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(54) **A cover system for a swimming pool and a method for covering a swimming pool**

(57) A system for covering a swimming pool (1), comprising a flexible cover (2) adapted to be displaced over the swimming pool and floating, inflatable support means (4, 5) to be placed on the water of the swimming pool and under said flexible cover (2), wherein said support means, when inflated, are adapted to push upwards a portion of the flexible cover, thus resulting in a substantially convex arrangement of said cover.

A method for covering a swimming pool (1) comprising the steps of:
- providing at least one floating, inflatable support means (4, 5) on the water of the swimming pool;
- providing a flexible cover (2) over the swimming pool, so that said support means (4, 5) remain under the cover, and anchoring the perimetral border of said flexible cover with suitable means (3);
inflating said support means (4, 5), so that they push upwards a portion of the flexible cover (2), thus resulting in a convex arrangement of said cover.

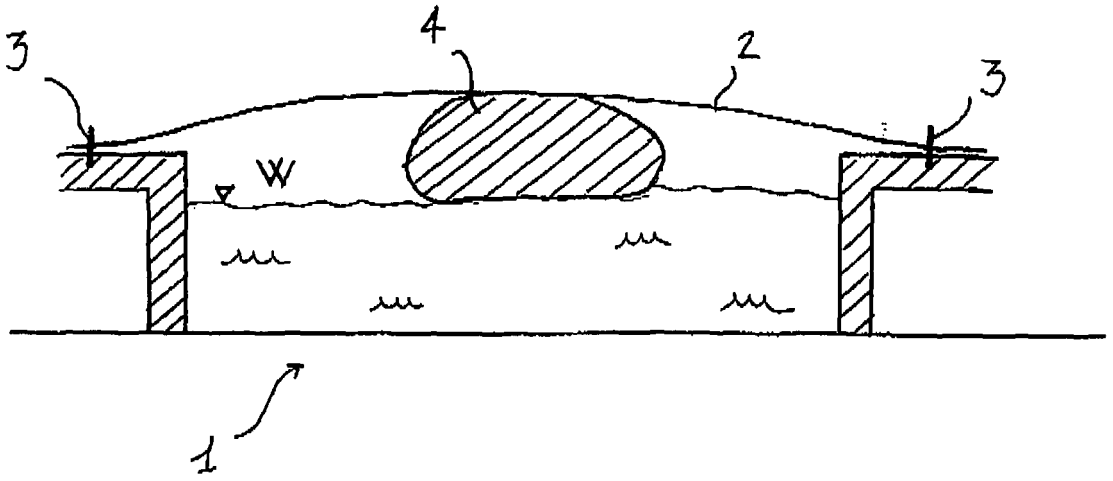

FIG 1

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Description

[0001] The invention relates to a cover system for a swimming pool and a method for covering a swimming pool.

[0002] Swimming pools are commonly covered when not in use, for example in winter season. A known system for covering a swimming pool is to displace a flexible cover, e.g. a PVC sheet, over the swimming pool. The edge of the flexible cover is then anchored to the perimeter of the swimming pool with suitable fastening means.

[0003] The disadvantage of this technique is that the flexible cover tends to form a central concavity under its own weight. This concave arrangement leads to rainwater stagnation and unsatisfactory hygiene. It is also unsafe especially for children that may remain trapped in the central, concave portion, in particular when the flexible cover is wet and slippery.

[0004] These disadvantages, according to the invention, are solved by a system for covering a swimming pool, comprising a flexible cover adapted to be displaced over the swimming pool and floating, inflatable support means to be placed on the water of the swimming pool and under said flexible cover, wherein said support means, when inflated, are adapted to push upwards a portion of the flexible cover, thus resulting in a substantially convex arrangement of said cover.

[0005] Said floating, inflatable support means are preferably in the form of one or more cushions filled with pressurized air.

[0006] If more than one cushion are provided, the cushions are preferably aligned at the centre of the swimming pool and following its longitudinal axis. Each cushion is preferably secured to the next by suitable means, for example an elastic.

[0007] In a preferred embodiment, said air cushion(s) is/are fitted with watertight valves for pressurized air supply, to allow on-site inflation. Both the cover and the air cushion(s) may be made of PVC with, if appropriate, a suitable coating.

[0008] The perimetral edge of the flexible cover is anchored with suitable means, which are known per se.

[0009] According to the invention, a method for covering a swimming pool comprises the steps of:

a) providing at least one floating, inflatable support means on the water of the swimming pool;
b) providing a flexible cover over the swimming pool, so that said support means remain under the cover, and anchoring the perimetral border of said flexible cover with suitable means;
c) inflating said support means, so that they push upwards a portion of the flexible cover, thus resulting in a convex arrangement of said cover.

