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F. B. HUNTER

1,921,230

OBSERVATION PORT

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Fig. 1.

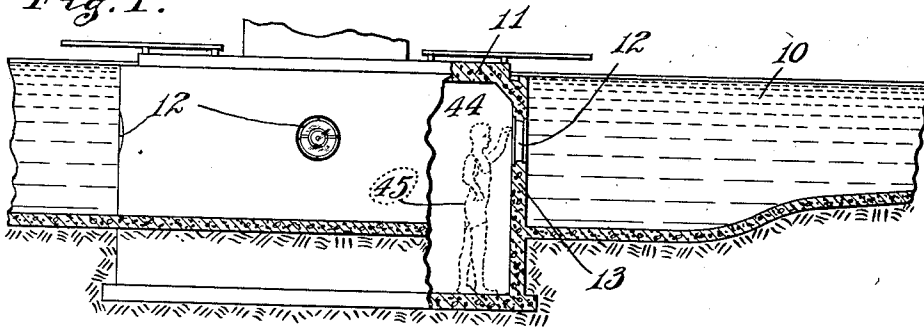


Fig. 2.

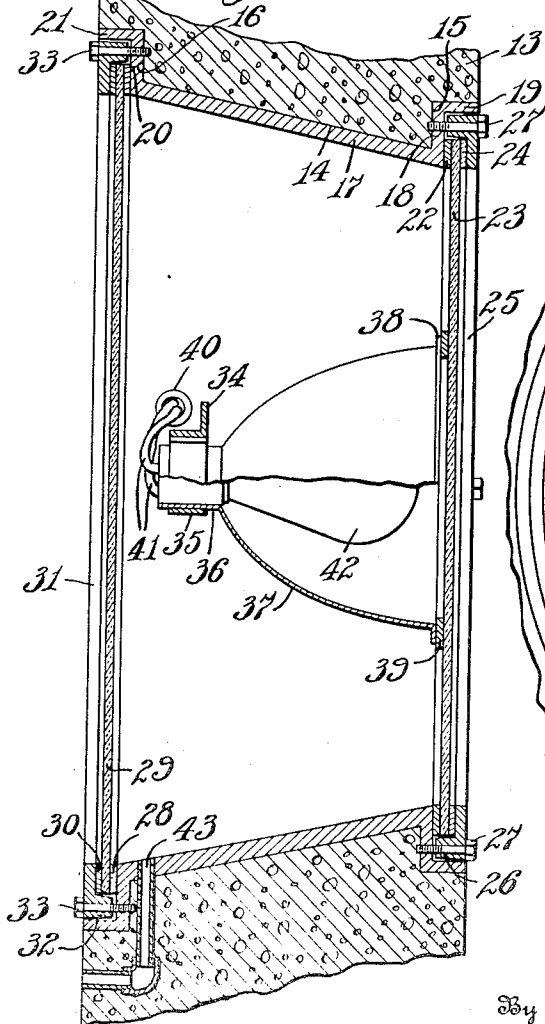
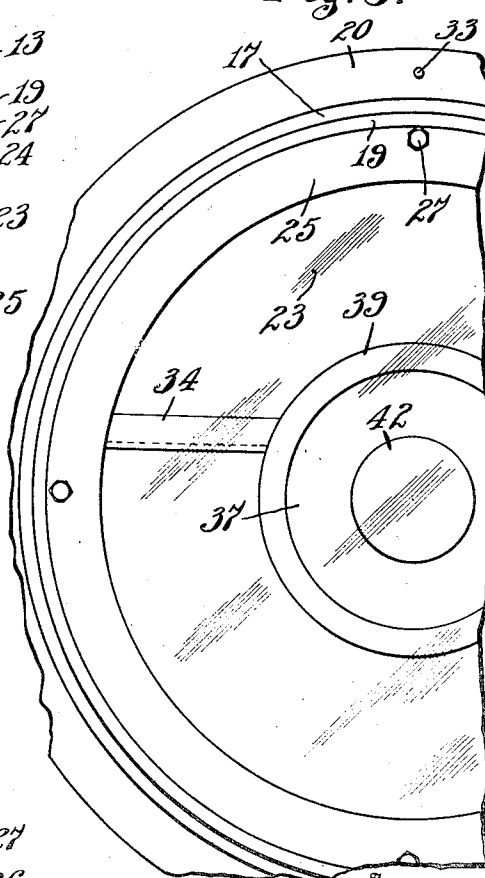


Fig. 3.



