

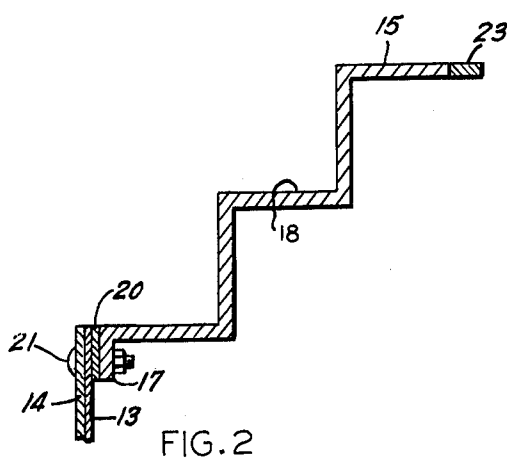
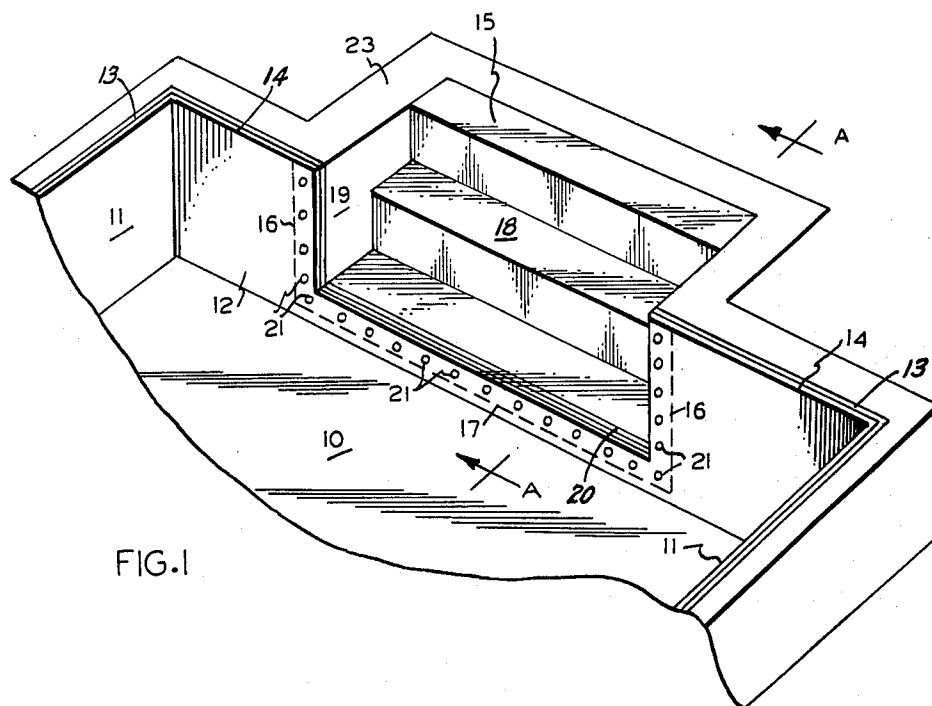
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SWIMMING POOL STEPS

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## SWIMMING POOL STEPS

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1 Claim. (Cl. 52-184)

The present invention relates in general to swimming pools and more specifically to swimming pools containing an attachment in the form of steps and to a method of installing the same, and forms a continuation-in-part of my earlier application, Serial No. 187,687 filed April 16, 1962, now abandoned.

Within the past decade there has been a tremendous growth in the number of private outdoor swimming pools due primarily to the introduction of relatively low cost prefabricated pools utilizing segmented side walls of wood, metal or concrete, and the combination thereof with a pro-formed vinyl bag or liner.

Pools of the pre-formed type, in contrast to the more expensive sprayed concrete or all concrete pools, have in the past been limited generally to the use of ladders as means of entering or leaving the pool. This is due to the cost of altering and fitting a pre-formed liner to accommodate steps or the like. With the increasing use of such pools, the difficulty of access via ladder has limited the use by elderly people and small children of these pools.

Accordingly, an object of the present invention is to provide a pool with a step attachment therefor.

A further object of the invention is to provide a means and method for introducing steps into any type of pool utilizing a rigid, non-masonry wall in its construction.