[0010] Step a) is preferably performed with the inflatable support means partially inflated, so that they easily float on the water surface. During step c), they are fully inflated to push upwards the cover leading to the aforesaid convex arrangement of the same.

[0011] The invention provides easy mounting and hygienic, safe operation. In particular, the convex arrangement of the cover, having substantially a central region raised with respect of the perimetral region, avoids rainwater stagnation and the risk of falling and remaining trapped on the cover, especially for children.

[0012] The invention is now described with greater detail and referring to the figures showing a preferred embodiment, wherein:

Fig. 1 is a cutout view of a cover for swimming pool, in operation, according to the invention;
Fig. 2 is a top view of the cover of Fig. 1.

[0013] Referring to the figures, a swimming pool 1, filled with water, is covered with a flexible PVC sheet 2 which is secured, along the perimetral border, with suitable fastening means 3.

[0014] A floating air cushion 4 is provided, which maintain a central portion of the flexible sheet 2 in a raised position, with respect to the perimetral region, as shown by Fig. 1.

[0015] Water level of the swimming pool is shown as W. The flexible sheet 2, under the pushing action of the floating air cushion 4, remains in a substantially convex arrangement as shown.

[0016] Referring to Fig. 2, two cushions 4 and 5 are provided, according to the length of the swimming pool. Cushions 4 and 5 are secured each other by an elastic 6 fitted into suitable rings or handles 7. Each cushion 4, 5 is fitted with a watertight valve 8 for the connection of an air supply tube 9. Air cushions 4, 5 can also be made of PVC.

[0017] It should be appreciated that a suitable number of floating cushions may be used, namely one or more cushions, depending on the length of the swimming pool. Preferably, the air cushions cover substantially the whole length of the swimming pool and are placed in the centre, over the longitudinal axis, as seen in Fig. 2.

[0018] It should also be noted that the size and shape of the air cushions 4, 5 may vary according to the needs. For example they may be realized in a variety of shapes for different swimming pools.

[0019] The fastening means 3 are realized according to known technique. For example, the cover edge is folded and welded to form an anchoring slot, and said slot is secured by a metal ring which in turn is fixed to suitable anchoring means. This however pertains to known technique, and is not further described.

[0020] Referring to Fig. 2, the method for covering the swimming pool 1 comprises the following steps.

a) Air cushion 4, 5 are placed on the water of the swimming pool. During this step, the cushions 4, 5 may be partially filled with air, so that they can easily float.

b) The flexible cover 2 is displaced over the swimming pool and the perimetral region of said cover 2 is anchored to the border of the swimming pool in a suitable manner.
c) Air is fed through the air pipes 9 connected to valves 8, so that the cushions 4, 5 are inflated, until the flexible cover 2 has the substantially convex arrangement of Fig. 1.

[0021] The invention thus achieves the afore mentioned purposes, namely a hygienic and safe covering of a swimming pool.

Claims

1. A system for covering a swimming pool (1), comprising a flexible cover (2) adapted to be displaced over the swimming pool and floating, inflatable support means (4, 5) to be placed on the water of the swimming pool and under said flexible cover (2), wherein said support means, when inflated, are adapted to push upwards a portion of the flexible cover, thus resulting in a substantially convex arrangement of said cover.

2. A system according to claim 1, wherein said floating, inflatable support means are in the form of one or more air cushion (4, 5) fitted with watertight valves (8) for pressurized air supply.

3. A system according to claim 2, wherein the flexible cover (2) and air cushions (4, 5) are made of PVC.

4. A method for covering a swimming pool (1) comprising the steps of:

   - providing at least one floating, inflatable support means (4, 5) on the water of the swimming pool;
   - providing a flexible cover (2) over the swimming pool, so that said support means (4, 5) remain under the cover, and anchoring the perimetral border of said flexible cover with suitable means (3);
   - inflating said support means (4, 5), so that they push upwards a portion of the flexible cover (2), thus resulting in a convex arrangement of said cover.

5. A method according to claim 4, wherein said support means (4, 5) are disposed at the centre of the swimming pool (1) and following its longitudinal axis.

6. A method according to claim 4 or 5, wherein during the first step, the support means are partially inflated, so that they easily float on water, and then, after displacement of the flexible cover, they are fully inflated to push upwards the said cover.

7. A method according to any one of claims 4 to 6, wherein said support means are in the form of one or more air cushions (4, 5).

