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SWIMMING POOL COVER AND SUBMERGIBLE DRESSING ROOM COMBINATION

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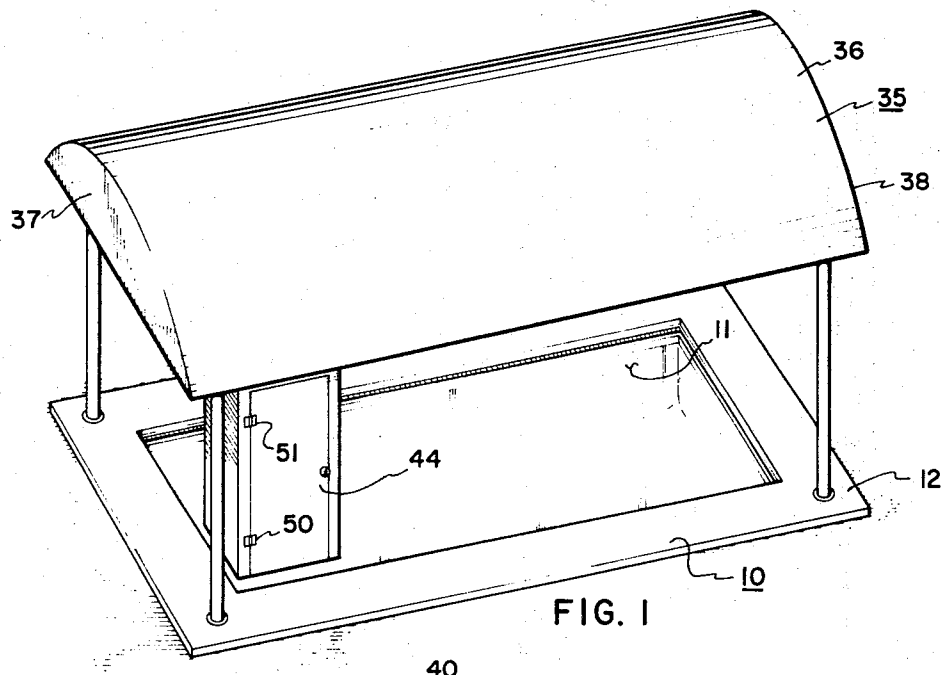


