Feb. 15, 1955 L. T. McGEE 2,701,881

COVERED SWIMMING POOL

Filed Sept. 28, 1953

FIG. 1.

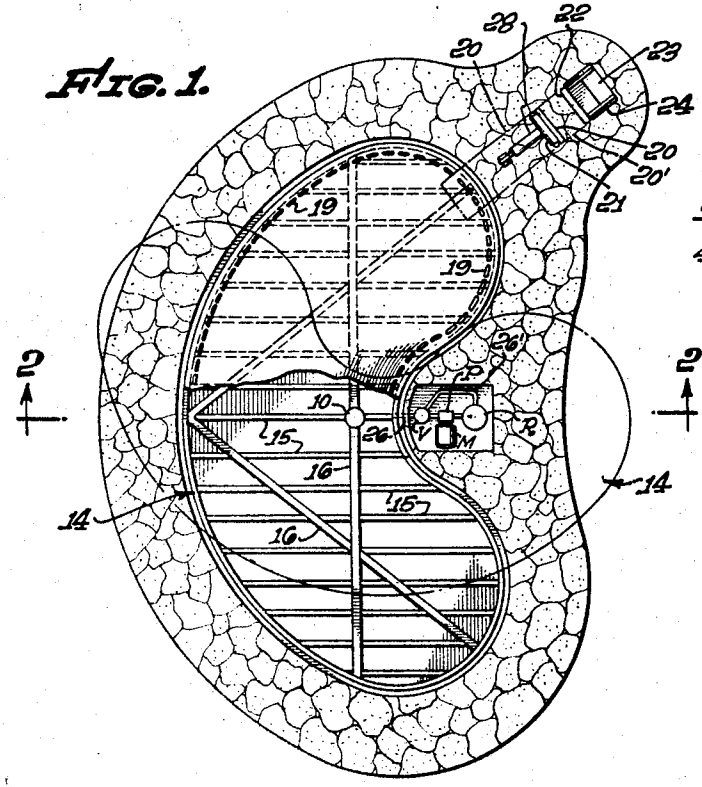

FIG. 3.

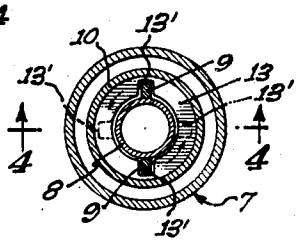

FIG. 4.

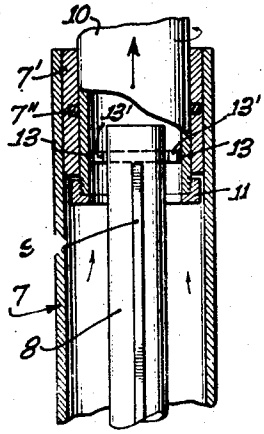

FIG. 2.

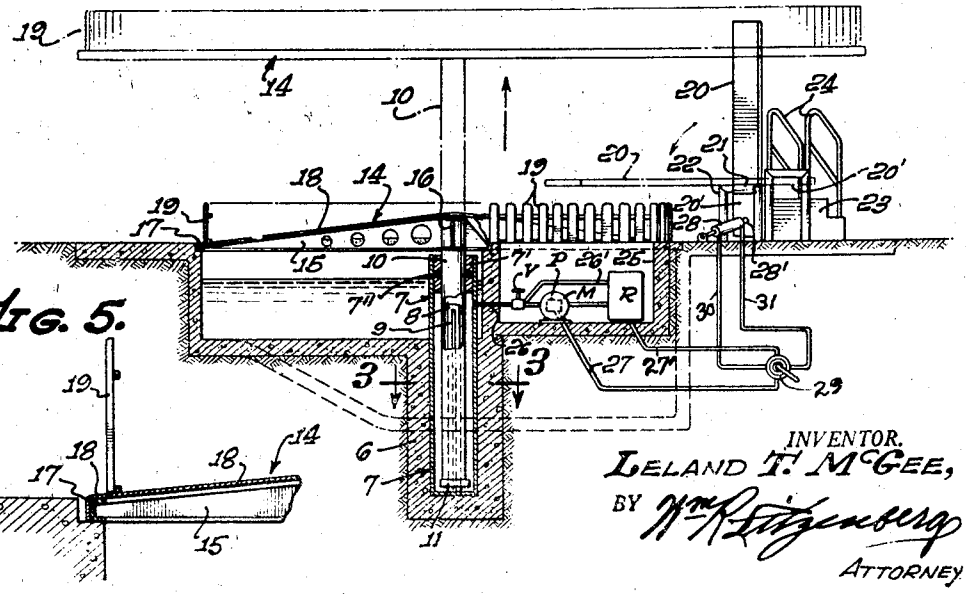

FIG. 5.

