ABSTRACT

An arrangement in swimming pools or bathing pools surrounded by a brim of which at least a portion thereof slopes downward towards the pool water so that its lower edge is located substantially on the same level as the surface of the pool water. A drainage channel for collecting and draining pool water is located beneath the sloping brim portion and the brim portion is provided with perforations to form a perforated cover member for the drainage channel.

12 Claims, 3 Drawing Figures
ARRANGEMENT IN SWIMMING POOLS

The present invention relates to an arrangement in swimming pools of the type having a surrounding brim with which at least a portion thereof slopes downwardly towards the pool water and has its lower edge located substantially on the same level as the surface of the pool water, and also having an upwardly open drainage channel provided with a perforated cover member and intended for collecting and conveying away water splashed onto the brim of the pool.

Conventional swimming and bathing pools of the aforementioned type are encumbered with a number of disadvantages. Thus, owing to the fact that the drainage channel is placed in a horizontally extending area behind the boundary wall of the pool, seepage problems arise, and the installation of the channel is often impractical and expensive as a result of the relatively large distance between the pool boundary wall and the drainage channel. Further, the pool water splashing onto the brim portion of the pool tends to be accelerated to such a degree that some of the water is swept beyond the drainage channel and wets the surface of the swimming pool on the far side of the channel.

The object of the present invention is to provide an arrangement with which the aforementioned disadvantages can be effectively eliminated in a simple and economic manner. Thus, it is proposed in accordance with the invention with respect to a swimming or bathing pool of the aforementioned type to locate the drainage channel beneath the sloping brim portion and to provide the sloping brim portion with openings or slots, disposed substantially from said edge and above said channel, the sloping brim portion forming the perforated member covering the drainage channel. In this way, the water splashing or spilling over onto the brim portion will begin to pass substantially immediately through the perforated cover member down into the channel, thereby greatly damping the movement of the splash water, so that the water is never able to reach the far edge surface of the perforated cover member. Further, the arrangement of the present invention also eliminates a large number of seepage sealing problems, while at the same time the drainage channel can be formed by utilizing simple and practical moulding devices when casting the pool wall, while simplifying plumbing installations etc. externally of the pool wall.

Additional objects and features of the invention will be evident from the following description, which is made with reference to the accompanying drawing, in which

FIG. 1 illustrates in perspective a portion of the brim around a swimming pool constructed in accordance with the invention,

FIG. 2 is a vertical projection view in larger scale of a portion of the arrangement according to the invention, a part of the brim portion being cut away to illustrate the construction more clearly, and

FIG. 3 is a fragmentary, cross-sectional view of a modified form of the brim portion.

The embodiment illustrated in FIG. 1 includes a vertical swimming pool boundary wall 10 comprising cast concrete and lined with facing tiles or the like, and a brim portion, generally shown at 11, which slopes in the illustrated manner; the lower portion or edge 12 of the brim portion 11 is intended to be located substan-

tially on the same level as the surface of the water in the pool. The highest portion 13 of the brim portion 11 merges, via an upwardly projecting gripping surface, with a horizontal walking surface surrounding the brim portion 11 and lined with facing tiles or the like, which surface may comprise the ground surrounding the pool or, as illustrated, a cast floor 14, and is separated from the pool boundary wall by means of a dilation joint. For the purpose of collecting splash and spill water and conducting the same to, for example, a water purification system, there is provided a drainage channel 15 which is open at the top thereof and covered with a perforated cover member having sufficient strength to bear the weight of a person standing thereon and, in accordance with the invention, is formed by the sloping brim portion 11. When waves are formed on the surface of the pool water, the water will splash onto the cover or brim portion 11 and pass, via openings 16 disposed therein, progressively down into the drainage channel 15. In this way, the water will not pass over the high portion 13 of the brim portion 11 to wet the floor 14. In accordance with one aspect of the invention, the openings 16 in the cover member may expand downwardly. It will be understood that one or more sides of the pool may be provided with the arrangement of the present invention, either along the total length thereof or along only parts thereof. The angle at which the brim portion is inclined to the horizontal normally lies between 5° and 25°, and is preferably between 8° and 15°.

The channel 15 is formed in the upper surface of the pool boundary wall 10, and the upper portion of the innermost wall of the channel 15, i.e. the wall thereof located nearest the edge of the pool, is formed by a wall portion 17 projecting downwardly from the lower edge 12 of the sloping brim portion 11. It also lies within the purview of the invention, to form the remaining portion of the said channel wall by a wall portion protruding downwardly from the brim portion or the cover member.

For the purpose of supporting the brim portion 11 and the wall portion 17 a number of support frames are disposed in spaced relation along the edge of the pool, one of the support frames being shown at 18. One end of the frame 18 is bolted to the outermost wall 19 of the channel 15, while the other end of the frame rests on the lower portion 20 of the innermost wall of the channel 15, the lower portion 20 being formed by the wall 10. The frames 18 are suitably mounted in position after casting the wall 10 and the floor 14, the frames 18 being adjusted, by means of inserts or other suitable devices, so that subsequent to erecting the brim portion 11 and the wall portion 17, the edges 12 and 13 are exactly horizontal. For the purpose of avoiding the formation of gaps between the upper surface of the portion 20 and the bottom edge of the wall portion 17, the wall portion 17 can be suitably dimensioned so that it positively slightly overlaps the portion 20.

