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[54] **POOL COVERS**

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[52] **U.S. Cl.** **4/172.12,** 4/172.11

[51] **Int. Cl.** **E04h 3/16,** E04h 3/18

[58] **Field of Search** 4/172, 172.11, 172.12, 4/172.13, 172.14; 52/1, 2; 220/26

[56] **References Cited**

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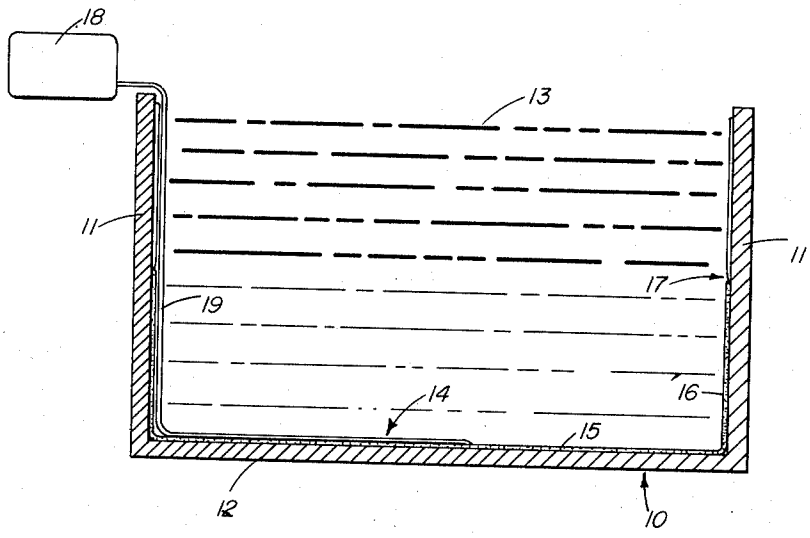
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Primary Examiner—Henry K. Artis

[57] **ABSTRACT**

A storable pool cover which serves as a pool liner when not in use and which has an inflatable portion that functions as the cover when inflated.

