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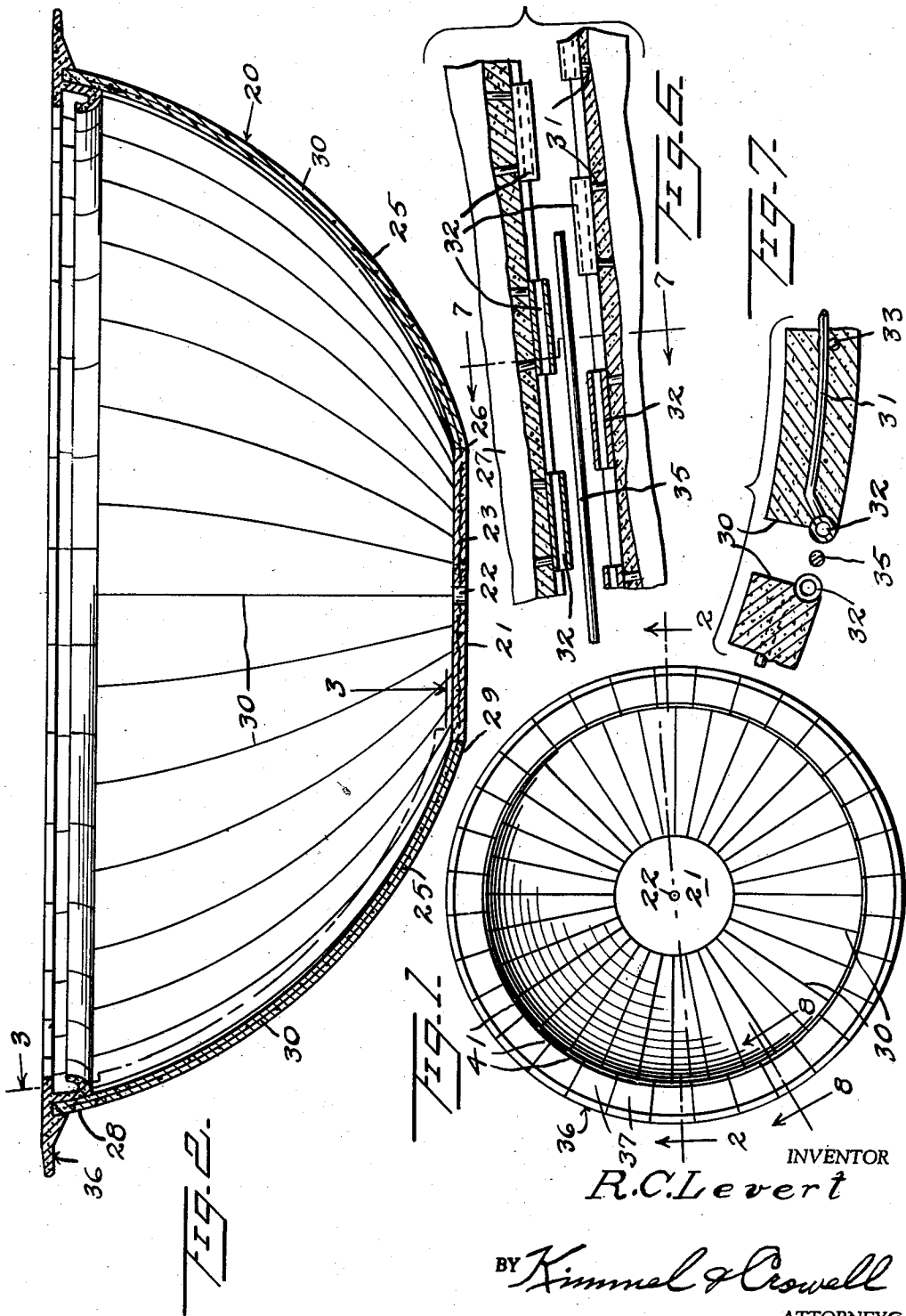
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PRE-CAST SECTIONAL CONCRETE STRUCTURE

