in a stable manner.

[0004] It is an objective of this invention to provide a means of compliance with the above requirement established by French standard NF P90-316 and, in general, with similar standards, so that dismountable swimming pools can satisfactorily comply with safety regulations. More specifically, an objective of this invention is to provide a means of eliminating support points which are potentially present on the outer reinforcing struts of dismountable swimming pools and which are usually characterised by being placed slantwise and with little inclination, as a buttress, between the vertical outer wall of the swimming pool and the ground.

Brief description of the invention

[0005] It is an object of this invention to provide an

adapter for eliminating potential support points on a reinforcing strut of a dismountable swimming pool, where the said reinforcing strut protrudes from a wall of the swimming pool and has at least part of an outer surface capable of being used as a support point and of potentially allowing a child to support its foot and climb up towards the inside of the swimming pool. In order to eliminate the potential support points, the adapter according to the invention comprises a lower reception area intended to receive at least part of the support point of the reinforcing strut outer surface and adapt to it by concealing it (at least partly), and an upper outer surface on which there is no part that might be used as a support point when the adapter is assembled on the reinforcing strut. Additionally, the adapter includes two side outer surfaces intended to remain essentially vertical or with a slight inclination in relation to the vertical when the adapter is assembled on the reinforcing strut. Thus, the adapter according to the invention allows the support point to be concealed and in its place provides a streamlined upper outer surface without support points.

[0006] The adapter is preferably intended to cover a reinforcing strut of the type that protrudes from the wall of the swimming pool in a downward sloped manner. In this case, the adapter is **characterised in that** the upper outer surface has one or more tangent planes, with each of these planes forming an angle in such a way in relation to the lower reception area that, when the adapter is assembled on the reinforcing strut, each of these planes forms an angle in relation to the horizontal of at least 50 degrees, and preferably of at least 55 degrees, thereby preventing the said upper outer surface from being used as a support point. This means that the said support point is eliminated and compliance with the safety requirements established by French standard NF P90-316 and others which are expected to be defined and similar to this French standard is achieved.

[0007] The adapter according to the invention has the obvious advantage that it enables support points to be eliminated without requiring additional safety systems such as safety barriers, alarms, covers, etc. In addition, the adapter according to the invention offers the advantage that it is indeed an 'adapter', which means that it does not require conventional reinforcing struts to be removed and replaced by a new design of reinforcing strut specially designed to fulfil safety regulations. Thus, the adapter according to the invention makes it possible to continue using the reinforcing struts which, without the invention, would be support points and which, with the invention, no longer provide support points and can continue to perform the rest of their functions without problems.

Brief description of the drawings

[0008] Details of the invention can be seen in the accompanying drawings, which do not seek to restrict the scope of the invention:

- Figure 1 shows a perspective view of one embodiment of the adapter according to the invention.
- Figure 2 shows a cross section side view of the swimming pool, an outer reinforcing strut and the adapter shown in Figure 1.
- Figure 3 shows a side view of the adapter of the previous figures.
- Figure 4 shows a cross-sectional front view of a reinforcing strut and an adapter according to the invention.

Detailed description of the invention

[0009] The invention relates to an adapter for eliminating support points on a reinforcing strut of a dismountable swimming pool and thereby prevent young children from climbing up the reinforcing struts of a swimming pool to reach the inside of the swimming pool. One embodiment of this adapter can be seen in Figures 1 to 3. Figure 1 shows a perspective view of a dismountable swimming pool (3) which, as is known, is usually provided with an outer wall (4) and a liner (12), inside which the water in the swimming pool (3) is contained. It is common for dismountable swimming pools to be provided with outer reinforcing struts (2) to make the swimming pool (3) more robust and prevent it from swaying sideways. These reinforcing struts (2) usually form an angle (P) with the horizontal of about 35-40 degrees, which in practice proves to be a relatively small angle and leads to the upper part of the outer surface of these reinforcing struts (2) being a support point (5). Consequently, a young child can easily climb up onto the reinforcing struts (2) and reach the inside of the swimming pool (3) in an uncontrolled manner. To prevent this, the adapter (1) according to the invention is fitted onto the support points (5) included on the outer reinforcing strut (2), as shown in Figure 1. Figure 2 shows a cross-sectional side view of the swimming pool (3), a reinforcing strut (2) and the adapter (1) shown in Figure 1. In turn, the adapter (1) has been shown alone in Figure 3. This adapter (1) includes a lower reception area (6) intended to receive at least part of the support point (5) and conceal this part of the support point (5) (in this case it receives and conceals only part of the support point (5), however enough to make it impossible for a person to be supported on it with sufficient stability to put pressure on it and climb up). The adapter also comprises an upper outer surface (7), no part of which can be used as a support point when the adapter (1) is assembled on the reinforcing strut (2). Additionally, the adapter (1) comprises two side outer surfaces (10) intended to remain essentially vertical or with a slight inclination in relation to the vertical when the adapter (1) is assembled on the reinforcing strut (2).