8 Claims, 2 Drawing Figures



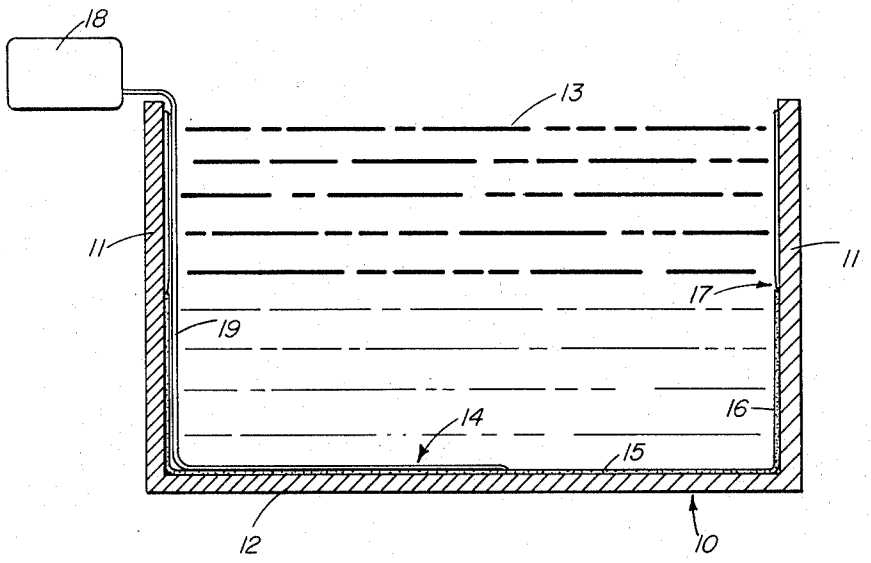


FIG. 1

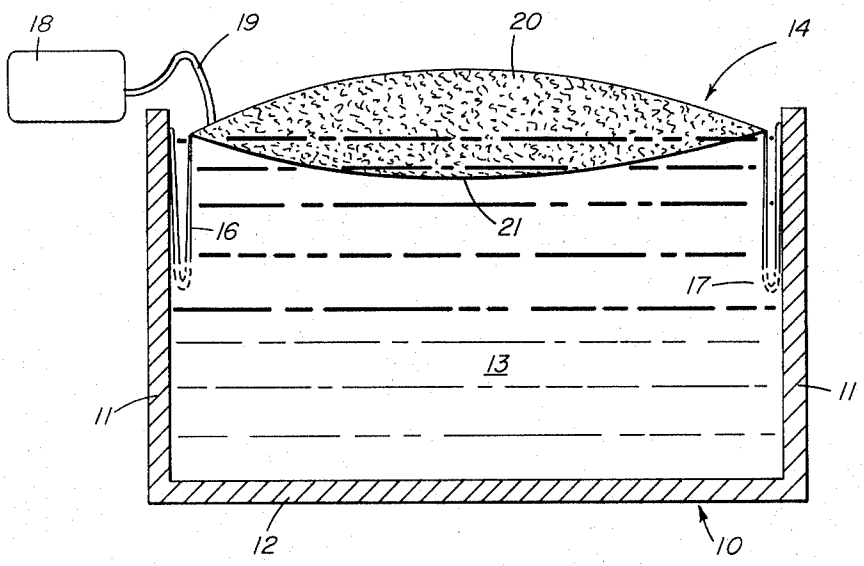


FIG. 2

POOL COVERS

BACKGROUND OF THE INVENTION

1. Field of Invention

This invention relates to pools, and more particularly, to a combination swimming pool liner and cover which is readily converted from one use to the other.

2. Description of Prior Art

Swimming pools, especially private pools, are ever increasing in popularity and in number. As the number of pools increases so does the associated risk of children or pets accidentally falling into unattended pools. Fences required by many local ordinances can reduce this risk but only if they are unclimbable and if the gate is secured. Typically, however, the fences are low and all too often the gates are left open or unlatched.

Presently, many devices are available for covering pools in order to keep them clean and to prevent accidents of the type described. There are large rigid devices which can be slid or erected over a pool. There are tarpaulin devices which are stretched over a pool or are laid upon a framework of rigid ribs. Additionally, there are inflatable pool covers as described, for example, in U. S. Pat. No. 3,533,110. All of these devices are useful in preventing accidents; however, they suffer from several other disadvantages. MAny cover devices require large storage areas to house them when not in use. Additionally, most prior devices typically are difficult to install or remove. Of course, the more difficult it is to install, the less a cover tends to be used. The more elaborate versions are automated in order to facilitate covering and uncovering the pool; however, the latter devices are prohibitively expensive. Accordingly, there is a need in the art for a simple, relatively inexpensive pool cover which not only provides the necessary safety but which also is easily and quickly put into and out of operation.

SUMMARY OF THE INVENTION

I have found a device which can function effectively as an inexpensive pool cover but which is readily removed prior to use of the pool and which is readily set up to cover the pool when not in use. In some respects, the present cover is safer than many prior devices in that there is a greater tendency to actually use this cover because of the ease with which it is installed and removed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a sectional view of a pool with the cover when not in use.

FIG. 2 is a sectional view of a pool with the cover in use.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to FIG. 1, there is seen pool **10** typically having four relatively rigid widewalls **11** and bottom **12** which contain water or other liquid **13.** As seen in FIG. **1,** also contained within pool **10** is cover **14** which when not in use serves as an interliner for the pool. If pool **10** is vinyl lined, as is the case with most above-ground pools and with many in-ground pools, then cover **14** when not in use serves as added protection for the pool liner which if punctured results in the pool being inadvertently drained. Cover **14** comprises a flexible bottom member **15** which conforms substantially with the bottom **12** of the pool and which extends over substantially the entire surface of the bottom of the pool. Bottom member **15** can contain an integral spring-like retaining ring (not shown) around the periphery in order to keep member **15** in place. Additionally, member **15** can contain integral pockets (now shown) of sand, shot pellets, or some other form of ballasting material to keep member **15** from floating or moving around when the cover is not being used.

Bottom member **15** is attached to pool **10** and otherwise located by side member **16.** Side member is adjacent and substantially coextensive with pool walls **11** when the cover is not in use. Side member **16** can merely be in the form of a plurality of individual flexible straps; however, greater protection is offered if side member **16** is an integral member, for example, a net or mesh which allows passage of water but not small solid objects. Side member **16** can be one continuous, flexible sheet having portions **17** adapted for passage of liquid **13** therethrough. Side member **16** is anchored around the inside periphery of the pool at approximately the surface level of liquid **13.** The means of anchoring can be permanent or temporary (e.g., snaps or zippers).

