



US 20110056011A1

(19) **United States**

(12) **Patent Application Publication**
Drechsel et al.

(10) **Pub. No.: US 2011/0056011 A1**

(43) **Pub. Date: Mar. 10, 2011**

(54) **CORNER ASSEMBLIES FOR SWIMMING POOLS**

Publication Classification

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(51) **Int. Cl.**
E04H 4/00 (2006.01)

(52) **U.S. Cl.** **4/506**

(21) Appl. No.: **12/860,960**

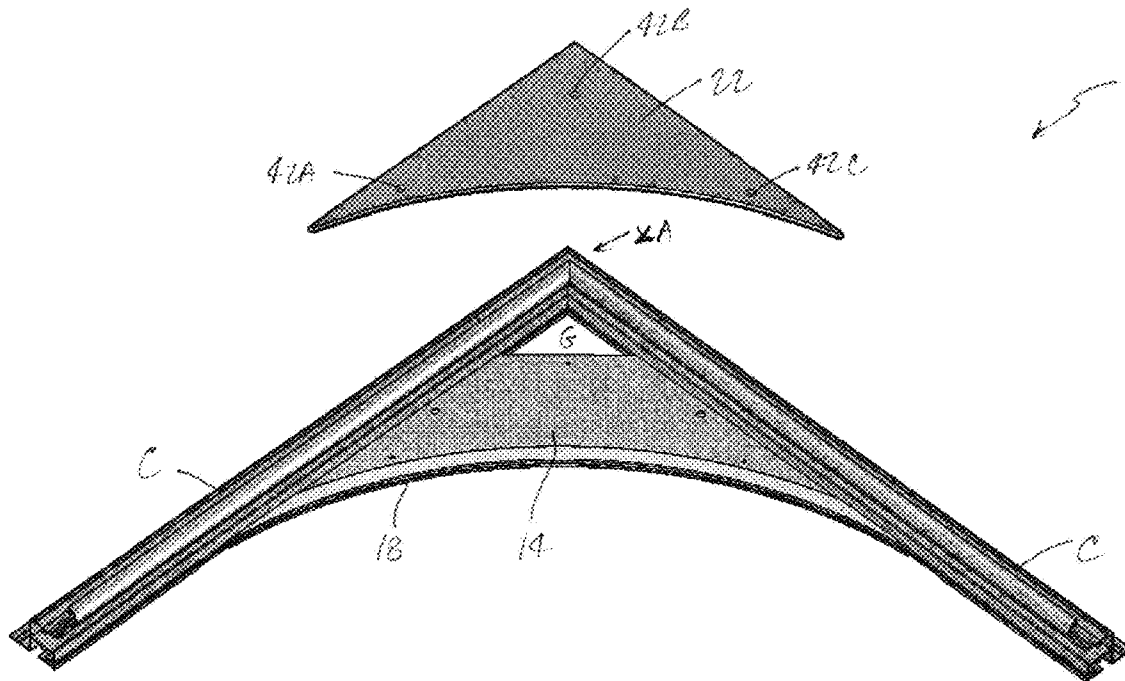
(57) **ABSTRACT**

(22) Filed: **Aug. 23, 2010**

Corner assemblies principally for swimming pools are described. The assemblies include plates lacking any "corner points" or ninety-degree angles and replace, rather than fit into, slots of perimeter coping of pools. A separate cover may be fastened to a corresponding plate and function as either or both of a water barrier or an appearance-enhancing element.

Related U.S. Application Data

(60) Provisional application No. 61/235,720, filed on Aug. 21, 2009.