Filed July 6, 1955

3 Sheets-Sheet 1



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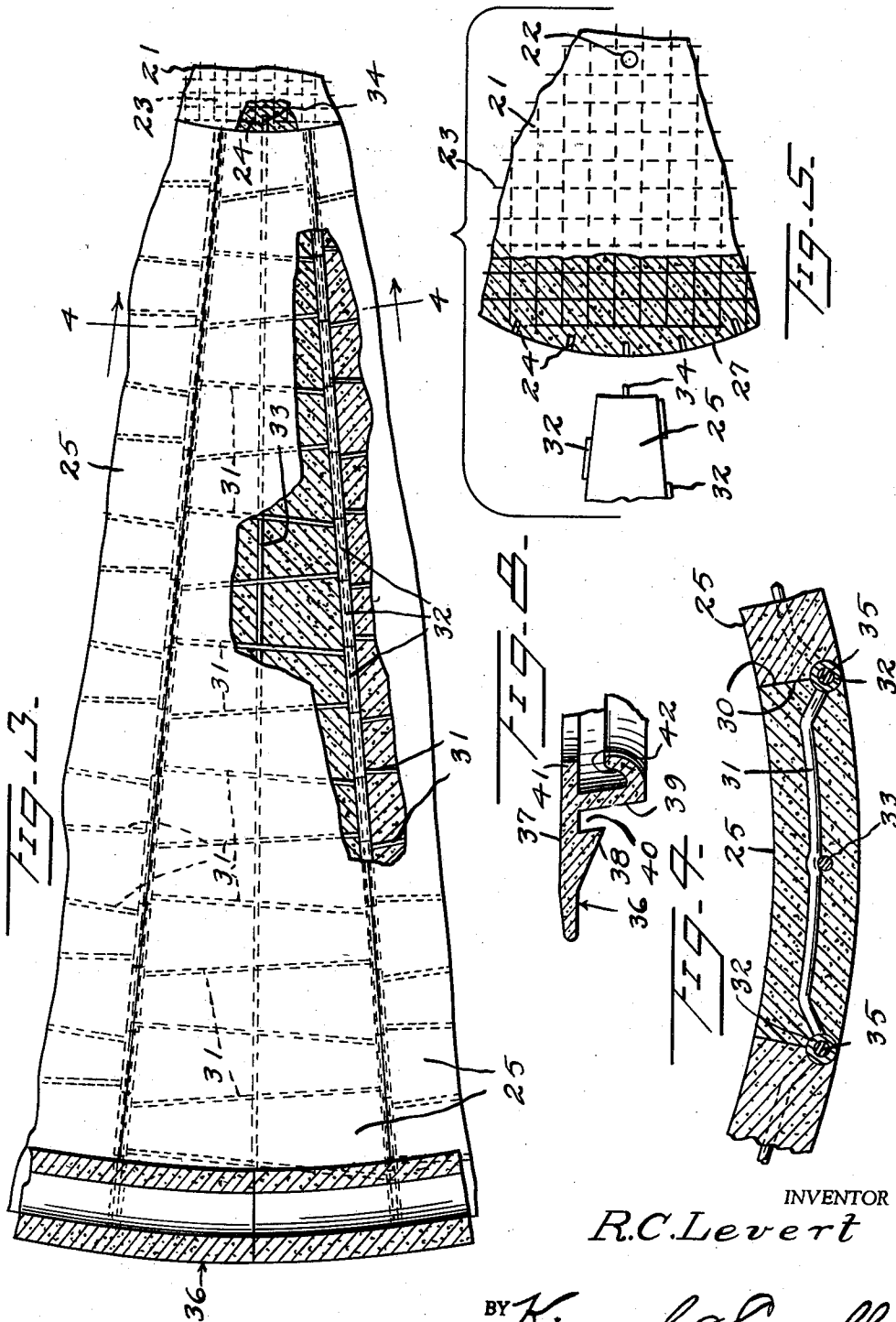
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PRE-CAST SECTIONAL CONCRETE STRUCTURE

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2 Claims. (Cl. 72-13)

The present invention relates to pre-cast sectional concrete structures, and more particularly to such structures that are adapted to be formed into swimming pools and the like.

The primary object of the invention is to provide a pre-cast sectional concrete structure which can be formed into a swimming pool at the site from pre-formed sections.

Another object of the invention is to provide a device of the class described above, in which means are provided for continuously clamping the edges of the pre-cast sections together.

A further object of the invention is to provide a structure of the class described in which the pre-cast concrete sections are transversely and longitudinally reinforced to prevent breakage of the concrete.

A still further object of the invention is to provide a structure of the class described which may be modified from a circular shape to an elongated pool having semi-circular ends, by the addition of central sections having parallel side edges.

Another object of the invention is to provide a swimming pool formed from pre-cast sectional concrete elements, which is further provided with an anti-splash curbing formed from sectional blocks.