When one desires to cover pool **10,** pump means **18** connected to bottom member **15** by hose **19** is activated. Bottom member **15** is comprised of upper and lower portions **20** and **21,** respectively (see FIG. **2**) adapted to contain a fluid therebetween which is lighter or has a lower specific gravity than liquid **13.** The fluid used to fill bottom member is supplied by pump means **18** from any necessary reservoir (not shown). Typically, the fluid used will be air and no reservoir is needed. As bottom member **15** is filled, for example, with air, it starts to rise from the pool bottom until entire member **15** is floating on the surface of liquid **13.** As member **15** rises to the surface, liquid **13** passes through side member **16,** for example, through portions **17.** When suitably filled, member **15** forms a convex cover which floats on and covers substantially entirely the surface of liquid **13.**

A shutoff means not shown can be located at any convenient position on member **15,** on hose **19** or in pump means **18** whereby the fluid in member **15** can be sealed in. When one desires to use the pool, cover **14** is readily removed by opening the shutoff means to allow the fluid to escape from member **15.** Of course, pump means **18** could be used to withdraw the fluid from member **15.** As the fluid escapes from member **15,** it promptly sinks to the bottom of the pool where it is out of the way without requiring additional storage space.

In addition to the safety provided by the present cover, pools employing this cover will generally remain cleaner than those with no cover or those with many of the prior art covers. Because of the simplicity of the present cover, it will tend to be used more frequently thereby keeping out leaves and other windborne debris. Unlike some prior covers, the present device is not laid in the grass or dirt when not in use, thereby avoiding the transferrence of such dirt to the pool. The cover of this invention also helps to retain heat if the pool has been heated and it prevents loss of chemicals added to the water.

In accordance with this invention, cover **14** is made of a pliable plastic material such as poly(vinylchloride).

Typically, this plastic material will contain an added pigment to retard degradation of the plastic by ultraviolet radiation.

As described above, pump means **18** fills bottom member **15** with air when pool **10** is to be covered. Any of a variety of commercially available devices can be used as pump means **18.** In fact, for most residential pools, many standard carpet vacuum cleaners can be used in reverse to fill cover **14** provided the cleaner is adapted to allow attachment of hose **19** to the exhaust thereof. For prompt storage of cover **14,** pump means **18** can be reversed to rapidly withdraw the air in cover **14** thus allowing it to sink into the pool where the cover serves as a second liner.

The invention has been described in detail with particular reference to certain preferred embodiments thereof, but it will be understood that variations and modifications can be effected within the spirit and scope of the invention.

I claim:

1. A storable cover for a liquid-containing pool having sidewalls and a bottom, said cover comprising a flexible member which fits adjacent and substantially coextensive with said sidewalls and bottom, said member having an inflatable bottom portion which, when filled with a fluid lighter than said liquid, forms a convex cover which floats on and covers substantially entirely the surface of the liquid in said pool, said member having side portions affixed to said sidewalls at a position which allows the bottom portion, when filled with said fluid, to rise to and float on the surface of said liquid and said side portions being provided with openings to allow the free passage of said liquid therethrough.

2. The invention as described in claim **1** wherein said liquid is water.

3. The invention as described in claim **1** wherein said fluid is air.

4. The invention as described in claim **1** wherein said side portions are affixed to the periphery of said pool at approximately the surface level of liquid in said pool.

5. The invention as described in claim **1** wherein said member is formed of a pliable, plastic material.

6. The invention as described in claim **1** wherein said member is formed of poly(vinylchloride).

7. The invention as described in claim **1** wherein said bottom portion contains a ballasting material.

8. A storable cover for a water-containing swimming pool having sidewalls and a bottom, said cover comprising a flexible plastic member which fits adjacent and substantially coextensive with said sidewalls and bottom, said member having an inflatable bottom portion which, when inflated with air, forms a convex cover which floats on and covers substantially entirely the surface of the water in said pool, said member having side portions affixed to said sidewalls at a position which allows the inflated bottom portion to rise to the surface of the water and said side portions being provided with openings to allow the free passage of water therethrough and said bottom portion having an associated ballasting means to prevent floatation of said portion when deflated.

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