The brim portion 11 and the wall portion 17 may be constructed in one or several parts. Under all circumstances arrangements should be made to enable portions of the sloping brim portion 11 to be readily removed, so that the channel 15 can be cleaned. In the illustrated embodiment, the brim portion 11 is formed of a number of elements, e.g. in the form of extruded sections, arranged in seven parallel rows, of which elements those designated 21 and located adjacent the
edge of the pool also form the wall portion 17, and of which the five centrally disposed elements can be joined together to form gratings which rest loosely on the frames 18 and which can be readily lifted.

In the region of the level of the surface of the water, the wall portion 17 is provided with a number of openings 22 to provide for a certain flow of surface water from the pool independently of the fact whether waves are caused in the pool or not, e.g. when the pool is unoccupied. This is an important feature, since the most troublesome impurities from the point of view of sanitation are normally concentrated in the upper layer of the pool water. Preferably the area of the openings 22 can be adjusted, e.g. to ensure a sufficient flow of water from the pool to enable continuous operation of a pump forming part of the pool water purifying system, even in those instances when the level of the water in the pool deviates to a reasonable extent from the intended water level, e.g. when the level of pool water lies within the region of from about 5 cm above to about 5 cm beneath the edge 12, wherewith all the water departing from the pool can pass through the channel 15 and all entering the pool can be introduced at the bottom thereof, suitably by means of a bottom inflow system of the type described in Swedish Pat. No. 330 967.

The openings 22 suitably have the form of vertically extending slots and should extend beyond the upper edge 12 of the wall portion 17 into the sloping brim portion 11, for the reasons made clear above. The openings or slots 22 are suitably arranged in groups close to each other, for the purpose of facilitating adjustment of the area of the openings or slots. In Figs. 1 and 2 there is illustrated a suitable arrangement for adjusting the area of the slots 22. This arrangement comprises an angle plate 23 arranged opposite each group of slots 22 and placed close to the inner surface of the elements 21. The angle plate 23 is provided with slots corresponding to the slots 22 and, as indicated at 24, is displaceable along the element 21 in a manner such that the slots in the element 21 and the angle plate 23 can be caused to coincide to a greater or lesser extent and thus expose a greater or smaller portion of the angle slot 22. Guide means 25 for the upper and lower edge of the angle plate are arranged on the element 21.

In the modified brim portion illustrated in FIG. 3, cover member elements 26 defining the slots 16 and resting on the frames 18 have generally horizontal upper surfaces so that a step-like construction is obtained. This arrangement greatly increases the ability of the cover member to dampen waves breaking over the brim portion and to allow spill or splash water to pass therethrough.

The invention is not restricted to the aforesaid described and illustrated embodiment. For example, the openings in the perforated cover member may be in the form of slots extending perpendicular to the edge of the pool, or may have any other serviceable configuration and orientation. Further, the arrangement may be such that the perforated cover member terminates slightly in front of the edges 12 and 13 and thus forms only a portion of the sloping brim portion, and it is also possible to provide the perforated cover member with a horizontal smaller portion which connects to the higher portion 13 of the sloping brim portion 11. In addition, the portion of the brim portion 11 located nearest the pool water may be inclined to the horizontal at a different angle than the remaining part of the brim portion. Further modifications can also be made, for example with respect to the manner in which the cover member and the wall portion 17 are supported. The invention can also be modified in any form embraced by the scope of the following claims.

I claim:

1. A swimming pool coping construction of the type which comprises a first substantially upright wall portion, a second substantially upright wall portion located adjacent the pool water and spaced from said first wall portion so as to define a water drainage channel between said wall portions, and a grating covering said channel, wherein the upwardly facing surface of the grating is substantially planar and slopes continuously downwardly in an unimpeded manner from said first wall portion to the edge of the pool adjacent the pool water.

2. An arrangement according to claim 1, wherein said second wall portion is provided in the region of the pool water level with a number of openings for continuously conducting surface water away from the pool, means being provided for adjusting the area of said openings.

3. An arrangement according to claim 2, wherein the openings have the form of vertical slots disposed in the second wall portion, the width of said slots being adjustable.

4. An arrangement according to claim 3, wherein the slots extend beyond the upper edge of the second wall portion into the inclined coping.

5. A swimming pool coping construction according to claim 1, wherein the grating comprises elongate grating members which extend in spaced apart side-by-side relationship longitudinally of the second wall portion, and wherein the spaces between said spaced apart elongate grating members are narrower at the top than at the bottom thereof.

6. A swimming pool coping construction according to claim 5, wherein means are provided to support said elongate grating members at an attitude in which said members form the treads of a step-like configuration extending at a uniform angle of slope downwardly from the first wall portion to the edge of the pool.

7. A swimming pool coping construction according to claim 5, wherein said second wall portion is provided in the region of the pool water level with a number of openings for continuously conducting surface water away from the pool, means being provided for adjusting the area of said openings.

8. An arrangement according to claim 7, wherein the openings have the form of vertical slots disposed in the wall portion, the width of said slots being adjustable.

9. An arrangement according to claim 8, wherein the slots extend beyond the upper edge of the wall portion into the inclined coping.

10. A swimming pool coping structure according to claim 1, wherein said coping slopes continuously downwardly from said first wall portion to the pool edge at an angle of more than 8°.

11. A swimming pool coping structure according to claim 1, wherein said coping slopes continuously downwardly from said first wall portion to the pool edge at an angle of between 5°-25°.

12. A swimming pool coping structure according to claim 1, wherein said coping slopes continuously downwardly from said first wall portion to the pool edge at an angle of between 8°-15°.

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