Additional objects, if not specifically set forth herein, will be readily apparent to one skilled in the art from the following detailed description of my invention.

In the drawings:

FIGURE 1 is a perspective view of one end of a swimming pool having a vinyl liner therein showing the steps of the present invention installed.

FIGURE 2 is a cross-section plan view of the steps in FIGURE 1 taken on line A-A thereof and showing the gasketing arrangement between the step attachment and the pool walls.

Generally, my invention comprises the provision of a preformed step member adapted to be bolted to the end or side wall of an existing pool, external to the original pool area, in such a manner as to form a watertight seal with said pool wall. The section of original pool wall between the contacting areas of the attachment is then cut away and the result is an integral set of steps descending down into the water area of the pool.

Referring now to the drawings, the pool 10 is shown with side walls 11 and end wall 12, each consisting of a rigid supporting member 13 and a vinyl interliner 14 (either of the pre-formed bag type or, as shown, laminated to member 13). The end wall 12 has fastened to it, externally of the wall, a step attachment 15. The fastening is accomplished through the provision on member 15 of fastening flanges, two of which are vertical (10) and one of which is horizontal (17) and is fastened to the base of vertical flanges 16. These flanges may be separate as shown or formed as a single U-shaped member and welded or otherwise fastened to the main body of the assembly 15. The flanges are shown in dotted lines since they are disposed externally of the wall 12. The steps 18 are of any size and number, depending upon the height of the pool wall, the width of the step tread and other factors which may vary with the taste of the in-

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dividual pool owner. Integrally fastened to said steps 18 are side walls 19 which extend from the top surface only of steps 18 to the side flanges 16. The entire step attachment 15 may be moulded in one piece from fibre glass reinforced plastic or the like, or may be made from integrated components of wood, metal or the like. As shown in FIGURE 2, the flange members 16 and 17 are fitted with a gasket member 20 which is perforated in alignment with perforations in the flanges to permit passage of the fastening bolts 21. When the assemblage is to be installed in an existing pool, the ground behind the wall which will have the steps is excavated to suitable depth and the assemblage 15 is lowered therein and lined up against the wall. Holes are then drilled through the pool wall in alignment with the holes in flanges 16 and 17, using the flanges as templates to assure proper alignment. Preferably the water level in the pool is dropped below the level of the step member during the drilling operation, although temporary plugs may be used if it is desired to maintain the water level in the pool. Once the holes are drilled, the gasket 20 is inserted between the flange and the pool wall 13. Bolts 21 are inserted in the holes and the flanges are tightly drawn against wall 13, compressing gasket 20 by means of suitable fasteners such as nuts 22 on the ends of bolts 21. The joint between the flanges and the pool wall may be caulked if desired, although the provision of gasket 20 has been found to insure a watertight connection. After the attachment of the step assembly 15 to the pool wall, that area of the pool wall bounded by the inside edges of flanges 16 and 17 is cut away. This opens up the step area to the remainder of the pool and when the ground has been back-filled around step assembly 15 and a coping 23 positioned thereon as shown in FIGURE 1, the steps appear to have been integrally made with the pool 10. A cover plate (not shown) may be used when a pre-formed vinyl liner pool is modified by the addition of the steps of the present invention to cover the inside cut edge of the vinyl liner or, alternatively, such edge may be adhesively secured to the pool wall along the cut portion thereof. Suitable railings, non-skid treads and the like may be incorporated as desired.

Obviously, many modifications and variations may be made without departing from the spirit of the invention disclosed herein and, therefore, only such limitations should be imposed as are contained in the appended claim.

I claim:

In a swimming pool construction, the combination comprising: a rigid wall member having an inner and an outer surface; a vinyl interliner supported by said rigid wall member on the inner surface thereof; a step attachment fastened to the outer surface of said rigid wall member, said step attachment consisting of a plurality of step members, each step member being joined integrally to the next step member with a side wall at each end of said step members extending continuously from the top surface only of each step member and integrally fastened thereto, and means integral with said side walls and the lowermost of said step members in watertight relationship with said outer surface of said rigid wall member and means fastening said first means to said outer surface of said wall member; an opening cut through said vinyl interliner and rigid wall member to remove the portion thereof bounded by said side walls and lowermost step of said attachment; and means securing said vinyl interliner against said inner surface around said opening.

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