April 20, 1948. O. SALADIN 2,439,866

OPEN AIR SWIMMING POOL

Filed March 6, 1945 2 Sheets-Sheet 1

Fig.1

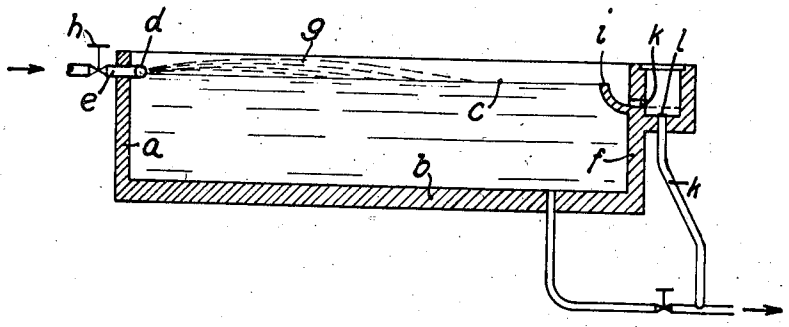
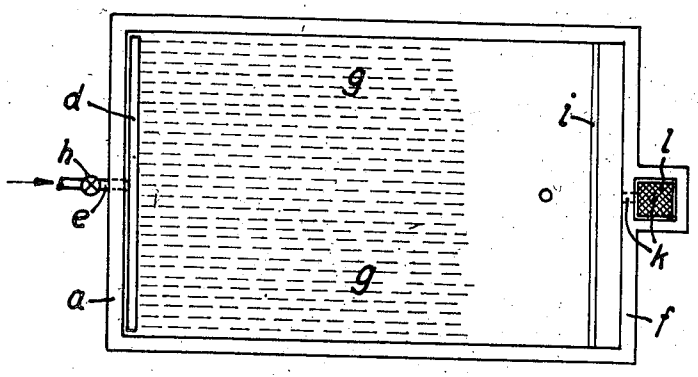


Fig.2



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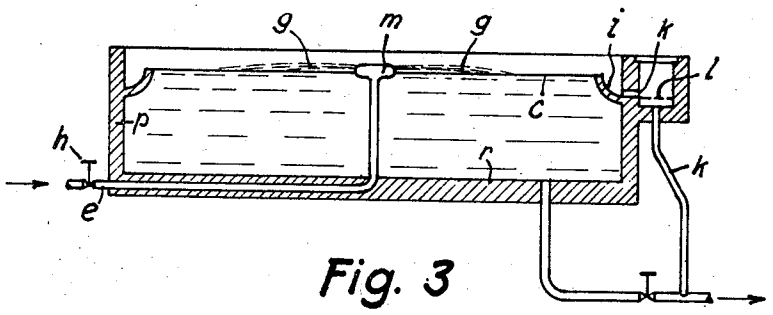


Fig. 3

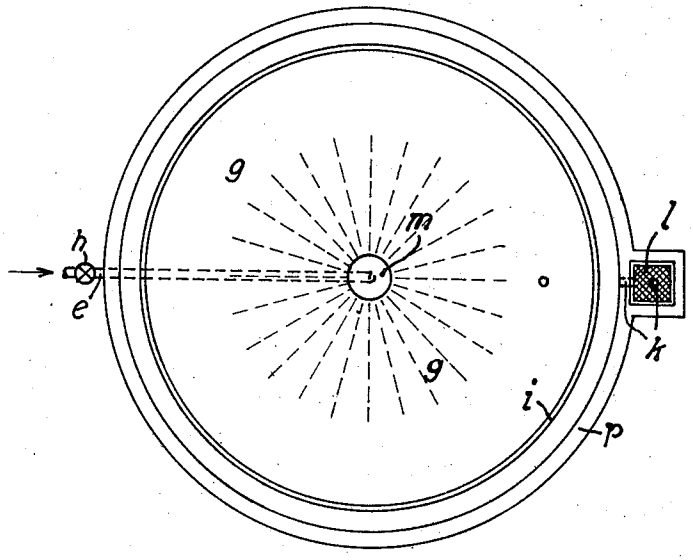


Fig. 4

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OPEN-AIR SWIMMING POOL

Otto Saladin, Schweizerhalle, near Basel, Switzerland

Application March 6, 1945, Serial No. 581,300
In Switzerland November 20, 1943

3 Claims. (Cl. 210—11)

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My invention relates to improvements in open-air swimming pools in general, and in particular to a flotsam skimming and throw-off device; and the objects of my improvement are first, to provide means for quickly, positively and easily skimming any floating foreign matter from the water surface, second, to afford facilities for washing the said flotsam down into the sewers, and third, to make full use of the water pressure in the pool supply main.

I attain these and related objects, which will become evident from the following detailed description, by the device illustrated, by way of two designs, in the accompanying drawings, in which:

Fig. 1 shows a vertical section through a rectangular pool;

Fig. 2 shows a top view of this pool;

Fig. 3 shows a vertical section through a circular pool, and

Fig. 4 shows a top view of the latter.

In the embodiment according to Figures 1 and 2 a spray or spouting pipe *d*, which is connected to the water supply pipe *e*, is secured to the side wall *a* of the pool *b* flush with or slightly above the water surface *c*. Immediately above the latter, the pipe *d* is provided with a series of perforations directed toward the wall *f* which lies opposite to the wall *a*. By opening the gate valve *h*, the jets *g* issue from the said perforations under pressure, parallel to each other and nearly horizontal. During the operation of the pipe *d* water and the flotsam carried therein continuously slops over into the gutter or spillway *i*, which latter is incorporated in the wall *f* flush with the water level *c*. Upon having passed the strainer *l*, which retains the coarser material such as leaves and the like, the waste water runs off through the down spout *k* into the sewer.

