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METHOD OF MANUFACTURING A SWIMMING POOL AND THE ARTICLE

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2 Sheets-Sheet 2

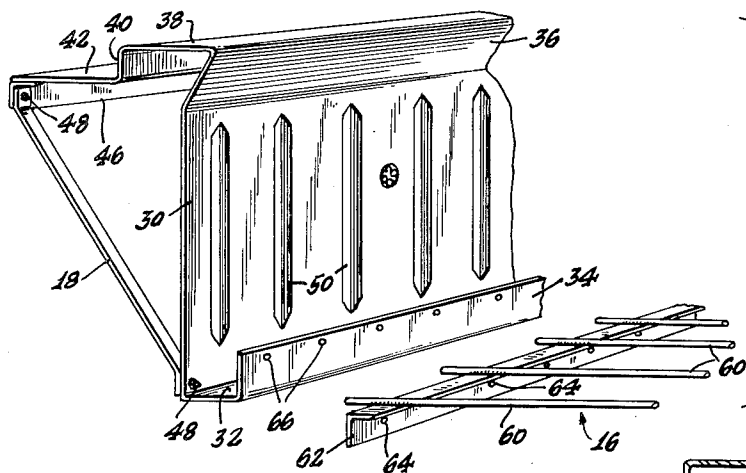


FIG. 5.

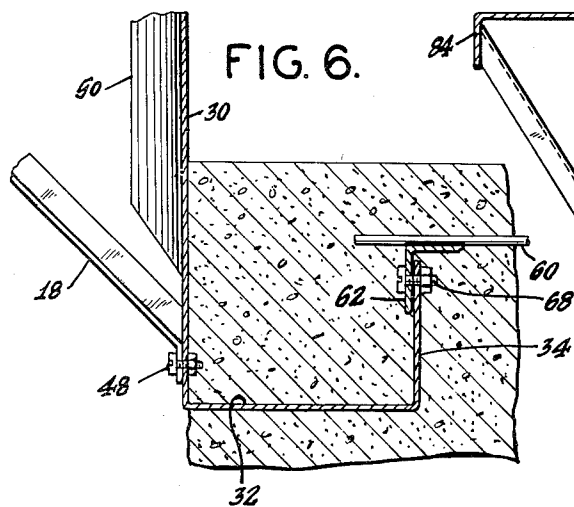


FIG. 6.

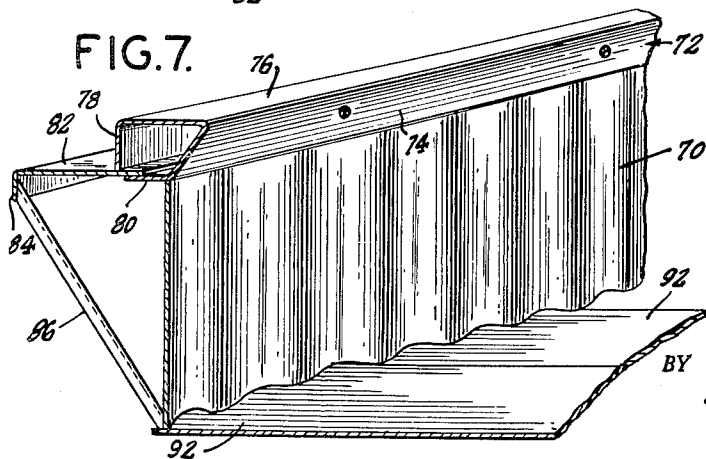


FIG. 7.

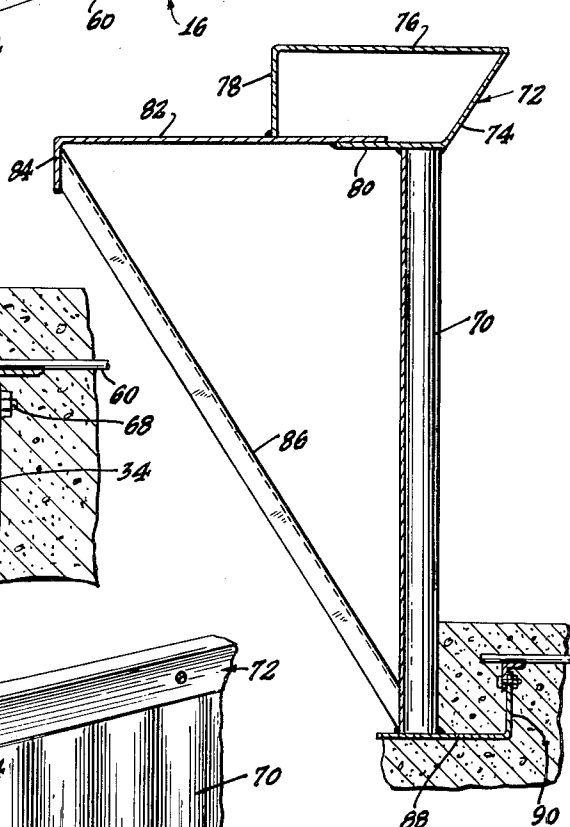


FIG. 8.