Other objects and advantages will become apparent in the following specification when read in light of the attached drawings, in which:

Figure 1 is a plan view of the invention, showing the sections formed into a circular swimming pool.

Figure 2 is an enlarged transverse cross-section of the invention, taken along the line 2-2 of Figure 1, looking in the direction of the arrows.

Figure 3 is an enlarged fragmentary sectional view of one side of the swimming pool, taken along the line 3-3 of Figure 2, looking in the direction of the arrows, with parts broken away.

Figure 4 is an enlarged transverse cross-section of the invention, taken along the line 4-4 of Figure 3, looking in the direction of the arrows.

Figure 5 is a fragmentary exploded plan view of the connection between the central slab and one of the side sections, with the edge portion of the central slab shown in section.

Figure 6 is an enlarged detail plan view of the connection between a pair of adjacent sections, with the edge portion of the sections shown partially in section.

Figure 7 is an enlarged transverse cross-section of the invention shown in exploded form and taken along the line 7-7 of Figure 6, looking in the direction of the arrows.

Figure 8 is an enlarged detail cross-section of the curbing, taken along line 8-8 of Figure 1, looking in the direction of the arrows, partly broken away.

Figure 9 is a plan view similar to Figure 1, illustrating a modified form of the invention.

Figure 10 is an enlarged detailed plan view of one of the side sections of the device illustrated in Figure 9,

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with portions thereof shown in section for purposes of clarity.

Figure 11 is an exploded enlarged transverse cross-section, taken along the line 11-11 of Figure 10.

Referring now to the drawings in detail, wherein like reference numerals indicate like parts throughout the several figures, the reference numeral 20 indicates, generally, a swimming pool comprising a circular slab 21 having a central drain opening 22 extending downwardly therethrough and provided with a reinforcing wire mesh 23. A series of bores 24 extend radially into the peripheral edge of the slab 21 equidistant between the top and bottom faces thereof. The purpose of the bores 24 will be later explained.

A series of arcuate segments 25 are positioned with their inner edges 26 in engagement with the peripheral edge 27 of the slab 21. The segments 25 are formed arcuately both in a transverse and in a longitudinal direction, with their upper portions 28 being wider than their lower portions 29, so that the side edges 30 thereof will abut the side edges 30 of the adjoining segments 25 throughout their length. A reinforcing net, as best illustrated in Figure 3, consists of a series of rods 31 extending from one side edge 30 of the segment 25 to the other side edge 30 of the segment 25, and are there joined by welding or other suitable means to a short section of pipe 32 which is recessed within the segment 25 a distance of approximately half the diameter of the pipe 32.

A central longitudinal connector reinforcing rod 33 extends from the upper end 28 of the segment 25 to the lower end 29 and has a portion 34 extending outwardly from the end 29 of the segment 25. The extension 34 of the rod 33 is adapted to engage in the radial bore 24 in the slab 21. This supports the lower end 29 of the segment 25. The pipe sections 32 are alternated, as best illustrated in Figure 6, and are formed with the spaces between the pipes 32 slightly longer than the pipes 32, so that the pipe sections 32 of one segment 25 will engage between the pipe sections 32 of another segment 25, the pipe sections 32 being spaced alternately from side to side on each individual slab 25. A connector pin 35 is adapted to be inserted through each of the pipe sections 32 to tightly secure one segment 25 to its next adjacent segment 25.

A curbing 36 is provided with a flat upper panel 37 having a depending shoulder 38 formed on the under side thereof with a flange 39 also extending from the under side of the curbing 36 in spaced apart relation to the shoulder 38. The shoulder 38 and the flange 39 form therebetween a pocket 40 for the reception of the upper end 28 of the segment 25. The panel 37 extends inwardly beyond the flange 39 to form an overhang portion 41. An arcuate gutter 42 extends upwardly and inwardly from the lower edge of the flange 39 in a position to be substantially covered by the overhang portion 41 of the panel 37. The arcuate gutter 42 acts additionally as a finger hold to assist a bather in leaving the swimming pool 20.

In the modification illustrated in Figures 9, 10 and 11, the semicircular end portions of the pool, generally indicated at 20', consist of segments 25' which are identical to the segments 25 of the pool 20. Curbing 36' identical to curbing 36 also surrounds the semicircular end portions of the pool 20'. A slab 21', formed with semicircular end portions 43, has a central rectangular section with parallel edges 44, the length of the sides 44 being varied to vary the length of the pool 20'. A series of sections 45 having parallel side edges 46 are connected to the slab 21' and to the segments 25', in a manner to be described. The sections 45 are longitudinally arcuately curved and are provided with a reinforcing 31' formed in the same manner as the reinforcing 31 in

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the segments 25. A central rod 33' is connected by welding or the like to each of the reinforcing rods 31' and extends beyond the inner end 29' so as to extend into the slab 21' as shown at 34' in Figure 10. The edges of the sections 45 are provided with pipe sections 32' which are adapted to be interlocked to each other in the same manner as the pipe sections 32 on the segments 25.

