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WATER COVER AND CLEANING SYSTEM FOR SWIM POOLS

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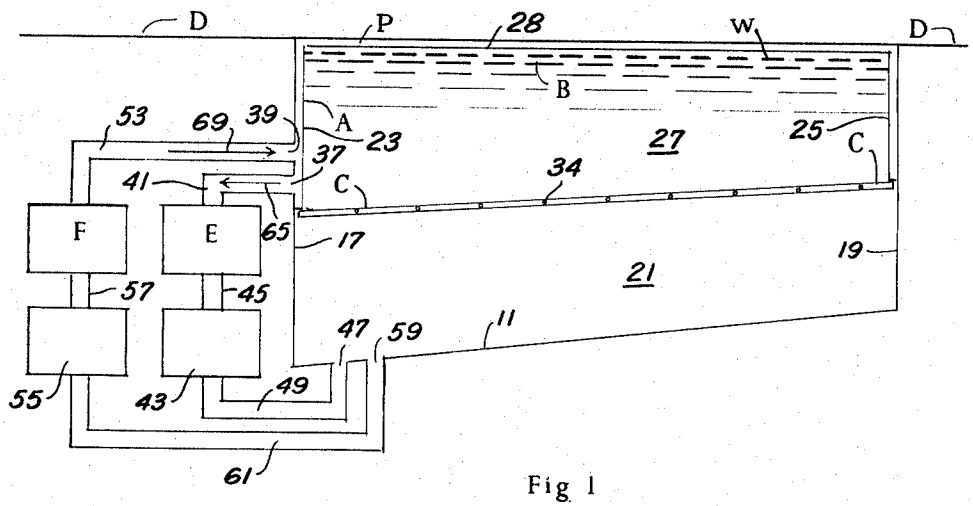


Fig 1

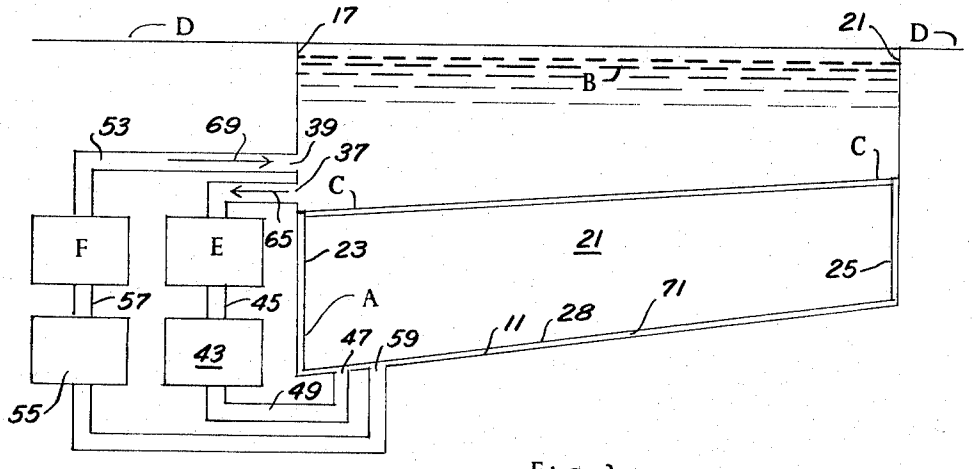


Fig 2

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WATER COVER AND CLEANING SYSTEM FOR SWIM POOLS

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ABSTRACT OF THE DISCLOSURE

A swimming pool cover which includes a flexible water-impermeable side wall shaped to complement the configuration of the upper portion of the pool side wall and an end wall connected at its periphery to the upper end of said side wall. The bottom end of the side wall is affixed to the side wall of the pool in a plane intermediate the top and bottom of the pool. When the cover is in its covering position, the top wall thereof rests on the surface of the pool water and its side wall lines the upper portion of the side wall of the pool thereby cooperating with the lower portion of the pool to define an envelope for the pool water. When the pool is to be used for swimming, the top wall of the cover is positioned near the bottom wall of the pool with the pool water thereabove.

The above described positioning of the cover from its covering position to its stored position, in the lower portion of the pool may be accomplished by providing pumping means for pumping the pool water from one side of the cover to the other side.

BACKGROUND OF THE INVENTION

Field of the invention

The present invention relates generally to pool covers and more particularly to a cover which is adapted to be affixed to the pool and moved from its covering position to its stored position by merely transferring water from the underside to the top side of the cover.

Description of the prior art

Presently known pool covers must be removed bodily from the water of the pool each time the pool is to be used.

Summary of invention

The swimming pool cover of present invention includes a flexible water-impervious side wall shaped to complement the configuration of the upper portion of the pool and closed at its top end by a water-impervious top wall. The bottom end of the side wall is affixed to the side wall of the pool intermediate the top and bottom of the pool, whereby the water in the pool can be selectively transferred from above the cover to enclose it below such cover, or transferred above the cover to cause the cover to move to the bottom of the pool for storage while the pool is in use.

DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a schematic view of a pool covered by a pool cover embodying the present invention; and

FIG. 2 is a schematic view similar to FIG. 1, but showing the pool cover at the bottom of the pool.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The pool P is surrounded by a deck D and is generally rectangular in shape and includes an inclined bottom wall 11. A cover A is installed in the pool P for covering the pool water W and is affixed thereto by slats C. The water W is transferred from the top side to the underside of the cover A by a pump E and is transferred from the bottom side to the top side of the cover A by a pump F.