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OBSERVATION PORT

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3 Claims. (Cl. 240—2)

The present application relates to an observation port and illuminating means primarily intended for use in connection with swimming pools. The invention has been illustrated in association with a pool of the type disclosed in my co-pending application Ser. No. 458,133, filed May 31, 1930, but it is to be understood, of course, that the same is applicable to any type of pool.

The invention has two major objects, the first and perhaps more important of which is the provision of means whereby a guard or guards may have a view of the subsurface body of the water in a swimming pool. The second of these major objects is to provide means for illuminating the subsurface body of the water in the swimming pool.

Further objects will appear as the description proceeds.

To the accomplishment of the above and related objects, my invention may be embodied in the form illustrated in the accompanying drawing, attention being called to the fact, however, that the drawing is illustrative only, and that change may be made in the specific construction illustrated and described, so long as the scope of the appended claims is not violated.

Fig. 1 is a fragmental sectional view of a swimming pool constructed in accordance with the teachings of my above-identified application, a portion of the island being shown in elevation;

Fig. 2 is a substantially central section through an observation port constructed in accordance with the present invention; and

Fig. 3 is a fragmental front elevation of the unit adapted to be set into a wall of the island illustrated in Fig. 1 to provide for observation and illumination.

Referring more particularly to the drawing, it will be seen that I have illustrated a pool filled with a body of liquid 10 and having an island 11 located therein. Several observation ports indicated generally at 12, are provided in the cylindrical wall 13 of the island 11.

The details of construction of the ports are illustrated in Fig. 2. The concrete wall 13 of the island is cast with the casing or housing 17 for the port in place, and said housing is so constructed as to form in the wall 13 an opening 14 tapered from the inner toward the outer surface of said wall. Adjacent its outer surface, the wall is formed with a depression 15, and adjacent its inner surface, the wall is formed with a similar depression 16. The tapered wall of the casing 17 fits within the tapered portion 14 of the wall 13, and the casing is formed adjacent its outer end

with a perimetral laterally extending flange 18 to which is joined a perimetral axially extending flange 19, the flanges 18 and 19 lying within the depression 15, and being so positioned that the outer edge of the flange 19 is substantially flush with the outer surface of the wall 13. Similarly, the casing 17 is formed at its inner end with a laterally extending perimetral flange 20 to which is joined an axially extending perimetral flange 21, the flanges 20 and 21 lying within the depression 16, and the inner end of the flange 21 lying substantially flush with the inner surface of the wall 13.

A packing ring 22, preferably of resilient material, is positioned to abut, throughout its perimeter, the outer face of the flange 15. Against the outer face of the ring 22 there is positioned a plate 23 of transparent material which is preferably shatter proof glass. A second packing ring 24, similar to the packing ring 22, is positioned in engagement with the outer face of the sheet 23, and a retaining ring 25 engages the outer surface of the ring 24. The retaining ring 25 is preferably provided with an axially extending perimetral flange 26 received within the socket between the perimeter of the sheet 23 and the flange 19, and a plurality of bolts 27, or the like, project axially through said flange 26 and engage in tapped apertures in the flange 18. As will be obvious, when the bolts 27 are turned up, the packing rings 22 and 24 and the sheet 23 will be clamped between the retaining ring 25 and the flange 18.

It will be understood that, if desired, spaced lugs may be substituted for the flange 26.

Similarly, a packing ring 28 is positioned in contact with the face of the flange 20, and a sheet 29 of transparent material, which is preferably shatter proof glass, is positioned in contact with the free face of the ring 28. A second packing ring 30 abuts the free face of the sheet 29, and a retaining ring 31 engages the packing ring 30, said ring 31 being provided with a flange 32, corresponding to the flange 26 (or with lugs as above described) through which project bolts 33 for securing the retaining ring 31 to the flange 20. The bolts 33 may, of course, be operated to clamp the rings 28 and 30 and the sheet 29 in place.

A beam 34, which may take the illustrated form of an angle iron, is secured in the casing 17, extending transversely thereof. Said beam carries a clamp 35 in which is received the stem 36 of a reflector 37. The reflector 37 is so positioned in the clamp 35 that the open end 38 of said reflector

tor is pressed firmly against a packing ring 39 to hold said ring in firm contact with the inner surface of the sheet 23. Obviously, this arrangement seals the open end 38 of the reflector 37 against the inner surface of the sheet 23. A conduit 40 may be carried on the beam 34, said conduit housing wires 41 connected to energize an electric light bulb 42 mounted within the reflector 37.

10 A draining pipe 43 is preferably positioned to permit the draining of water of condensation out of the chamber between the sheets 23 and 29.

