June 3, 1958 N. F. DE NAMUR 2,836,832

SWIMMING POOL

Filed Oct. 24, 1955

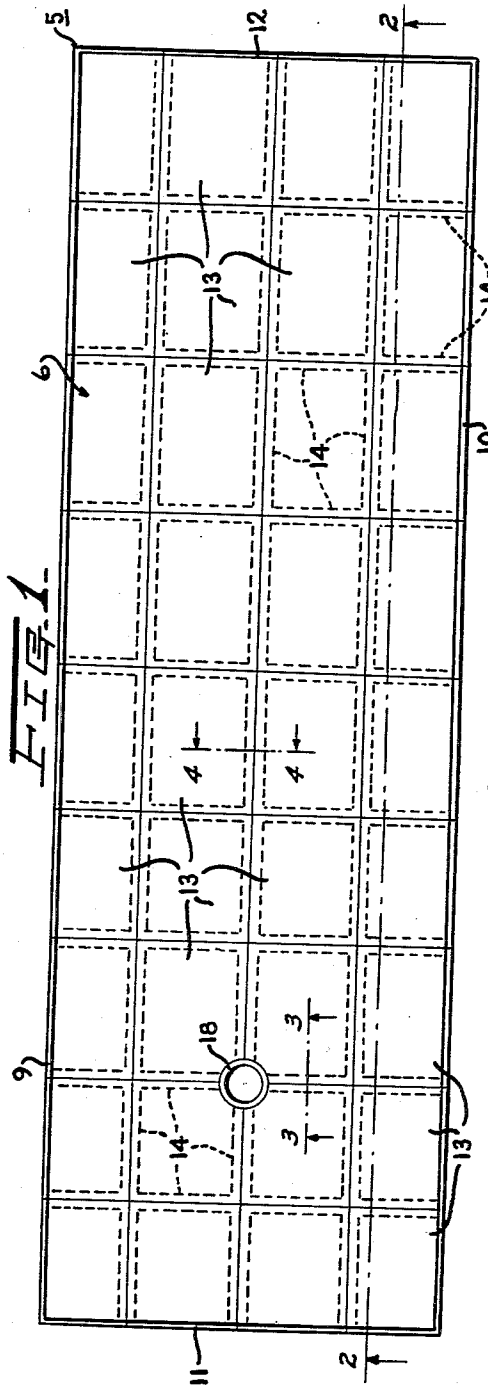


FIG. 1.

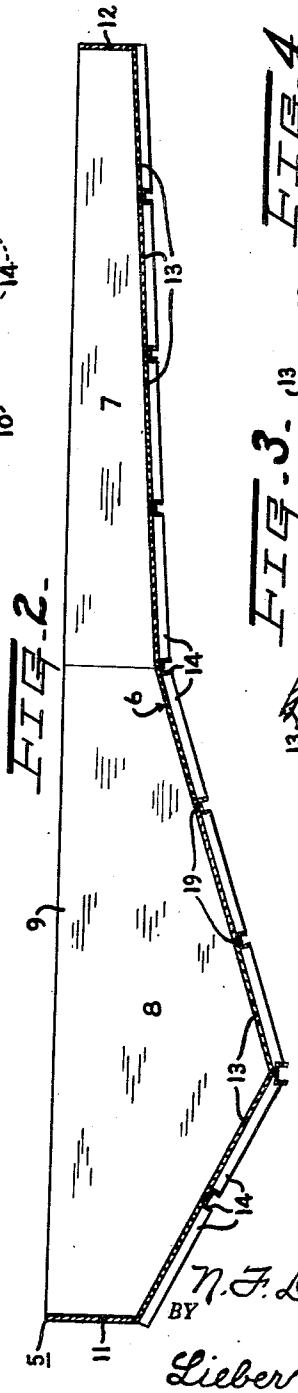


FIG. 2.

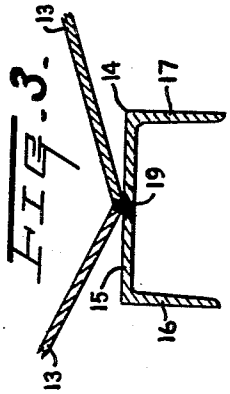


FIG. 3.

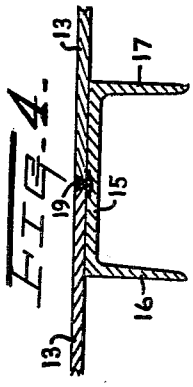


FIG. 4.

INVENTOR.
N. F. De Namur
BY
Lieber & Lieber
ATTORNEYS.