[0010] In consequence, the adapter (1) according to the invention enables conversion of an initial support point (5) into a series of final outer surfaces (7, 10) with a greater inclination, which can no longer be used as support points, but without needing to remove the rein-

forcing strut (2) or having to replace it with another one of a new design specially devised to not have support points.

[0011] As shown in Figure 2, the reinforcing strut (2) of a swimming pool usually protrudes out from the wall (4) of the swimming pool (3) in a downward slope, forming an angle (P) with the horizontal, in which P is usually 35-40 degrees. For reinforcing struts (2) of this type, the adapter (1) is preferably made as follows: the upper outer surface (7) has one or more tangent planes (since it might be a surface that, when seen from the side, might be straight, curved or with any more or less irregular profile, although in the figures it has been shown with a straight downward profile), with each of the said planes forming an angle (A) in relation to the lower reception area (6) of at least 50-P degrees. Thus, when the adapter (1) is assembled on the reinforcing strut (2), each of the said planes forms an angle (equal to the sum of A+P) in relation to the horizontal of at least 50 degrees, thereby preventing the said upper outer surface (7) from being used as a support point.

[0012] Preferably, the angle (A) formed by the tangent plane or planes to the upper outer surface (7) in relation to the lower reception area (6) is of at least 55-P degrees, so that when the adapter (1) is assembled onto the reinforcing strut (2), each of the said planes forms an angle (A+P) in relation to the horizontal of at least 55 degrees. This enables the adapter (1) to comply with French safety standard NF P90-316.

[0013] The adapter (1) shown in the figure also includes a rear outer area (9) intended to be attached to the wall (4) of the swimming pool (3). This enables the adapter to become fitted between the wall (4) of the swimming pool (3) and the reinforcing strut (2), thereby providing an aesthetically pleasant solution with low visual impact. In an especially advantageous manner, the adapter (1) is essentially triangular in shape (when seen from the side), as shown in the figures.

[0014] The adapter (1) also preferably includes some side flanges (13) located on the lower area of the side outer surfaces (10), intended to become engaged to the sides of the reinforcing strut (2) as shown in the figures, especially in Figure 4. As may be seen in the latter, the function of these side flanges (13) is to maintain the position of the side outer surfaces (10) in the event that something, for instance a foot, should push a side outer surface (10) inward. It must be noted that, if the side flange (13) were not present, the side outer surface (10) might be displaced towards a sufficiently inward position (10') for a new support point (14) to appear on the upper outer surface of the reinforcing strut (2). Thus, the side flanges (13) contribute towards ensuring that the objectives of the invention are fulfilled.

[0015] The adapter (1) according to the invention may be formed by one single part or by several parts. Also, it may be fixed to the reinforcing strut (2) and/or other parts of the swimming pool (3) by any applicable means, for instance by screws.

Claims

1. Adapter (1) for eliminating support points on a reinforcing strut (2) of a dismountable swimming pool (3), where said reinforcing strut (2) protrudes from a wall (4) of the swimming pool (3) and has at least part of its outer surface capable of being used as a support point (5) and of potentially allowing a child to support its foot and climb up towards the inside of the swimming pool (3), the adapter (1) being **characterised in that** it comprises:
 - a lower reception area (6) intended to receive at least part of the support point (5) of the reinforcing strut (2) outer surface and to conceal said at least part of said support point (5),
 - two side outer surfaces (10) intended to remain essentially vertical or with a slight inclination in relation to the vertical when the adapter (1) is assembled on the reinforcing strut (2), and
 - an upper outer surface (7), no part of which can be used as a support point when the adapter (1) is assembled on the reinforcing strut (2).
2. Adapter, according to claim 1, where the reinforcing strut (2) protrudes out from the wall (4) of the swimming pool (3) in a downward slope, forming an angle (P) with the horizontal, **characterized in that** the upper outer surface (7) has one or more tangent planes, with each of these planes forming an angle (A) in relation to the lower reception area (6) of at least 50-P degrees, so that when the adapter (1) is assembled on the reinforcing strut (2), each of these planes forms an angle (A+P) in relation to the horizontal of at least 50 degrees, thereby preventing the said upper outer surface (7) from being used as a support point.
3. Adapter (1), according to claim 2, **characterised in that** the angle (A) is of at least 55-P degrees, so that when the adapter (1) is assembled on the reinforcing strut (2), each of the said planes forms an angle (A+P) in relation to the horizontal of at least 55 degrees.
4. Adapter (1), according to claim 1, **characterised in that** it further comprises a rear outer area (9) intended to be attached to the wall (4) of the swimming pool (3).
5. Adapter (1), according to claim 4, **characterised in that** it has an essentially triangular shape.
6. Adapter (1), according to claim 1, **characterised in that** it also includes some side flanges (13) located on the lower area of the side outer surfaces (10), intended to become engaged to the reinforcing strut (2) in order to prevent the displacement of the side