The upper edges 28' of the sections 45 are provided with a curbing 47 which is formed similarly to the curbing 36, with the exception that the side edges of the curbing 47 are parallel. Thus, it can be seen that by casting the slab 21' in any desired length, the pool 20' can be extended by adding sections 45 on either side thereof until the desired size is formed. The slab 21' is provided with a central drain opening 22' to permit the pool 20' to be drained.

The individual segments 25 and 25' and the sections 45 are formed by welding the rods 31 to a section of pipe 32 extending from the inner end 29 to the outer end 28 of the segment 25, and the reinforcing rod 33 is welded to the central portion of each of the reinforcing rods 31, with the rod 33 extending beyond the lowermost portion 29 of the segment 25. The reinforcing rods 31 for the next adjacent segment 25 are welded to the pipe 32 with alternate pairs of the rods 31 connecting to the pipe 32 between alternate pairs of the rods 31 in the first segment 25. After the reinforcing framework is formed, the pipe 32 is cut in sections, so that each section of pipe is connected to a pair of the rods 31 from one of the segments 25. The reinforcing framework is then placed in a mold and concrete is poured to form the segment 25. The removal of the material due to the cutting of the pipe 32 into sections assures that the pipe sections 32 will be shorter than the spaces between the pipe sections 32. Of course, it should be understood that the pipe sections 32 will be supported in final position during the casting of the segment 25 to assure that the finished segment 25 will interlock with any other segment 25 and with any section 45 when the modified pool 20' is being constructed.

In the use and operation of the invention, a pit or excavation is formed in the earth and the slab 21 or 21' as the case may be is positioned centrally of the excavation. A drain pipe (not shown) is connected to the drain opening 22 or 22' to permit the draining of the pool 20 or 20' when desired. A series of segments 25 or 25' are then fitted to the slab 21 or 21' with the extension 34 entering the bores 24 in the edge of the slab 21 or 21'. In the case of the modified pool, the sections 45 are likewise fitted to the slab 21' to form the side portions of the pool 20'. Connector pins 35 are then inserted through the pipe sections 32 or 32' to lock the individual portions of the pool together. Curbing 36 or 36' is then positioned atop the circular portions of the pool 20 or 20' and curbing 47 is positioned atop the straight sections 45 of the pool 20'.

The abutting edges of the various segments 25 and

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25', as well as the abutting edges of the sections 45 and the edges of the slab 21 or 21' which abut the other portions of the pool, may each be coated with a mastic or other waterproofing sealing material prior to the final assembly of the pool, to prevent the leakage of water from the pool.

Having thus described the preferred embodiments of the invention, it should be understood that numerous structural modifications and alterations may be resorted to without departing from the scope of the appended claims.

What is claimed is:

1. A pre-cast sectional concrete structure comprising a generally flat horizontal central slab having a substantially vertical lower inner edge surface engaging the peripheral edge surface of said slab with said segments each extending arcuately upwardly and outwardly therefrom, said segments each having substantially vertical opposite side edge surfaces spaced by said lower inner edge surfaces and engaging the side edge surfaces of adjacent segments, a metallic reinforcing net extending centrally through each of said segments, a rod secured to said net and projecting through the lower inner edge surface of each of said segments and detachably engaging a selected one of said sockets, a plurality of axially aligned pipe sections secured to said reinforcing net along each side edge surface of each segment with said pipe sections spaced apart in offset relation on opposite sides of each segment with the pipe sections of adjacent sides of adjacent segments interengaging, and means extending through said interengaging pipe sections to releasably lock said segments together.
2. A structure as claimed in claim 1 wherein said slab is elongated, said peripheral edge surface comprising a pair of spaced parallel side surfaces joined at the opposite ends thereof by a pair of semi-circular end surfaces, some of said segments engaging the parallel side surfaces and having the opposite side edge surfaces thereof parallel, other of said segments engaging the semi-circular end surfaces and having the opposite side edge surfaces thereof outwardly diverging from said slab, and said segments in said side by side positions defining with the slab an enclosure.

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