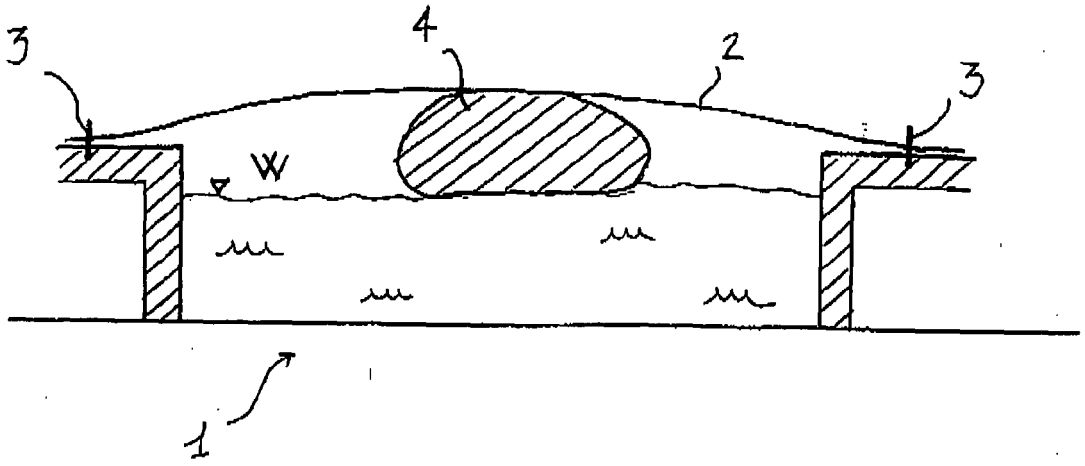

FIG 1

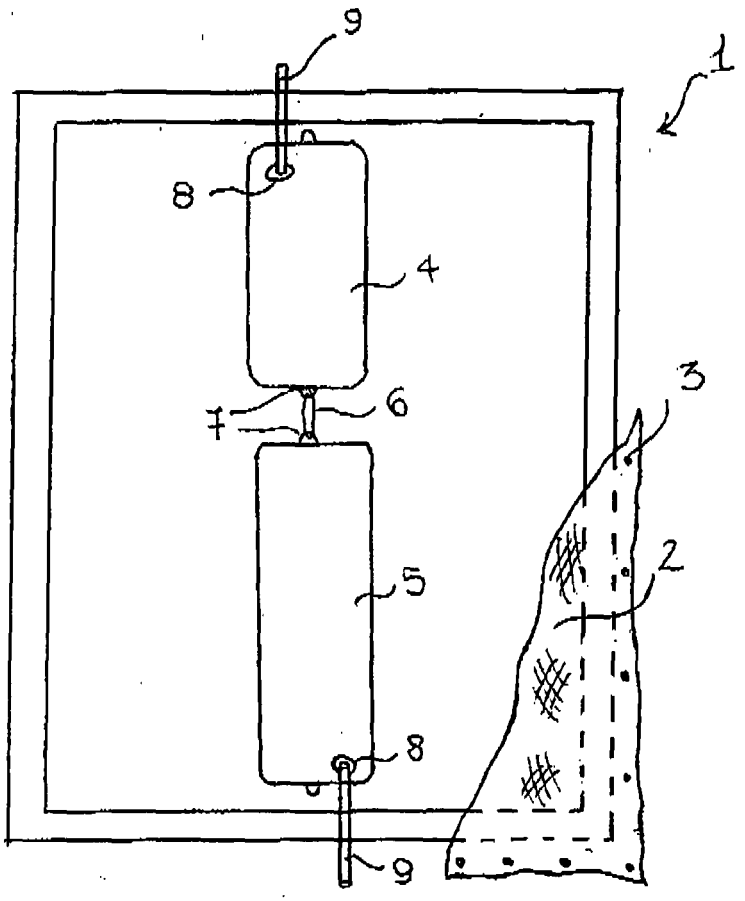

FIG 2

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EUROPEAN SEARCH REPORT

Application Number
EP 07 01 4188

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 4 685 254 A (TERRERI CLAUDE J [US]) 11 August 1987 (1987-08-11) * column 2, lines 7-12; figures 1-5; compounds 10,20,22,28,40 * * column 2, line 58 - column 3, line 6 * * column 3, line 20 * -----	1-8	INV. E04H4/10

TECHNICAL FIELDS SEARCHED (IPC)

E04H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	26 November 2007	Topcuoglu, Sadik Cem

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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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 01 4188

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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26-11-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4685254 A	11-08-1987	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82