FIG. 1

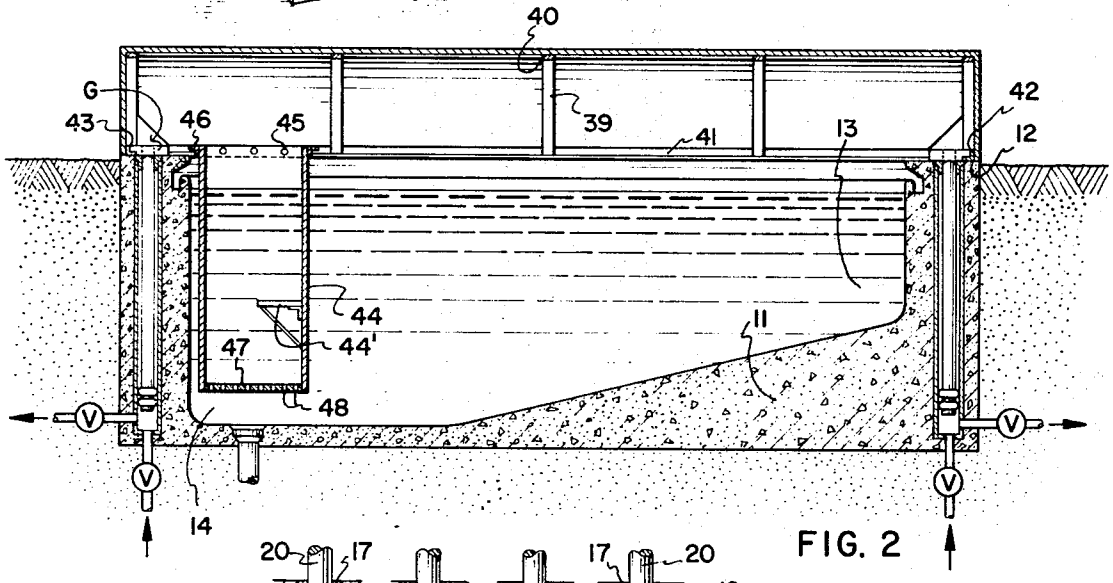


FIG. 2

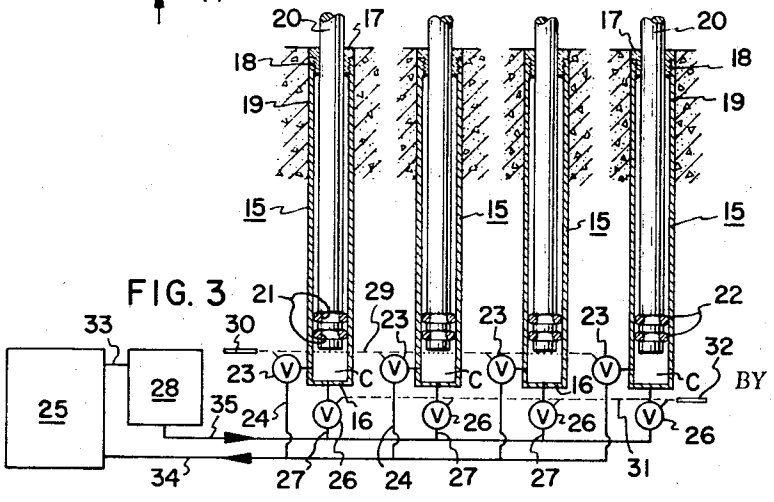


FIG. 3

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SWIMMING POOL COVER AND SUBMERGIBLE DRESSING ROOM COMBINATION

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ABSTRACT OF THE DISCLOSURE

The present invention presents an elevatable, preferably rigid, swimming pool cover and, preferably in combination therewith, a submergible dressing room structure. The cover is designed to offer shade to the pool area as well as provide substantial protection against accidents when the pool is not in use. The dressing room structure provided and cooperatively mounted to the cover structure affords a convenient change enclosure at the pool area and, additionally, permits the dressing room structure to be submerged in the pool when the pool is not in use. This avoids the necessity of permanent structures erected separate from the pool.

The present invention presents a novel cover for swimming pools and, more particularly, to a cover structure which can be elevated or lowered as desired over the pool area, provides shade therefor, offers protection for small children when the cover is closed over the pool, and optionally and preferably includes a dressing room structure which is submergible within the pool when the pool is not in use.

In the past the swimming pool cover that has been commercially developed is a roll-type cover which, of necessity, must be flexible in order to permit the rolling withdrawal thereof at one end of the pool. Such covers, while admitting of complete unobstruction of the pool when the covers are withdrawn, are nonetheless believed to be deficient in certain respects. Among these deficiencies is the fact that the cover, in having to be flexible by its nature, is easily punctured and, when punctured or slit is not safe for children. Children will play on such covers and jump up and down on them. This is not safe for them since the covers oftentimes are easily punctured by play of this type.

An additional problem presented in connection with conventional swimming pool covers is that separate dressing room structures must be constructed either proximate the swimming pool area or, for residences having no such dressing room accommodation, children must come directly into the home for dressing with wet bathing suits and wet towels. This increases house work in the residence in keeping areas used by children clean and tidy.

Accordingly, a principal object of the present invention is to provide a new and improved cover for swimming pools.

A further object is to provide a swimming pool cover which is capable of elevation above and lowering upon the deck area of the pool.

An additional object is to provide a new and improved swimming pool cover which is rigid in construction.

A further object is to provide a swimming pool cover which may be lifted by fluid pressure as by hydraulic or pneumatic means.

An additional object is to provide a swimming pool cover for offering shade to a swimming pool area.

An additional object is to provide in a swimming pool construction a submergible dressing room structure, this so that when the cover is elevated above the pool the dressing room structure is elevated above the water level

and is available for use, having, by its unique structure, been permitted to drain dry; when the pool is no longer in use, then the cover may be lowered and the dressing room submerged out of the way within the pool area.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawings in which:

FIG. 1 is a perspective view of a swimming pool incorporating the cover and submergible dressing room structure of the present invention; in FIG. 1 the cover is elevated with its dressing room structure, the latter being for use by users of the dressing room structure and of the pool.