United States Patent Office 2,836,832
Patented June 3, 1958

2,836,832

SWIMMING POOL

Norman F. De Namur, Berlin, Wis., assignor to Berlin Chapman Company, Berlin, Wis., a corporation of Wisconsin

Application October 24, 1955, Serial No. 542,136

6 Claims. (Cl. 4—172)

The present invention relates generally to improvements in the art of fabricating tanks, and relates more particularly to improvements in the construction of metal swimming pools or the like.

A primary object of this invention is to provide an improved metal tank or pool which may be readily fabricated at extremely low cost and which is moreover highly efficient and durable in actual use.

It has, of course, been common practice for many years to fabricate artificial swimming pools and the like of concrete and similar materials. The commercial acceptance and success experienced with such concrete or cement pool constructions has, however, been restricted and limited because of the expense involved and the deterioration encountered through use, particularly with outdoor pools wherein extra precautions must be taken to provide for expansion and contraction as well as wear and tear due to climatic changes. In efforts to overcome these objects, the recent trend has been to fabricate these tanks or pools of other materials such as steel which remains relatively stable and unaffected by temperature changes, which is capable of absorbing extreme stress and strain due to its flexibility in sheet form and which is exceedingly durable. However, despite these advantages, considerable difficulty has been heretofore encountered in the fabrication of steel pools and especially in the joinder of adjacent plates to provide a watertight construction while preventing distortion thereof.

It is therefore a more specific object of my present invention to provide an improved metal fabricated tank which obviates all of the disadvantages and objections heretofore attendant similar structures.

Another specific object of the invention is to provide an improved metallic tank which may be readily fabricated by welding or the like to provide a watertight construction without resultant distortion.

Another specific object of my invention is to provide an improved tank or pool structure which is fabricated of interchangeable metallic plates which may be readily assembled and joined with the aid of novel interchangeable joining and reinforcing members to provide a watertight assemblage.

Still another specific object of my present invention is to provide an improved tank or pool structure composed of a plurality of metallic plates or sheets which may be cut to predetermined sizes and shapes at the factory and quickly and easily assembled and welded without distortion on the job to thereby provide a unitary assemblage of any desired shape and size.

A further specific object of the present invention is to provide an improved watertight tank structure which comprises, a plurality of metallic plates disposed in edge-abutting relation, a trough-shaped metallic joining member extending along and seated against the abutting edges of adjacent sheets, and means interconnecting the abutting edges and the base of the joining member by fusion.

These and other specific objects and advantages of the present invention will become apparent from the following detailed description.

A clear conception of the several features constituting the present improvement and of the mode of fabricating a typical swimming pool embodying the invention may be had by referring to the drawing accompanying and forming a part of this specification wherein like reference characters designate the same or similar parts in the various views.

Fig. 1 is a top view of a typical fabricated swimming pool embodying the present invention;

Fig. 2 is a longitudinal section through the pool taken along the line 2—2 of Fig. 1;

Fig. 3 is a somewhat enlarged fragmentary section across one of the transverse seams taken along the line 3—3 of Fig. 1; and

Fig. 4 is a similarly enlarged fragmentary section across one of the longitudinal seams taken along the line 4—4 of Fig. 1.

While the invention has been particularly shown and described as being embodied in and especially applicable to metallic swimming pools adapted for outdoor use and fabricated of steel plates welded together along the seams thereof with the aid of elongated U-shaped channel members to present a pool of a particular design, it is not intended or desired to thereby unnecessarily limit or restrict the invention and its utility since it may obviously be advantageously utilized in the ice rinks and fabricated tanks intended for other purposes and of various desired designs. It is also contemplated that certain specific descriptive terms used herein shall be given the broadest possible interpretation consistent with the disclosure.

Referring to the drawing, the present invention is shown therein as being embodied in a typical rectangular swimming pool or tank 5 having a bottom 6 sloping gradually from one end in the shallow zone 7 and dipping more sharply in the deep zone 8, the bottom being bounded on opposite sides by walls 9, 10 and at opposite ends by walls 11, 12.

In accordance with the invention, the tank 5, and particularly the bottom 6 thereof, comprises, in general, a plurality of longitudinally and laterally alined metallic plates 13 of suitable thickness to impart the necessary rigidity, while permitting a certain amount of flexibility, the plates 13 being disposed in edge-abutting relation; a plurality of elongated inverted trough-shaped or channel-shaped metallic joining members 14 extending in end-to-end relation along the abutting longitudinal and transverse edges of the adjacent sheets 13, the trough-shaped joining members 14 each having the mid portion of its base 15 seated against the abutting edges of the adjacent plates or sheets 13 with the legs or sides 16, 17 of the member 14 projecting outwardly away from the plates 13; and means interconnecting the abutting edges of the plates or sheets 13 and the mid portion of the base 15 of each member 14 by fushion as indicated at 19 to provide watertight longitudinal and transverse seams.