outer surfaces (10) in relation to the reinforcing strut (2) once that the adapter (1) is assembled onto the reinforcing strut (2).

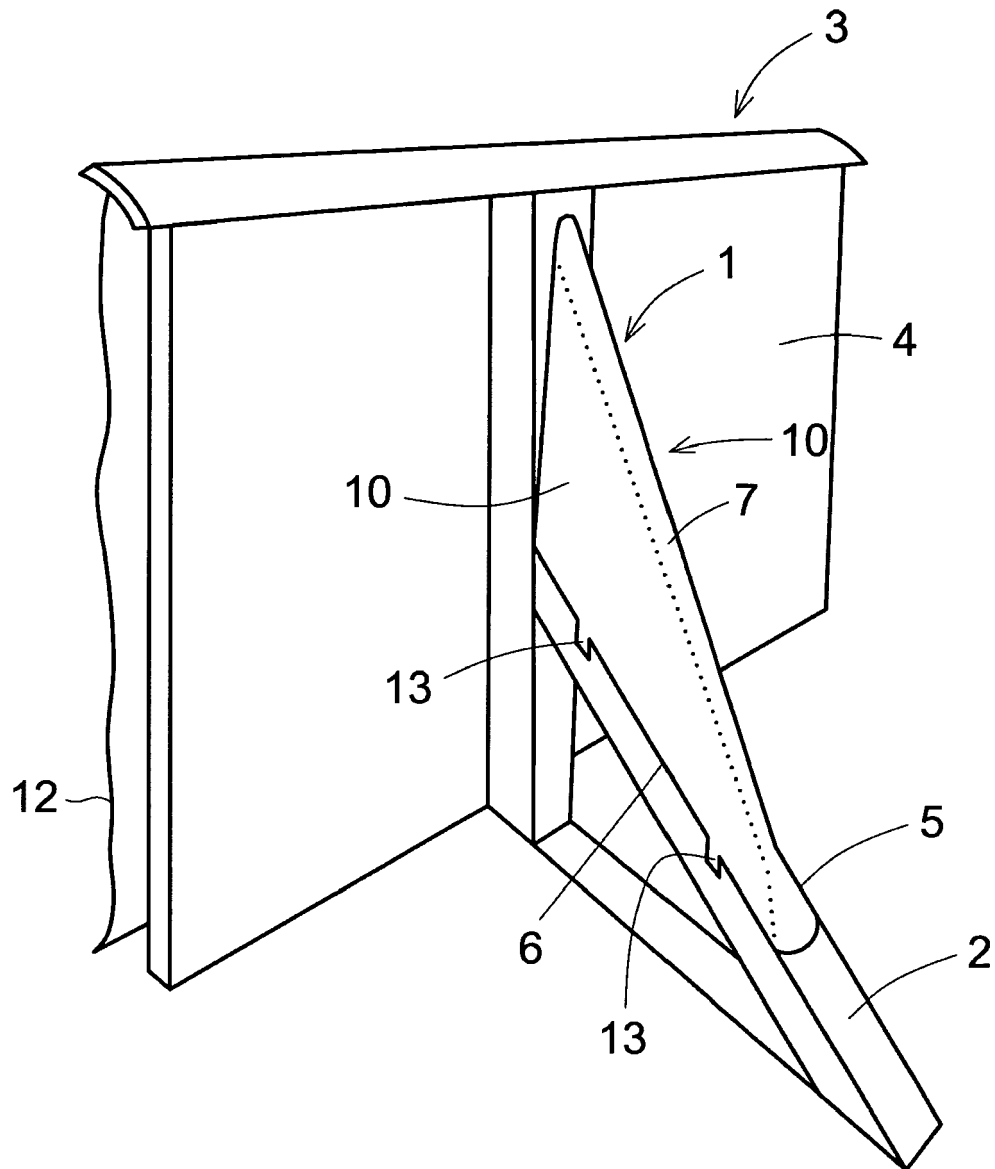


FIG.1

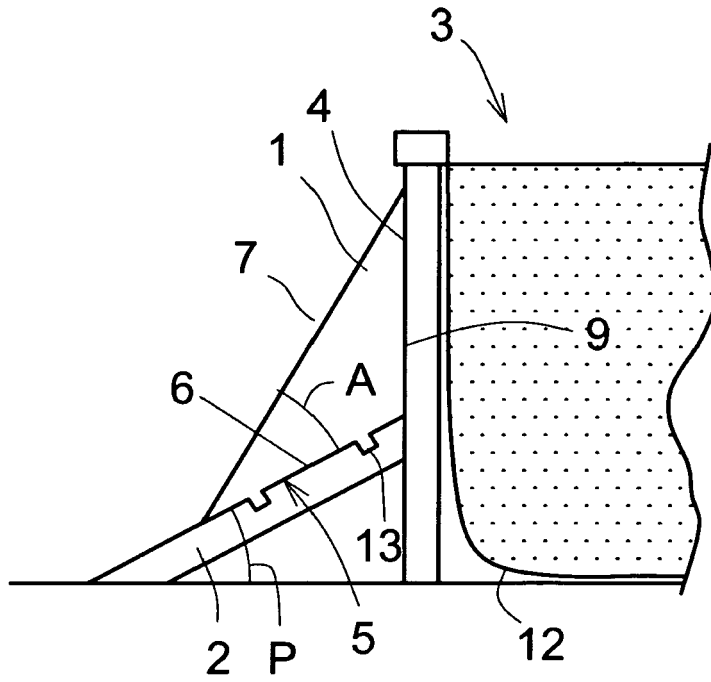


FIG. 2

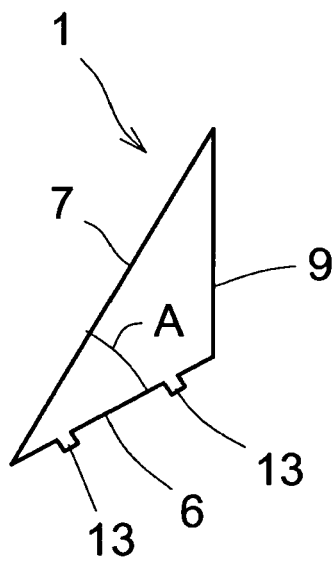


FIG. 3

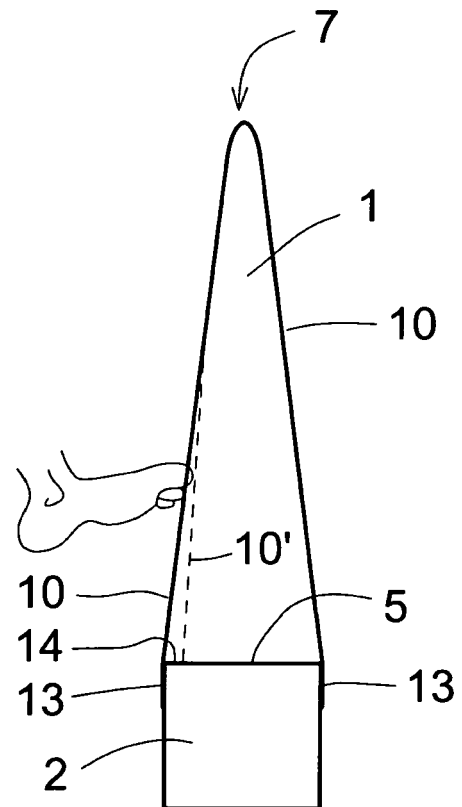


FIG. 4



EUROPEAN SEARCH REPORT

Application Number
EP 12 38 0003

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 421 846 B1 (SHAANAN GAD [CA] ET AL) 23 July 2002 (2002-07-23) * figures 1,2a,2b *	1-6	INV. E04H4/00 E04H4/06 E04H17/00
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			E04H
Place of search		Date of completion of the search	Examiner
Munich		12 June 2012	Decker, Robert
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 38 0003

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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12-06-2012

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