FIG. 2 is an elevation, principally in transverse section, of the swimming pool of FIG. 1 wherein the cover has been lowered and the dressing room structure submerged within the deep end of the pool.

FIG. 3 is a schematic view of a fluid pressure system which can be used to elevate and lower, alternatively, the structure which supports the swimming pool cover above the pool area.

In FIG. 1 swimming pool **10** is shown to include a swimming pool encasement **11** provided with deck **12** and having shallow portion **13** and deep portion **14**. Disposed at the four corners of the pool are four cylinders **15**, each having a lower end **16** and a flanged bushing **17** which threadedly engages at **18** the upper end **19** of the respective cylinders **15**. Disposed within each of the cylinders **15** is a piston rod **20** provided with annular grooves **21** accommodating respective O-rings **22**. O-rings **22** serve as a seal against fluid pressure as may exist in cavity C. Respective valves **23** are interposed in respective lines **24**, and the latter are interposed between reservoir **25** and the respective cylinders **15** as indicated. Correspondingly, respective valves **26** are interposed in respective lines **27** which lead from pump **28** to respective cylinders **15**, in a manner indicated in FIG. 3. All of the valves **23** may be ganged together, as indicated by dotted line **29**, so as to be actuated by a single handle **30**. Correspondingly, all of the valves **26** may be ganged together, as indicated by dotted line **31**, so as to be actuated by a single handle **32**. Line **33** interconnects reservoir **25** to the input side of **28**. Line **34** interconnects the output of all of the valves **23** to the input side of reservoir **25**. Line **35** is a pressure line leading from pump **28** to the input side of all of the valves **26**. Valves **23** and **26** may be of the selectively operable, one-way type, as desired.

In returning again to FIG. 1, it is seen that cover **35** is preferably a rigid, convexly shaped cover having top **36** and ends **37** and **38** continuous therewith. The cover **35** may be made of fiber glass or other desired material. It can be constructed to be translucent or opaque, as desired. Supporting cover **35** are a plurality of arcuate ribs **39** to which the former may be secured as by suitable adhesive **40** or by conventional attachments such as rivets. The lower opposite ends of arcuate ribs **39** are secured by conventional means such as rivets to elongate stringers **41**, and end angles **42** and **43** may be welded to the opposite stringers **41** to complete the structure. The upper ends of piston rods **20** are secured by gusset brackets G to the cover framing.

Of special importance is the provision of a dressing enclosure **44**. The same may be made of metal, or have a metal framework and suitable panel structure, such that the same may be easily secured by attachments **45** to angle braces **46** spanning the opposite, mutually-parallel, elongate stringers **41**. It will be noted that the bottom **47**

of enclosure structure **44** includes a series of holes or apertures **48**, and may comprise a grate. The enclosure may include door **49** which is hinged at **50** and **51** to the remainder of the structure and for the convenience of bathers.

In operation it is seen that at rest position the dressing room structure **44** is submerged into the deep portion **14** of the pool area. Furthermore, the cover **35** is completely withdrawn so as to rest upon or be closely proximate the deck **12** of swimming pool encasement **11**. Holes **48** provide for the flow of water in the pool so that the dressing room enclosure **44** can be submerged, as desired, within the pool area.

When the users desire availability of the pool, then pump **28** is turned on by conventional means and valves **26** are opened by control **32**. Valves **23** will be closed, or be of one-way type, so as to prevent the flow outwardly of fluid from chamber C.