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COVERED SWIMMING POOL

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7 Claims. (Cl. 4—172)

This invention relates to covered swimming pools, and more particularly to a cover for swimming pools which can be raised above the pool to give access thereto.

It is well known that many accidents occur in open and unprotected swimming pools, and that dirt and leaves and other foreign matter get into the pool when uncovered, and much time and expense and labor are required to keep an uncovered pool clean and sanitary.

It is an object of my invention, to provide in combination with a swimming pool a cover therefor, with means for raising said cover, preferably by hydraulic power, to give access to the pool, with means for holding said cover in its raised position.

Another object of my invention is to provide such a cover which can be turned on its axis in order to give clearance over said pool, and also make possible the use of a diving board at one end of the pool.

To provide a cover for a swimming pool which will not only be a safeguard therefor, but which can be constructed with insulating material therein which will retain the heat in the water throughout cool nights, thereby cutting the fuel cost for heating the water and also increasing the usefulness of the pool.

To provide a cover for swimming pools which is practical, efficient and easily operated from its down position to its raised position, and which, when raised gives full access to the pool, and when lowered protects the pool against children, dirt, leaves, papers, and other foreign matter.

Many other advantages of the invention will appear from the following detailed description of one practical embodiment of the same, taken with the accompanying sheet of drawings, which I will now describe:

Figure 1 is a plan view of a swimming pool with my cover thereon, as indicated in full lines, and with said cover shown raised and turned crosswise of the pool in light broken lines;

Figure 2 is a vertical cross sectional view therethrough on line 2—2, on Fig. 1;

Figure 3 is a cross sectional view taken on line 3—3, Fig. 2;

Figure 4 is a vertical sectional view through the hydraulic ram, taken on line 4—4, Fig. 3; and

Figure 5 is a vertical sectional view at the edge of the cover, enlarged from that shown in Fig. 2, above.

Referring now in detail to the drawings, the swimming pool as here illustrated for explanatory purposes, is something of a kidney shape, which affords a close position for the operating mechanism for raising and lowering the cover thereof. Any desired form, of course, can be used for the pool, and any desired surface covering around the pool can be used. The present pool as illustrated is particularly adaptable for private pools and where space therefor may be limited.

Referring now to Fig. 2, I will describe the cover and the mechanism shown for raising and lowering the same.

The bottom of the pool is provided with a well, as 6, which can be formed of concrete, corresponding to the body of the pool proper, as indicated. In this well 6 I have shown a vertical tube or casing 7, closed at its lower end and extended above the water line, as indicated. Secured in this vertical tube or casing 7 is a fixed vertical tube or shaft 8, having at its opposite sides, lengthwise thereof, two projecting ribs or lugs, as 9, 9, Figs. 3 and 4.

Telescoping within said outer case 7, and over said inner tube or shaft 8, is a tubular lifting ram 10, provided on its lower end with a cap 11, also fitting around said

inner tube 8, as indicated in Fig. 4. Within the lower end of said ram 10, is secured a ring, as 13, having two recesses, or notches, as 13', 13' formed therein, and which can be turned to move over the two ribs or lugs 9, 9, and again referred to.

In the upper end of the outer tube or casing 7, is a short insert pipe 7', secured by welding or otherwise, with a sealing ring 7'' between it and the lifting ram 10, as seen in Fig. 4. Said lifting ram 10 is thus mounted and connected to be raised and lowered as hydraulic fluid is pumped into its cylinder 7, again referred to.

Mounted on the upper end of said lifting ram 10, is a cover, designated as a whole 14, and which may be constructed in any desired and suitable manner. In the present showing, said cover frame is formed of a plurality of I-beams, 15, 15, arranged in parallel relationship, as indicated in Fig. 1, with connecting I-beams, as 16, 16 tieing them together as a rigid cover frame structure. The outer ends of said I-beams, as here illustrated, are connected as by means of a channel member 17. It will be understood, of course, that any suitable construction and arrangement for the cover frame can be used, as conditions may require.

The sheet covering for said top or cover frame may be of any suitable material, but preferably of double covering sheets, with insulating material therebetween, in order to insulate the cover for the pool in such a way as to retain the heat therein during the night or day and when not in use.