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METHOD OF MANUFACTURING A SWIMMING POOL AND THE ARTICLE

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5 Claims. (Cl. 4—172)

This invention relates generally to swimming pools and in particular to a novel prefabricated swimming pool and the method of manufacture. With the advent of the backyard type swimming pool, many methods of construction have been tried and all of these prior methods are relatively expensive which predicates a cost of the swimming pool at such a value as to be prohibitive to the average person. The present novel construction permits a percentage of prefabrication that effectively reduces the cost of construction and installation. Further, the prefabricated materials and the novel method of assembling the prefabricated materials effects a savings over the prior all concrete or concrete and plastic-liner type of construction. Accordingly, one of the principal objects of the invention resides in the novel method of constructing a swimming pool.

Still another object of the invention resides in the provision of novel prefabricated sections that unite in assembled relation to provide a substantially complete swimming pool shell.

Yet another object of the invention resides in the provision of novel means for sealing the adjacent prefabricated sections to prevent the leakage of the water therethrough.

Still another object of the invention resides in the novel method of supporting the side sections of the prefabricated swimming pool shell.

And a further object of the invention resides in the provision of piping or drainage conduit means integrally formed in the prefabricated sections.

Other ancillary objects will be in part hereinafter pointed out and will be in part hereinafter apparent.

In the drawings:

FIGURE 1 is a perspective elevation of the assembled prefabricated pool shell with the surrounding soil omitted to more fully illustrate the construction thereof.

FIGURE 2 is a cross sectional detail of the side wall construction.

FIGURE 3 is a side elevational detail of a joint or seam between adjacent sections.

FIGURE 4 is a side elevational detail of the side wall reinforcing means.

FIGURE 5 is a perspective view of one embodiment of a side section attached to base reinforcing means.

FIGURE 6 is an enlarged cross section of the embodiment shown in FIGURE 5 in assembled attached relation.

FIGURE 7 is a perspective sectional detail of a further embodiment of the invention.

FIGURE 8 is a cross section of the embodiment shown in FIGURE 7.

Referring to the drawings in detail, 10 generally designates the assembled shell that consists of a plurality of prefabricated metallic components. Each of the prefabricated components is generally preformed of sheet steel in a suitable size to facilitate shipping of the components to the site of the pool erection. The prefabricated sections generally comprise side walls 12, upper wall 14, and the reinforced floor or base section 16. Further, the upper wall 14 is angularly connected to a plurality of supporting braces 18 disposed in spaced relation under the upper wall 14. As shown in FIGURE 1, a plurality of prefabricated sections have been assembled to provide a complete swimming pool shell. It will be noted that the shell is generally erected in an appropriate hole or recess so that upon completion of the erection the hole or recess may be backfilled so that the plane of upper wall 14 is

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substantially equal to and flush with the plane of the surrounding area. The upper wall 14 therefore provides a walk area around the pool. The size or length of each prefabricated section is predicated only upon a size that facilitates the shipment of the disassembled pool to the site of erection. Each prefabricated section, when erected, may be joined one to the other by bolting, FIGURE 2, or may be field welded. When bolted, the marginal edge of each wall section is prepared at the factory with a welded backer strip 20 that is formed with the same angular relation as the wall section and which is disposed offset from the planes of the prefabricated sections. The strip 20 is further provided with a plurality of spaced apertures 22. The prefabricated wall section, that is to be assembled or joined to the wall section having the strip 20 thereon, is similarly provided with a plurality of apertures 24 which are adapted to co-align with the apertures 22 in strip 20. A resilient gasket is disposed between the offset portion of strip 20 and the now abutting prefabricated wall section and bolts 26 are disposed in the co-aligning apertures 24, 22 and tightened to secure adjacent prefabricated pool wall sections one to the other. It will be obvious that countersunk-type bolts 26 would be preferred in this instance so as to present a substantially smooth pool wall surface. It will be noted that each of the prefabricated sections generally comprises a substantially vertical portion 30, an integrally formed horizontally extending base portion 32 having a vertical return 34 thereon. The upper margin of the vertical portion 30 is provided with an outwardly extending angular portion 36 that communicates with an upper horizontal portion 38 that has a rear wall 40 angularly depending therefrom. The rear wall 40 continues as a horizontal extending section 42. The angularly extending portion 36, the planar portion 38, and the rear wall 40 jointly form a coping that extends peripherally around the pool. As shown in FIGURE 4, spacer bars 44 are disposed under the coping and are welded to the angularly extended portion 36 and to the horizontally extending portion 42 to effectively stiffen the coping relative to the wall section portion 30. Further it will be noted that the angular braces 18 are secured to the horizontally extending portion 42 by means of an intermediate longitudinal angle 46. The braces 18 are secured to the angle 46 by means of bolts 48 and analogously the intermediate angle 46 is secured to the portion 42 by means of similar bolts 48. Further, the lower portion of each brace 18 is secured by bolts 48 to the vertical wall section 30. To prevent leakage the lower bolts 48 may be sealed in a mastic composition or may be provided with a gasket washer, not shown.