Accordingly, pressured fluid, in being introduced by pump **28** into respective chamber C of cylinders **15**, will exert an upper pressure against the lower end of each piston rods **20** so as to cause an elevation of these piston rods and an elevation, hence, of cover **35**. The ascent of cover **35** under the pressure of pump **28** is, of course, accompaned by the progressive ascent of dressing room structure **44** from the pool. Holes **48** permit a draining out of water from the dressing room areas so that when the dressing room structure is completely withdrawn, it will be devoid of water therein. For certain types of materials such as metals, fiber glass, and so forth, it requires a very short time for the interior of the dressing room area to be completely dry. Where desired, seat areas such as at **44'** in FIG. 2 may be provided for the convenience of the bather. Thus, when the interior of the dressing room area is sufficiently dry, the bather will open the same for donning his swimming apparel. The structure enables the apparel simply to be retained in the dressing room area if the individual so elects. When bathers are finished using the pool, they simply return to the dressing-room structure **44** to re-dress into their street clothes, and when stepping out of the area will remove their towels and swimming suits. Accordingly, the cover is then ready for return of placement so as to completely cover the pool area and thus avoid accidents as regards customary dangers as to small children. By descent of the cover **35**, the dressing room enclosure **44** will be returned to total or partial submergence within the pool area as indicated in FIG. 2. Return of the cover to its rest position, indicated in FIG. 2, is accomplished by the actuation of handle **30** to ganged valves **33** so as to open these valves and thereby permit the hydraulic fluid to be returned to reservoir **35**. During this process, of course, the valves **26** will be closed either by handle **31**, or will comprise simply one-way valves to prevent valve flow automatically. The same type of structure, so far as one-way function, may be used in connection with the design of valves **23**. This is all conventional.

It will be understood that the invention comprehends all methods and means by which cover **35** is raised and lowered over the swimming pool. Thus, the hydraulic cylinders, if used, may be independently fed by respective pumps. Or a simple hand crank, wrench, and/or pulley arrangement may be used in lieu of the hydraulic means to raise and lower the cover structure over the swimming pool. Finally, the cover means **35** might even be hinged or pivoted to the pool structure, with its end being raised or lowered relative to the pool structure. Whatever type of cover and raising structure is employed, the present invention contemplates the use of the dressing-room structure depending from the cover structure, with the dressing-room structure being submergible in the swimming pool upon the lowering of the cover structure.

Accordingly, what is provided is a new and improved

swimming pool cover and submergible dressing room combination which is easy and safe to use, avoids necessitating the erection of permanent dressing-room structures, and further, which renders the pool area a completely safe area when the dressing room is submerged within the pool and the cover returned to its rest position as indicated in FIG. 2.

It will be understood that the invention also comprehends structure wherein the "cover" is, for example, of perforate form which may be disposed above, at, or slightly beneath the surface of the water of the pool, this for safety purposes.

We claim:

1. The combination of a swimming pool, cover means for providing shade when the same is raised above said swimming pool and for providing a protective closure when the same is lowered to the top of said swimming pool, and means independent of the water content of said swimming pool for so selectively raising and lowering said cover means with respect to said swimming pool, and wherein said cover means includes rigid structural means, said combination including dressing-room enclosure means depending from said rigid structural means and including aperture means for enabling the passage of water of said swimming pool into and out of said dressing-room enclosure means when the latter is submerged in said swimming pool.

2. The combination of a swimming pool, cover means for providing shade when the same is raised above said swimming pool and for providing a protective closure when the same is lowered to the top of said swimming pool, and means independent of the water content of said swimming pool for so selectively raising and lowering said cover means with respect to said swimming pool, and wherein said cover means includes dressing room enclosure structure, said raising and lowering means comprising means for raising and lowering said cover structure relative to said swimming pool, and means for suspending said dressing-room enclosure structure from said cover structure for selective submergence into said swimming pool.

3. In combination, a swimming pool, cover means, dressing-room enclosure structure depending from said cover means and provided with ingress and egress means and aperture means for permitting the passage of water of said swimming pool into and out of said dressing-room enclosure structure, and means for selectively lowering and raising said cover means and simultaneously submerging and withdrawing from submergence said dressing-room enclosure structure relative to said swimming pool, said swimming pool and enclosure structure being constructed and arranged such that said swimming pool provides an unobstructed swimming area when said enclosure structure is raised from submergence.

References Cited

UNITED STATES PATENTS

592,190	10/1897	Bond	50—100
3,008,435	11/1961	Dupuy	109—1
3,052,893	9/1962	McClure	4—172.13
3,092,844	6/1963	Brunson	4—172.13
3,212,105	10/1965	Baker et al.	4—1
3,413,661	12/1968	Ross	4—172.13
3,443,265	5/1969	Hanck	4—172.12

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