The plates 13 are preferably of steel and may be preformed to the proper sizes and shapes at the factory for ready assembly in the field, the plates being for the most part interchangeable but being cut to different trapezoidal or triangular shapes wherever necessary to conform with desired pool contours. The joining members 14 may likewise be varied in shape and size but are preferably of readily available channel bar stock of elongated U-shape as shown; and these members should also preferably be of a metal which is receptive to welding so that the fused seams 19 may conveniently be formed by welding at the site of the tank, the welds 19 of course extending the entire length of each longitudinal and transverse seam. The backing and joining members 14 should be placed along each and every seam as shown

in Figs. 3 and 4 since shrinkage and resultant buckling and distortion of the plates **13** will otherwise occur; and although the shrinkage may be somewhat reduced by reinforcing members of different shapes, warping and distortion has been found to be virtually eliminated through use of the trough-shaped members **14** when the weld **19** is located along a mid portion of the base **15** of the joining member between the sides **16**, **17** as shown and described. A suitable drain **18** may also be provided in the usual manner at the lowest point in the tank bottom **6**, and a fresh water inlet, not shown, should also be provided in a customary manner.

From the foregoing detailed description, it is believed apparent that the present invention contemplates the provision of a tank or pool which may be readily fabricated at relatively low cost and which is extremely flexible in its adaptations. While the bottom only has been shown and described as being fabricated of the edge-abutting plates **13** and joining members **14** with the aid of welding, it is believed obvious that the side walls **9**, **10** and end walls **11**, **12** may be formed to good advantage in the same manner. The tank **5** may also be varied as desired from the rectangular shape shown and described herein, and the bottom **6** may, of course, be sloped from the sides as well as from the ends of the tank. In addition to the elimination of warping and distortion due to welding, the members **14** aid in reinforcing the assemblage and are economical to use, and the improved structure likewise provides for perfect weld penetration in all joints thereby insuring a watertight seam construction. As hereinabove indicated, the parts may all be pre-formed at the factory for quick and easy assembly and final fabrication on the job, and the improved tank structure has proven highly successful in every respect in actual commercial use.

It should be understood that it is not desired or intended to limit this invention to the exact details of construction or mode of use herein shown and described, since various modifications within the scope of the appended claims may occur to persons skilled in the art to which this invention pertains.

I claim:

1. A watertight tank structure comprising, a plurality of metallic plates disposed in edge-abutting relation, a trough-shaped metallic joining member extending along and seated against the abutting edges of adjacent sheets, and means interconnecting said abutting edges and the base of said joining member immediately adjacent said abutting edges by fusion.

2. A watertight tank structure comprising, a plurality of metallic plates disposed in edge-abutting relation, an inverted trough-shaped metallic joining member extending longitudinally along and having its base seated against the abutting edges of adjacent sheets, and means interconnecting said abutting sheet edges and the adjacent portion of the base of said joining member by fusion.

3. A watertight tank structure comprising, a plurality of metallic plates disposed in edge-abutting relation, an inverted trough-shaped metallic joining member extending longitudinally along the abutting edges of adjacent sheet with the mid portion of the base of said joining member seated against said abutting sheet edges, and means interconnecting said abutting sheet edges and the mid portion of the base of said joining member by fusion.

4. A watertight tank structure comprising, a plurality of metallic plates disposed in edge-abutting relation, and an elongated inverted U-shaped metallic joining member extending longitudinally along and having the mid portion of its base seated against the abutting edges of adjacent sheets with the legs thereof extending outwardly away from said sheets, said abutting sheet edges and the adjacent mid portion of the base of said joining member being interconnected by welding.

5. A swimming pool structure comprising, a plurality of metallic plates disposed in edge-abutting relation, a series of elongated inverted trough-shaped metallic joining members extending in end-to-end relation longitudinally along and having the mid portions of their bases seated against the abutting edges of adjacent sheets, and common means interconnecting said abutting sheet edges and the adjacent mid portions of the bases of said joining members by fusion to provide a watertight seam.

6. A swimming pool structure comprising, a plurality of longitudinally and laterally alined metallic plates disposed in edge-abutting relation, a plurality of inverted trough-shaped metallic joining members extending along the abutting longitudinal and transverse edges of adjacent sheets with the mid portions of the bases of said joining members seated against said abutting sheet edges, and means interconnecting said abutting sheet edges and the adjacent mid portions of the bases of said respective longitudinal and transverse joining members by fusion to provide watertight longitudinal and transverse seams.

References Cited in the file of this patent

UNITED STATES PATENTS

1,754,516 Johnson ---------- Apr. 15, 1930

OTHER REFERENCES

Koven: "All Steel Swimming Pools" (8 pp. publication) (154 Ogden Ave., Jersey City, N. J.)