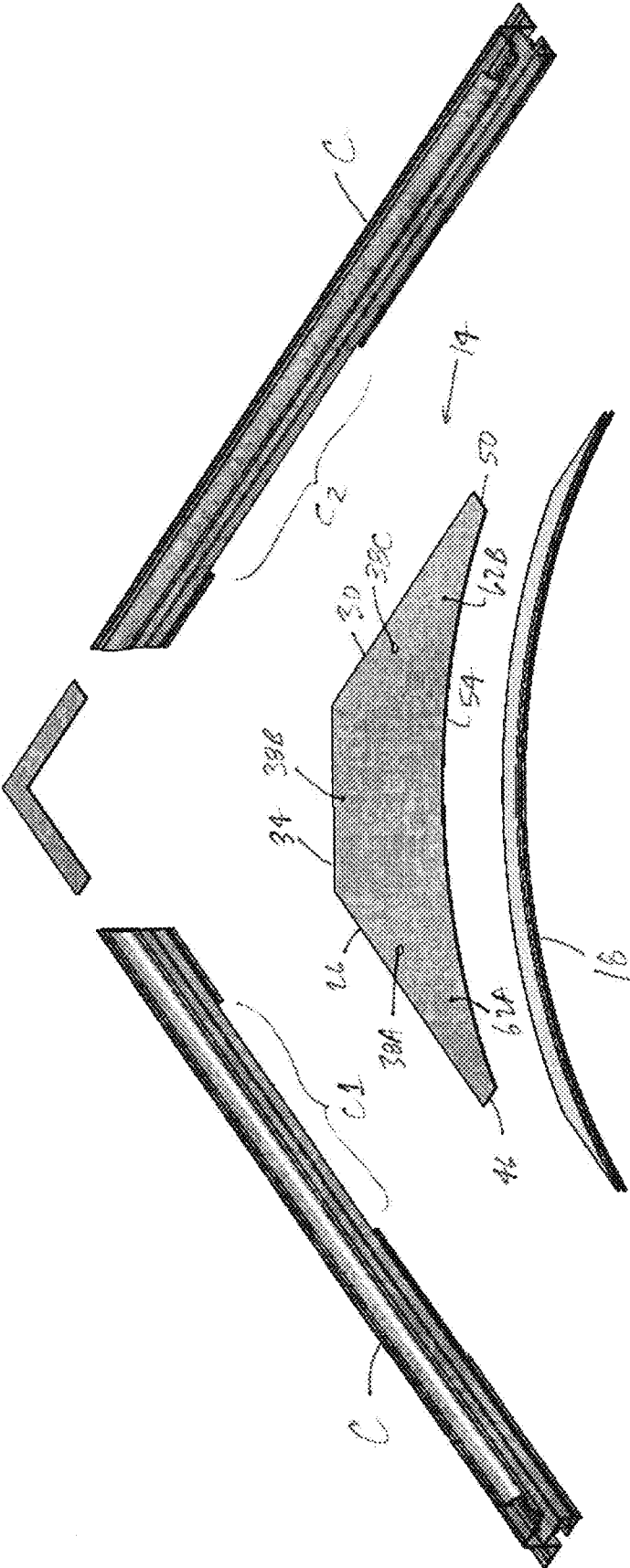


FIG. 1

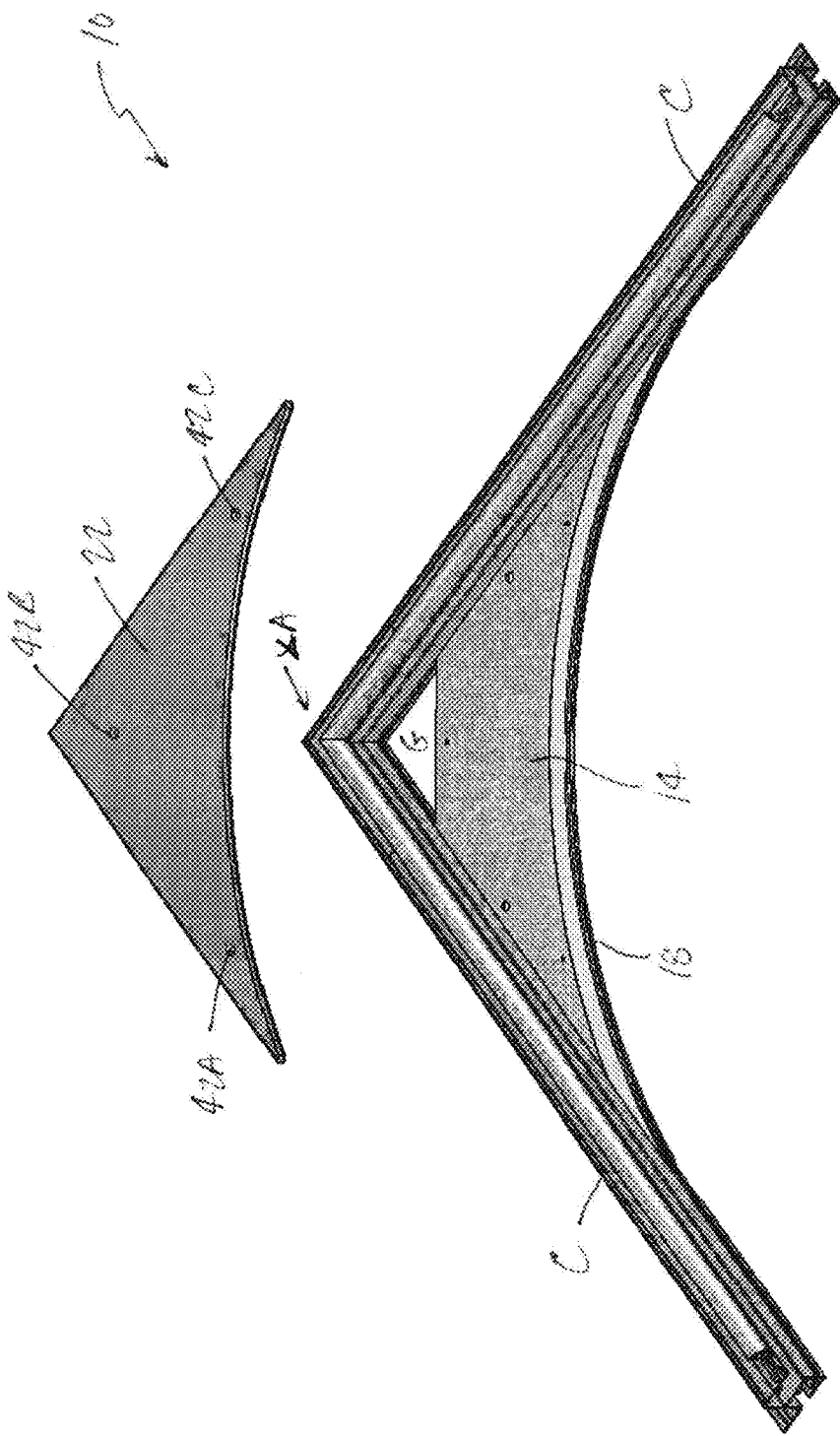
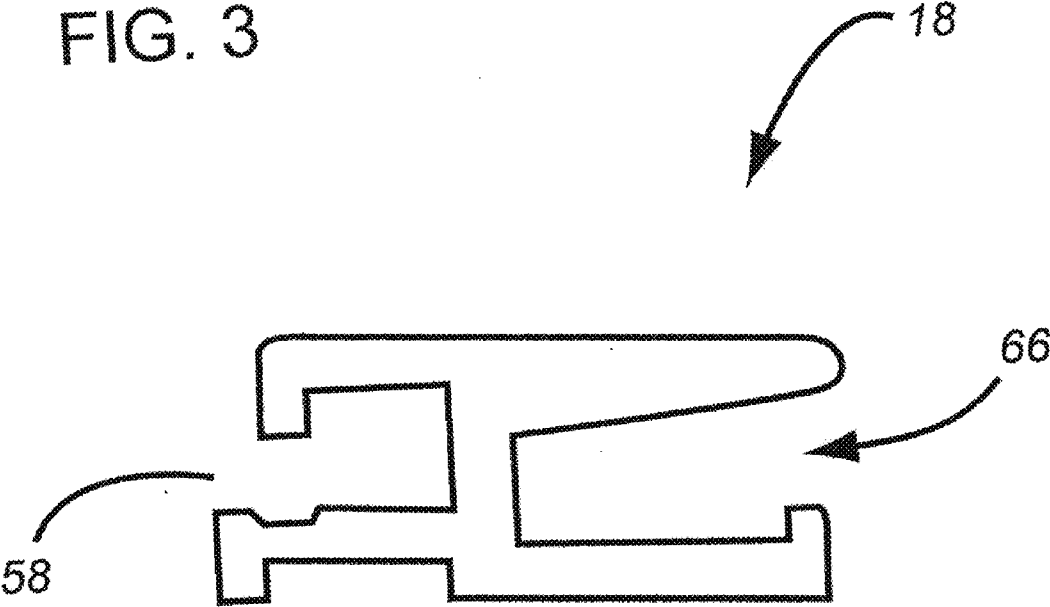


FIG. 2

FIG. 3



CORNER ASSEMBLIES FOR SWIMMING POOLS

REFERENCE TO PROVISIONAL APPLICATION

[0001] This application is based on, claims priority to, and hereby refers to U.S. Provisional Patent Application Ser. No. 61/235,720, filed Aug. 21, 2009, the entire contents of which are incorporated herein by this reference.

FIELD OF THE INVENTION

[0002] The present invention relates to corner assemblies and more particularly, although not necessarily exclusively, to structures for “rounding” corners of swimming pools or other water-containing vessels.