In the embodiment according to Figs. 3 and 4 a hollow disk *m* is disposed in the center of the circular pool *r* flush with the water surface *c*, and connected with the supply pipe *e*. Immediately above the water level *c* a series of small apertures or perforations is provided over the periphery of the said disk, and these apertures are directed toward the wall *p* of the basin. As soon as the gate valve *h* is opened, the water jets *g* issue from the said apertures under pressure and nearly horizontal. The wall *p* is provided with the spillway *i* flush with the water level and running over its entire circumference. When the disk *m* is in operation, water and flotsam carried therein continuously slops over into the spillway *i*, passes over a strainer *l*, and is discharged through the downspout *k* into the sewer.

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The apertures or perforations in the pipe *d* or in the disk *m* are staggered in their elevations relative to the water level *c* so that the distance covered by the jets *g* are different. While the majority of these jets strike the water surface beyond the half-way point between the walls *a* and *f*, or between the disk *m* and the wall *p* in the second form of design, some of them fall short of this distance in order to cover the intermediate expanse of water. All of the jets strike the water surface at a very small angle of incidence, acting injector-like upon the layer of air immediately above the water surface and thus driving the flotsam ahead of them. When hitting the water surface, the jets produce a motion of the surface water which is directed toward the wall *f* or *p*. The action of the jets, therefore, is two-fold. While they move through the air, they suck air along with them, and after hitting the water, they set the water to move forward. In his way the flotsam is washed toward and over the spillway together with a certain amount of waste water.

The said two-fold effect of the jets upon the surface water layer and the flotsam thereon also holds true when the perforations in the pipe *d* or in the spray-head *m* are set on the same angle of elevation relative to the water surface *c*. In this case not all jets deliver all of their water at one and the same distance from their point of issue; but some of the jets or of their water will strike the water surface sooner, since they break apart sooner. Here also, the majority of the jets cover a distance in the air greater than the half-way point of the pool width, while the remainder fall short of this distance.

The jets preferably issue from the pipe *d* or from the sprayhead *m* a few millimetres thick and under a pressure of a few atmospheres, i. e. a greater pressure for longer pools and a lesser pressure for shorter pools. The said jets cover the entire width of the pool at right angles to their path of travel.

When the pool has an oblong, curved or polygonal shape, it has to be decided from case to case whether to provide a central spray-head or one or more spray pipes on portions of the pool wall. The spillway, then, is adapted suitably and correspondingly.

By simply opening the gate valve from the supply pipe, the flotsam is removed from the pool entirely and in a few minutes. The consumption of skimming water not only is insignificant, but decreases and cheapens the water consumption for the pool as a whole; since the pool con-

tents have to be renewed less often on account of the flotsam being removed much more frequently, at least before every bath.

The water of open-air pools is continuously rendered impure by foreign matter falling out of the air, such as dust, soot, leaves, insects and the like, and the removal of this flotsam from the initially pure water surface before using the bath becomes desirable or even imperative. This particularly holds true in areas with a heavy growth of trees or in industrial areas.

Heretofore the flotsam had been skimmed off by means of a flat sieve moved along the water surface, or by gathering it with a correspondingly moved floating wooden beam.

In contrast to these former methods, the provision of the automatic skimming device according to my invention described renders the removal of the flotsam positive, quick and easy. The device is simple of installation and of operation, and is put in operation by a simple turn of hand.

What I claim is:

1. An open-air swimming pool, the top of which is open to the atmosphere, said swimming pool comprising a wall extending completely around and laterally encompassing a body of water, a spray pipe connected to the water supply and extending over the entire width of the pool and secured to the said wall thereof approximately flush with the water surface, said pipe having perforations disposed in its upper half so that sprays issued therefrom define a small angle with the water surface, whereby the said sprays move close to the water, but in slight spacing therefrom, before hitting the water surface and thereby engender an air current immediately above the latter which drives flotsam toward the wall of the pool, supplementing the propagating action of the sprays hitting the water surface, a spillway incorporated in the pool wall opposite the said spray pipe, and means for discharging the spill and washed up flotsam into a sewer; the whole floatsam skimming device to operate as and for the purpose described.

2. In an open-air swimming pool of circular shape, the top of which is open to the atmosphere, a circular wall laterally encompassing the body of water thereof, a flotsam skimming and discharging device comprising a spray-head in the center of the pool approximately at the level of the water surface thereof and connected to the water supply, said spray-head having perforations, the sprays from which define a small angle with the water surface, a spillway extending over the entire circumference of the pool and secured to the enclosing wall thereof, and means for discharging the spill and washed up flotsam into a sewer; the whole in such combination that the jets issuing from the said perforations under the pressure of the water supply main moves close to the water surface before hitting the water surface and thereby release an air current immediately above the latter, which drives the flotsam toward the wall of the pool supplementing the propagating action of the jets hitting the water surface.

3. An open-air swimming pool, the top of which is open to the atmosphere, said swimming pool comprising a wall extending completely around and laterally encompassing a body of water, a spray pipe connected to a water supply, said spray pipe terminating in an outlet member approximately flush with the surface of the water in the pool, said outlet member being provided in its upper half with perforations for directing sprays of water substantially over the entire said surface, said sprays defining a small angle with such surface, whereby the said sprays move close to the water, but in slight spacing therefrom, before hitting the water surface and thereby engender an air current immediately above the latter which drives flotsam toward the wall of the pool, supplementing the propagating action of the sprays hitting the water surface, a spillway incorporated in the pool wall and extending therearound to a distance coextensive with the peripheral extent of said sprays, and means for discharging spill and washed up flotsam into a sewer.

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