The pool P includes a pair of end walls 17 and 1 and a pair of oppositely disposed side walls, one o which is shown at 21. The cover A is made of plasti sheet and includes a pair of oppositely disposed en walls 23 and 25 and a pair of oppositely disposed sid walls 27. The cover A also includes a top wall 28 whic is affixed at its periphery to the side walls 27 and en walls 23 and 25. The bottom ends, as viewed in FIG. 1 of the end walls 23 and 25 and side walls 27 are affixe to the side walls 21 and end walls 17 and 19 of the poo P by means of a series of slats C which are screwed t the wall of the pool P by means of screws 34.

The end wall 17 of the pool P includes a pair of wate ports 37 and 39. The water port 37 is connected with th inlet of the pump E by a conduit 41. The outlet of th pump E is connected with the inlet of a relatively coarse filter 43 by a conduit 45. The outlet of the filte 43 is connected with a water port 47 formed in the bottom wall 11 by a conduit 49. The second water port 3 in the wall 17 is connected with the outlet of the pump F by a conduit 53. The inlet of the pump F is connected with the outlet of a fine water filter 55 by a conduit 57. The inlet of the fine filter 55 is connected with a second water port 59 formed in the bottom wall 11 by a conduit 61.

In operation, when it is desirable to cover the water W, the pump E is actuated to pump water through the conduit 41 in the direction of the directional arrow 65 and pass it through the coarse filter 43 and in through the water port 47 to fill the space under the cover A. During this procedure the entire water W is filtered through the coarse filter 43 to strain the large particles thereout of. When the water has been entirely pumped to the underside of the cover A, the cover will be in the position shown in FIG. 1 and the water will be protected from any dirt being blown or knocked into the pool P. In the preferred embodiment the cover A is made of thermal insulating material to hold heat in the water W while the cover is in its covering position.

When it is desirable to utilize the pool P, the water W is pumped to the top side of the cover A by the pump F. Actuation of the pump F will pull water in through the port 59, pass it through the fine filter 55, and eject it in through the conduit 53 in the direction of the directional arrow 69. If desirable, the entire amount of the water W could be pumped from under cover A and the cover would line the lower portion of the pool P with the top wall 28 immediately adjacent the bottom wall 11. It is advantageous, however, to leave a small amount of water in the space 71 between the wall 28 and the bottom wall 11 so that the wall 28 is maintained spaced from the rigid wall 11. With the cover A arranged in this manner, a swimmer diving into the pool P will be protected from striking his head against the rigid bottom wall 11 by the flexible top wall 28.

From the foregoing, it will be apparent that the pool cover of this invention is relatively inexpensive to manufacture and easy to install. Further, it is extremely convenient to store the cover or, alternatively, pump it to its covering position. Obviously, each time the pool is utilized, the entire body of water will be filtered through the respective coarse and fine filters.

Various modifications and changes may be made with regard to the foregoing detailed description without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. A cover for use in a swimming pool of predetermined configuration, said cover comprising:

a flexible water-impervious cover side wall shaped to line the upper portion of the side wall of said pool;

a water-impervious end wall, connected on its periphery with the top end of said cover side wall and cooperating therewith to define a configuration substantially the same as the configuration of the upper half of said pool; and

fastening means securing the bottom end of said cover side wall to the side wall of said pool in a plane substantially intermediate the top and bottom of said pool, whereby said cover may selectively be positioned in a covering position with its side wall lining the upper portion of the side wall of said pool and the end wall covering the surface of the pool water or, alternatively, in a stored position with said side wall lining the lower portion of the pool side wall and said end wall disposed adjacent the bottom of said pool.

2. A cover as set forth in claim 1 wherein said cover end wall is flexible.

3. A cover as set forth in claim 1 wherein said cover end wall is of thermal insulating material.

4. A cover as set forth in claim 1 wherein said cover side wall is of sufficient length to positon said cover end wall, when said cover is in its stored position, spaced from the bottom wall of said pool to serve as a cushion for a swimmer driving into said pool.

5. A pool cover and cleaning system comprising:

a pool having a predetermined configuration and, including a first water port disposed in the upper portion of its side wall;

a second water port disposed in the lower portion of said pool;

a flexible water impervious side wall shaped to line the upper portion of the side wall of said wall pool;

a water impervious end wall, connected on its periphery with the top end of said side wall and cooperating therewith to define a configuration substantially the same as the configuration of the upper portion of said pool;

fastening means securing the bottom end of said side wall to the side wall of said pool in a plane substantially intermediate the top and bottom of said pool and between said first and second water ports;

reversible pump means;

a first conduit connecting said first water port with one side of said pump means;

a second conduit connecting said second water port with the opposite side of said pump means, whereby said pump can be operated in one direction to pump the pool water out said first port and in said second port to cover said pool or, alternatively, out said second port and in said first port to store and cover.

6. A pool cover and cleaning system as set forth in claim 5 wherein said pump means includes:

a filter interposed in filtering relationship with said second conduit.

7. A pool cover and cleaning system as set forth in claim 5 wherein said pool includes:

a third water port formed in the side wall of said pool and disposed above the plane of said fastening means;

a fourth water port formed in the wall of said pool and disposed below the plane of said fastening means;

and wherein said pump means includes:

a first water pump having its outlet connected with said first conduit and its inlet connected with said second conduit;

a second water pump;

a third conduit connecting the inlet of said second pump with said third water port;

a fourth conduit connecting the outlet of said second water pump with said fourth water port.

8. A pool cover and cleaning system as set forth in claim 6 that includes:

a relatively fine filter interposed in said second conduit;

a relatively coarse filter interposed in said fourth conduit.

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