To further strengthen the side wall portions 30, a plurality of recess forming ribs 50 may be pressed therein. It is understood of course that ribs 50 are provided for reinforcing purposes and are formed in the wall portion of each metal section prior to the forming or bending of the bottom portion 32 or the coping portions 36, 38, or 40.

When a plurality of prefabricated wall sections have been joined one to the other to form a continuous pool shell, a reinforcing structural floor assembly 16 is secured thereto. The structural assembly 16 comprises a plurality of steel reinforcing rods 60 that are welded to one arm of an angle 62 on one end and are welded at the other ends to a complementally disposed angle, not shown. The angle 62 is provided with a plurality of apertures 64 therein which are adapted to be aligned with a similar plurality of apertures 66 that are provided in the return portions 34 of the prefabricated sections. Bolts 68 are adapted to pass through the co-aligning apertures 64, 66 to secure the angle 62 to the return 34. It is apparent that the reinforcing rods 60 are spaced from one from the other and extend in transverse relation between opposite

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side walls of the pool shell 10. In a similar manner a second series of reinforcing rods, not shown, may be secured in a similar manner between the other opposite end walls of the pool shell 10.

As previously set forth the shell 10 is erected in an appropriately provided hole wherein a level bottom surface is provided. A conventional mixture of water, sand, and cement is then poured on this level area to a thickness wherein the reinforcing rods are substantially imbedded therewithin. Obviously drains or the like would be prepositioned prior to the pouring of the concrete floor. When cured, the concrete solidifies and effectively rigidizes the pool shell 10 and seals the bottom thereof wherein the shell 10 may be filled with water.

In a further embodiment of the invention, the prefabricated pool sections, FIGURES 7 and 8, may be formed from corrugated sheets 70 that have been cut to predetermined sizes. Adjacent corrugated sheets may be secured by bolting, not shown, or may be secured one to the other by welding, also not shown, to form continuous wall lengths. Each corrugated sheet section 70 is welded at the top to a preformed coping 72 that comprises a steel box-like channel having a sloping front wall 74, a top wall 76, a rear wall 78, and a lower half wall 80. A flat plate 82 is welded to the rear wall 78 and to the lower half wall 80 through a continuous welding process for a purpose hereinafter appearing. The plate 82 is provided with a depending return 84 to which an angle brace 86 is welded. The lower terminal of the angle brace 86 is analogously welded to a bottom plate 88. Similarly the corrugated sheet 70 is welded to the bottom plate 88. Said bottom plate 88 is provided with a return 90 to which the reinforcing structure previously described is secured.

In this embodiment where field welding is utilized to assemble the prefabricated sections metal panels 92 could be utilized to form the floor of the pool. In this event, the metal panels 92 are continuously welded to the corrugated sheets 70 and are welded one to the other to form a substantially water-tight structure.

In the embodiment shown in FIGURE 8, continuous welds could be used in securing adjacent steel members to the coping forming member 72 wherein the coping member 72 forms a water-tight chamber that could be utilized as piping means for the distribution of the water to the pool.

Thus it is apparent that there has been provided a device in which the several objects of the invention are achieved and which is well adapted to meet the conditions of practical use.

While there has been shown and described plural embodiments of the invention, it is to be understood that modifications and changes might be made without departing from the scope of the present invention, except as limited by the claims.