BACKGROUND OF THE INVENTION

[0003] Numerous recreational swimming pools are constructed of multiple side walls and a floor. Flexible liners may then be attached to the walls, both for aesthetic reasons and to provide textured or smoother surfaces which swimmers may contact. These liners often are made of vinyl, although other materials may sometimes be used instead.

[0004] Successfully installing liners has traditionally been a difficult task. This difficulty is exacerbated if side walls intersect at sharp angles; although the liners may be flexible, they often cannot be made to adopt completely the sharp angles of the wall joints. Consequently, undesirable gaps may exist between liners and side walls in corners of pools.

[0005] Liners conventionally are fitted into, and held in place by, slots in coping present about pool perimeters. U.S. Pat. No. 7,114,297 to Mathis, et al., attempts “to provide a modular corner piece with a liner receiving channel for use in constructing curved or rounded corners of a pool.” See Mathis, col. 1, 11. 55-57. According to the Mathis patent, such a piece “avoids producing gaps between the liner receiving channel and the liner slots in the pool walls and . . . provides a corner with an aesthetically pleasant appearance.” See id., 11.65-67.

[0006] The corner piece of the Mathis patent fits into these slots in the perimeter coping of pools. The piece includes a solid plate with two sides both positioned within the slots and intersecting, or meeting, at “a corner point”—depicted and identified in the patent as being a “ninety degree corner.” See id., col. 3, 11. 32-37. The corner piece additionally includes a curved portion having a flange for attachment to the plate. See id., 11.49-59.

SUMMARY OF THE INVENTION

[0007] The present invention provides corner assemblies unlike that of the Mathis patent. Assemblies of the present invention include plates with complex shapes lacking any “corner points” or ninety-degree angles. Although typically made of metal, the plates are not solid, instead including multiple openings through their thicknesses for receiving various fasteners. The assemblies include curved components for receiving pool liners; the curved components lack any attachment flanges in their complex shapes, however.

[0008] Again unlike the corner piece of the Mathis patent, those of the present invention do not fit into slots in coping present about pool perimeters. Instead, such slots must be removed to allow the installation of the present assemblies. Stated differently, in the areas where they are installed, the innovative assemblies replace the slots in the coping.

[0009] Yet additionally, installation of only the plates and curved components of the present invention would not avoid gaps existing between liners and pool walls. The present invention solves this issue in a different way, incorporating a third component in the form of a separate cover. This separate cover, preferably (although not necessarily) made of plastic, may be fastened to a corresponding plate and function both as a water barrier and a means for improving the appearance of the installed assembly.

[0010] It thus is an optional, non-exclusive object of the present invention to provide innovative corner assemblies for pools, spas, or other water-containing vessels.

[0011] It is another optional, non-exclusive object of the present invention to provide corner assemblies including plates lacking any “corner points” or ninety-degree angles.

[0012] It is also an optional, non-exclusive object of the present invention to provide corner assemblies in which the plates are not solid, but rather contain multiple openings permitting connection of a separate cover.

[0013] It is a further optional, non-exclusive object of the present invention to provide corner assemblies that replace coping slots about pool perimeters.

[0014] It is, moreover, an optional, non-exclusive object of the present invention to provide corner assemblies in which the separate cover functions at least as a water barrier.

[0015] Other objects, features, and advantages of the present invention will be apparent to those skilled in the relevant art with reference to the remaining text and the drawings of this application.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is an exploded perspective view of components of an exemplary corner assembly of the present invention together with portions of pool coping.

[0017] FIG. 2 is a partially-exploded perspective view of components of the corner assembly of FIG. 1 as installed, together with a cover of the assembly.

[0018] FIG. 3 is a cross-sectional view of a curved component forming part of the corner assembly of FIGS. 1-2.

DETAILED DESCRIPTION

[0019] Depicted in FIG. 2 are principal components of an exemplary corner assembly 10 of the present invention. As shown in FIGS. 1-2, these components may include plate 14, curved component 18, and cover 22. Also illustrated in these figures is coping C; apparent in FIG. 1 is that portions of coping C (in the regions designated C1 and C2) have been removed (by, for example, milling). Rather than fitting into slots of coping C, assembly 10 replaces the coping C in regions C1 and C2. In this position assembly 10 may be connected to coping C in any appropriate manner, with welds being preferred.