As is clearly shown in the drawing, the island 11 provides within itself a chamber or compartment 44 located below the water level in the pool. The observation ports 12 are likewise positioned below the level of the water in the pool, and are so positioned that a guard 45, stationed within the chamber 44, may peer through the ports and obtain a view of the subsurface body of the water in the pool. The lamps 42, being located within the reflectors 37 cast their illumination exclusively through the sheets 23, the reflectors preventing the radiation of light from said lamps through or toward the sheets 29. The chamber 44 being maintained relatively dark, and the body of liquid in the pool being illuminated by the lamps 42, the guard of guards stationed within the chamber 44 are enabled to obtain a clear view of the subsurface body of liquid in the pool.

It is to be understood that my invention embraces not only the use of the illustrated structure to provide for observation of the subsurface body of liquid, but also the use of that structure for providing illumination for the body of liquid, with or without the feature of observation.

I claim as my invention:

1. The combination with a swimming pool, of a compartment located within the boundaries of said pool and primarily below the water level in said pool, a wall separating said compartment from the pool and formed with an observation port therein below the water level in said pool, and transparent material closing said port.

2. The combination with a swimming pool, of a guard's compartment located within the boundaries of said pool and primarily below the water level in said pool, and an observation port located in a wall of said compartment and below the water level in said pool and providing for a view of the subsurface regions of said pool from the interior of said compartment.

3. The combination with a swimming pool, of a compartment located within the boundaries of said pool and primarily below the water level in said pool, a wall separating said compartment from the pool and formed with an observation port therein below the water level in said pool, and transparent material closing said port.

4. A subsurface illuminator for a body of liquid, comprising a wall against which a liquid body bears, a port in said wall, a casing set in said wall and bounding said port, said casing being formed to provide a flat surface facing such liquid body, a packing ring contacting said surface throughout the perimeter thereof, a sheet of transparent material contacting said ring, a second packing ring contacting the outer surface of said sheet, a retaining ring engaging the outer surface of said second packing ring, means securing said retaining ring to said casing and clamping said packing rings and said sheet between said casing and said retaining ring, a reflector having its open end sealed to the inner

surface of said sheet, and illuminating means within said reflector.

5. The combination with a liquid pool having a wall, of an observation port comprising an aperture in said wall below the water level in said pool, a casing set in said wall and bounding said aperture, said casing being formed to provide a flat surface facing the liquid body, a packing ring contacting said surface throughout the perimeter thereof, a sheet of transparent material contacting said ring, a second packing ring contacting the outer surface of said sheet, a retaining ring engaging the outer surface of said second packing ring, and means securing said retaining ring to said casing and clamping said packing rings and said sheet between said casing and said retaining ring.

6. The combination with a swimming pool having a masonry wall against which the water body bears, said wall being formed with a port there-through below the water level in said pool, of a casing set into said wall, a laterally projecting perimetral flange adjacent one end of said casing, said flange being let into said wall, a packing ring contacting said flange throughout the perimeter thereof, a sheet of transparent material contacting said ring, a second packing ring contacting the outer surface of said sheet, a retaining ring engaging the outer surface of said second packing ring, and means securing said retaining ring to said casing and clamping said packing rings and said sheet between said casing and said retaining ring.

7. The combination with a swimming pool having a masonry wall against which the water body bears, said wall being formed with a port there-through below the water level in said pool, of a casing set into said wall, said casing tapering toward that end adjacent the water body, a laterally projecting perimetral flange on said casing adjacent said end thereof, said flange being let into said wall, a packing ring contacting the face of said flange throughout the perimeter thereof, a sheet of transparent material contacting said ring, a second packing ring contacting the outer surface of said sheet, a retaining ring engaging the outer surface of said second packing ring, means securing said retaining ring to said casing and clamping said packing rings and said sheet between said casing and said retaining ring, a laterally projecting perimetral flange on said casing adjacent the opposite end thereof, said flange being let into said wall, a packing ring contacting the face of said flange throughout the perimeter thereof, a sheet of transparent material contacting said ring, a second packing ring contacting the outer surface of said sheet, a retaining ring engaging the outer surface of said second packing ring, and means securing said retaining ring to said casing and clamping said packing rings and said sheet between said casing and said retaining ring.

8. The combination with a swimming pool, of a compartment located within the boundaries of said pool and primarily below the water level in said pool, a wall separating said compartment from the pool and formed with a plurality of observation ports therein below the water level in said pool, transparent material closing said ports, and means associated with said ports for illuminating the subsurface regions of said pool.

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