I have also shown a little ornamental fence, as 19, around the outer edge of said cover, to prevent children from getting on top of said cover to play.

At one end of said pool, I have shown a spring board, or a diving board, designated 20, pivotally mounted at 21, on a support 22, whereby said board can be raised to a vertical position, as indicated in full lines in Figs. 1 and 2, or it can be lowered to operative position, as indicated in light broken lines in Figs. 1 and 2. Rearwardly of said diving board is a mounting structure 23, with hand rails, as 24, as indicated. The short end 20' of said diving board, when down in operative position, engages under said mounting structure 23, as indicated in light broken lines in Fig. 2, whereby said board can function as a diving board in the usual way.

It will be noted that the position of the diving board is at the end of the pool, away from which the top or cover 14 is removed by turning it by hand on its supporting ram. As said top or cover 14 is turned, its ram 10 and the ring 13 therein turn with it to bring the notches or recesses 13' therein, out of alinement with the ribs 9, on said fixed inner tube 8, as will be clear from Figs. 3 and 4, whereby said ram 10 and its ring 13, rest on the upper ends of said two ribs 9, 9, for supporting said top or cover in its raised position. In Fig. 3 said ring 13 and its notches or recesses 13' are in register with said guide ribs 9, and can be moved up and down thereon. Also in Fig. 3 said ring 13 and its recesses 13' are shown in light broken lines turned a fourth turn, whereby said ring 13 would rest on the upper ends of said ribs 9, 9, on the fixed member 8.

The hydraulic mechanism for raising and lowering said top or cover is shown in a suitable chamber formed in the inner side of the pool, said chamber being designated 25. In this chamber is a motor M and a pump P, driven by said motor. There is also a reservoir R for hydraulic fluid, and a valve V, in a pipe 26 for controlling the flow of fluid from the pump to the cylinder 7 for raising the lifting ram 10 therein, as indicated in Fig. 2. Pipe 26' affords a return pipe from the cylinder 7 to the reservoir R.

Pipes 27 and 27' are shown connected from the pump P and reservoir R to the small cylinder 28, through a four-way valve member 29, the pipes from said valve 29 to said small cylinder being designated 30 and 31. Said small cylinder has a plunger 28' therein and connected at its outer end to the short end 20' of the diving board for moving it into operating position. Thus the diving board 20 can be hydraulically lowered into operating position, when desired, from the same control mechanism which operates to raise and lower the top or cover for the pool.

I do not limit the invention to the details of construc-

tion and arrangement here shown for explanatory purposes, except as I may be limited by the hereto appended claims forming a part of this application.

I claim:

1. The combination with a swimming pool, of a cover structure to fit over said pool, and means for raising said cover structure above said swimming pool to give clearance for using said pool, said means including a hydraulic ram and its cylinder structure set in the bottom of said pool, with the upper end of said ram connected with the under side of said cover structure, and hydraulic power means connected with said cylinder and operable to raise and lower said ram and said cover structure.

2. A cover structure combination for a swimming pool as set forth in claim 1, in which said cover structure and its supporting ram can be turned to position said cover structure crosswise of said swimming pool to give greater clearance, with means for supporting it in the raised position.

3. The combination with a swimming pool, and a cover to fit thereover, of hydraulic means for raising and lowering said cover to give clearance for using said pool, a diving board over the edge of said pool to be raised from horizontal and operating position to a vertical out-of-the way position, and connections from the hydraulic means for also lowering and raising said diving board from operating position to inoperative position.

4. The combination with a swimming pool, of a cover structure to fit thereover, a hydraulic cylinder and ram operable therein set in the bottom of said pool with said ram connected to said cover structure for raising and lowering it, hydraulic power means with control valves for operating said ram to raise and lower said cover structure, said cover structure and said ram being rotatable to swing said cover structure on its vertical axis, and interfitting means between said ram and its cylinder for supporting said cover structure in its raised position, said interfitting means being operable when said cover structure is turned on its vertical axis to give increased clearance over said swimming pool.

5. A swimming pool and cover structure combination as set forth in claim 4, in which the cover structure is provided with insulating means whereby to retain the temperature of the water in the pool when it is not in use.

6. A swimming pool and cover structure combination as set forth in claim 4, which includes an adjustable diving board on the edge of said pool, mounted to be raised from horizontal position to vertical position, said hydraulic power means being also connected with said diving board for raising and lowering it from the same control.

7. A swimming pool and cover structure combination as set forth in claim 4, in which said cover structure is provided with a surrounding guard or fence to prevent children from climbing on said cover.

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