[0020] Clear from FIG. 2 is that coping C may be connected so as to form an angle A of ninety degrees (or approximately so). By contrast, main side segments 26 and 30 of plate 14 do not intersect at a right angle. Indeed, segments 26 and 30 do not intersect in any manner, instead being separated by connecting segment 34. In this way, plate 14 arguably is “truncated,” creating gap G when installed as shown in FIG. 2. Were this gap G to remain post-installation of assembly 10, both liquids (including rain and pool water) and solids (e.g. debris) could come to rest in undesired places.

[0021] However, assembly 10 also includes cover 22 separate and distinct from plate 14. Whereas plate 14 preferably (although not necessarily) is made of metal, cover 22 preferably (although again not necessarily) is made of plastic. In use, cover 22 fits over part of plate 14 and conceals gap G, functioning as a barrier preventing liquids or solids from entering the gap G. Cover 22 additionally may, if desired, present an attractive appearance to users of the pool.

[0022] FIGS. 1-2 depict plate 14 and cover 22 as having three openings 38A-C and 42A-C, respectively. Each pair of openings (e.g. 38A and 42A) may be aligned so as jointly to receive a fastener, connecting cover 22 to plate 18. Those skilled in the appropriate field will, of course, recognize that more or fewer than three attachment openings may be present in either or both of plate 14 and cover 22 and that these components may be attached or abutted in any appropriate way, whether or not fasteners are employed.

[0023] Plate 14 additionally may include minor segments 46 and 50 and curved segment 54. Segment 54 is received by slot 58 (FIG. 3) of curved component 18 so as to connect plate 14 and curved component 18. Preferably such connection includes welds, although other connection means may be substituted. Indeed, it may be possible to connect plate 14 and curved component 18 in other manners either with or without using fasteners (e.g., via a friction or snap fit or with bolts or screws), although those approaches are not presently preferred.

[0024] Opposite component 18 from slot 58 is slot 66. This slot 66 is configured to receive a pool liner. Consequently, the liner may be curved throughout the corner of the associated pool, even though coping C meets at a right angle (i.e. lacks curvature).

[0025] Sizing of assembly 10 may differ depending on various characteristics of the pool or other vessel with which it is used. Presently preferred are versions of assembly 10 in which the radius of curvature of curved component 18 is either approximately six or approximately twenty-four inches. Other versions may, however, be made instead.

[0026] The foregoing is provided for purposes of illustrating, explaining, and describing embodiments of the present invention. Modifications and adaptations to these embodiments will be apparent to those skilled in the art and may be made without departing from the scope or spirit of the invention. Additionally, the contents of the Mathis patent are incorporated herein in their entirety by this reference.

What is claimed is:

1. An assembly configured to receive a pool liner, comprising:

- a. a plate having a plurality of segments, with adjacent segments of the plurality intersecting at other than right angles;

- b. a curved component comprising:
 - i. a first slot for receiving the plate; and
 - ii. a second slot for receiving a pool liner; and
- c. a cover configured to fit over at least part of the plate in use.

2. An assembly according to claim 1 in which the plurality of segments comprise (a) first and second main side segments and (b) a connecting segment separating the first and second main side segments.

3. An assembly according to claim 2 (a) defining a gap bounded by the connecting segment and the hypothetical extensions of the first and second main side segments until they intercept and (b) in which the cover also fits over the gap in use.

4. An assembly according to claim 3 in which the plurality of segments further comprise a curved segment received by the first slot in use.

5. An assembly according to claim 4 in which the first slot is curved.

6. An assembly according to claim 5 in which the second slot is curved.

7. An assembly according to claim 6 in which the plurality of segments further comprise first and second minor segments.

8. An assembly according to claim 7 in which the first minor segment separates the first main side segment and the curved segment.

9. An assembly according to claim 8 in which the second minor segment separates the second main side segment and the curved segment.

10. An assembly according to claim 9 in which the plate has an opening and the cover has an opening alignable with the opening of the plate for receiving a fastener.

11. An assembly according to claim 10 in which the plate is metallic, the cover is plastic, and the cover is configured as a water barrier.

12. An assembly according to claim 11 configured to replace at least some coping of a pool.

- 13. A swimming pool comprising:
 - a. a liner;
 - b. an assembly comprising:
 - i. a plate having a plurality of segments, with adjacent segments of the plurality intersecting at other than right angles;
 - ii. a curved component comprising:
 - A. a first slot for receiving the plate; and
 - B. a second slot for receiving the liner; and
 - iii. a cover configured to fit over at least part of the plate in use; and
 - c. coping to which the assembly is connected, with the assembly not fitting into any slot of the coping.

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