The invention claimed is:

1. The method of manufacturing a swimming pool, comprising the steps of prefabricating a plurality of individual wall sections including the steps of bending an angularly extending base at the lower portion of a steel sheet, bending a vertical return adjacent to the terminal edge of the base and substantially at a right angle to the base, the length of said return being less than the length of the base, bending an oppositely angularly extending channel-defining C-shaped section at the upper portion of the steel sheet, welding a flat steel sheet to the channel shaped portion to substantially enclose the open side of said channel section, assembling the prefabricated sections as a continuous shell, securing the assembled sections one to the other, securing steel reinforcing means between the vertical return portions of each opposite section, and securing reinforcing braces between the channel shaped portion and the lower external portion of each wall section.

2. The method of manufacturing a swimming pool, comprising the steps of prefabricating a plurality of in-

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dividual wall sections including the steps of bending an angularly extending base at the lower portion of a steel sheet, bending a vertical return adjacent to the terminal edge of the base and substantially at a right angle to the base, the length of said return being less than the length of the base, bending an oppositely angularly extending channel-defining C-shaped section at the upper portion of the steel sheet, welding a flat steel sheet to the channel shaped portion to substantially enclose the open side of said channel section, assembling the prefabricated sections as a continuous shell, securing the assembled sections one to the other, and securing reinforcing means to the respective vertical return base portions of the oppositely disposed side wall sections to form a reinforced bottom for said shell, and pouring a wet mixture of sand and cement over the reinforcing means and angularly extending base to substantially cover said reinforcing means and base and form the bottom of the pool.

3. A swimming pool comprising, in combination, a plurality of prefabricated vertical side wall sections assembled in secured sealed relation, integrally formed ribs in each of said wall sections for reinforcing said side sections, a base integrally formed at the lower marginal edge of each side wall section having a horizontal portion inwardly extending from said lower margined edge and a return portion angularly extending from the marginal edge of the horizontal portion, the length of the return portion being less than the length of the horizontal portion and the length of the horizontal portion being less than the length of each side wall section, means disposed between opposite side wall sections and affixed to the respective bases of said opposite side wall sections to secure the opposite side wall sections one to the other, cement means covering and enveloping the bases of each opposite side wall section and said side wall securing means to form a cement bottom of the pool whereby the assembled side wall sections will retain water disposed therein, said cement embedded bases being yieldable with the expansion and contraction of said cement means during the contraction or expansion of said cement means, said side wall sections having integrally formed outwardly extending horizontal co-aligning coping portions disposed angularly and outwardly extending from the pool forming side sections, reinforcing means disposed between the outwardly extending coping sections and the lower external side sections, and the adjacent coping portions being sealed one to the other to facilitate the passage of water through said coping portions.

4. A swimming pool comprising, in combination, a plurality of prefabricated vertical side wall sections assembled in secured sealed relation, plural ribs integrally formed in each side wall section for reinforcing said side sections, a base integrally formed from the lower marginal edge of each side wall section having an inwardly extending horizontal portion and a return portion angularly extending from the terminal edge of the horizontal portion, plural rods affixed to the respective bases of opposite side wall sections to secure opposite side wall sections one to the other, cement means covering and enveloping said bases and said side wall securing means to form the bottom of the pool whereby the assembled side wall sections will retain water disposed therein, said bases being yieldable with the expansion and contraction of said cement means during the contraction or expansion of said cement means, said side wall sections having integrally formed outwardly extending horizontal co-aligning coping portions disposed angularly and outwardly extending from the pool forming side sections, reinforcing means disposed between the outwardly extending coping sections and the lower external side sections, said coping portions being sealed one to the other to facilitate water passage through said coping portions, and said horizontal coping portion being of a substantial width to permit walking on the coping around the pool.

5. A swimming pool comprising, in combination, a plu-

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rality of prefabricated vertical side wall sections assembled in secured sealed relation, integrally formed means comprising plural ribs in each of said sections for reinforcing said side sections, a base integrally formed from each side wall section having a horizontal portion inwardly extending from the bottom margin of the section and a return portion angularly extending from the terminal edge of the horizontal portion, said return having a length less than the length of the horizontal portion and said horizontal portion having a length less than the length of the side wall section, means including plural reinforcing rods disposed between opposite side sections and secured to the respective return portions of the bases of each opposite side section to secure opposite side wall sections one to the other to reinforce the assembled wall sections, cement means covering and enveloping the bases of each opposite side wall section and the reinforcing rods disposed therebetween to form a cement bottom of the pool whereby the assembled side wall sections will retain

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water disposed therein, said cement embedded bases being yieldable with the expansion and contraction of the cement means during expansion or contraction of said cement means, and said side wall sections having integrally formed outwardly extending horizontal co-aligning coping portions, and the adjacent coping portions being sealed one to the other to facilitate the passage of water through said coping portions.

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