**Title:** POOL TABLE FRAME

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**ABSTRACT**

A pool table frame includes a set of horizontal beams for supporting a playing surface. The set of horizontal beams includes at least two side beams extending longitudinally along opposed sides of the frame, and at least two end beams extending transversely along opposed ends of the frame and generally between the side beams, the end beams each having a longitudinal extent about half that of the side beams. Each side beam includes beam segments extending lengthwise of the respective side beam, each beam segment having a longitudinal extent generally equal to or less than the longitudinal extent of the end beams. A plurality of legs are mounted beneath the set of horizontal beams.
POOL TABLE FRAME

[0001] This application claims the benefit of Provisional Application No. 61/059,459, filed Jun. 6, 2008, which is hereby incorporated herein by reference.

FIELD

[0002] The present application relates to pool tables, and more specifically, to pool table frames.

BACKGROUND

[0003] Pool tables generally comprise a playing surface usable for various games and activities, and a frame supporting the surface.

[0004] U.S. Pat. No. 6,926,613 (Binning) discloses a pool table having a plurality of corner assemblies which allow the pool table to be easily disassembled while concomitantly allowing the pool table to be sturdy.

SUMMARY

[0005] Pool table frames typically comprise at least one unitary support segment extending along the length of the pool table frame. For example, typical 4'x8' pool tables comprise two 8' long rails extending along the length of the pool table, and two approximately 4' long rails extending along the width of the pool table. The 8' long members can increase the difficulty and cost of shipping or storing the frame.

[0006] The present specification relates to pool table frames that may be disassembled to be efficiently shipped and stored, and re-assembled to provide a structurally sound and aesthetically pleasing pool table frame. For example, embodiments of the present invention may provide a frame for an 8'x4' pool table, which may be shipped and stored in an approximately 4'x4' container, thus providing an efficient use of space, as well as reduced shipping costs. Furthermore, in some embodiments, when assembled, the frame may provide the appearance of a standard pool table, and thus be aesthetically pleasing.

[0007] According to one example, a pool table frame comprises a frame body comprising at least two frame ends, and at least two frame sides extending between the at least two frame ends. Each frame side comprises at least two longitudinally extending frame segments coupled together to form each frame side such that in use, the frame segments bear at least some of the weight of a pool table surface. Each frame segment has a length that is less than or equal to half of a length of each frame side. A plurality of legs extends from the frame body.

[0008] In some examples, each frame side can comprise two frame segments of substantially equal length. Each frame segment can be, for example, about 4 feet in length.

[0009] In some examples, the at least two frame segments can be coupled together at end faces thereof to form a seam therebetween. An ornamental cover piece can be coupled to an outer surface of the frame side to at least partially conceal the seam. The at least two frame segments can be coupled together with at least one cam-and-dowel. A bracing segment can be coupled to an inner surface of the at least two frame segments to support the at least two frame segments at the seam.

[0010] In some examples, the pool table frame can include a plurality of ribs extending between the two frame sides. The at least two frame segments can be coupled together at end faces thereof to form a seam therebetween, and at least one of the ribs extends between the at least two frame sides at the seams thereof. In some examples, the pool table frame can comprise at least one rib extending between the at least two frame ends.

[0011] In some examples, each frame segment can comprise a first width at a first end thereof, and a second width greater than the first width at a second end thereof. The at least two frame segments can be coupled together at the first ends thereof. The at least two frame segments can be coupled to the at least two frame ends at the second ends thereof. The frame ends and the frame segments can be fabricated from a material selected from the group consisting of oak, maple, and mahogany.

[0012] In some examples, a frame for a billiard table or pool table comprises a set of horizontal beams for supporting a playing surface.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. 1 is a perspective illustration of a pool table comprising an embodiment of a pool table frame of the present invention;

[0014] FIG. 2 is a perspective illustration of the pool table frame shown in FIG. 1;

[0015] FIG. 3 is an exploded view of an embodiment of a frame side of the present invention;

[0016] FIG. 4A is an enlarged exploded view of the region shown in box 4 of FIG. 2;

[0017] FIG. 4B is an enlarged view of an alternate embodiment of the region shown in box 4 of FIG. 2; and

[0018] FIG. 5 is a perspective illustration of an alternate embodiment of a pool table frame of the present invention.

DETAILED DESCRIPTION

[0019] Referring to FIG. 1, a pool or billiard table 10 a frame 12 is shown. In the example shown, pool table 10 is configured for standard pocket billiards; however, it will be appreciated that embodiments of the pool table frame of the present invention may be incorporated in to various pool tables of various configurations, and the invention is not limited in this regard. For example, the pool table frame may be incorporated into a snooker table or a carom billiards table. Furthermore, the pool table frame may be incorporated into a table having various configurations of obstacles, cushions, bumpers, markings, or other optional features.

[0020] In the example shown, the pool table 10 comprises a playing surface 14, which is generally supported by the pool table frame 12. The playing surface may comprise, for example, a base of slate covered with baize or worsted wool, as is known in the art.

[0021] Referring to FIG. 2, the frame 12 comprises a frame body 16, and a plurality of legs 18 extending from the frame body. The frame body 16 serves to support the playing surface 14, and the legs 18 serve to support the frame body 16. In the example shown, the frame 12 comprises four legs; however, in alternate examples, the frame 12 may comprise an alternate number of legs, for example six legs.

[0022] Referring still to FIG. 2, the frame body 16 comprises a set of horizontal beams including at least two frame ends 20 (or end beams 20), and at least two frame sides 22 (or side beams 22) extending between the at least two frame ends 20. In the example shown, the frame body 16 comprises two
frame ends 20a, 20b, and two frame sides 22a, 22b, configured such that the frame body 16 is substantially rectangular having corner regions 23a-23d. Each of the frame ends 20 and frame sides 22 bear at least some of the weight of the playing surface 14.

[0021] The size of each of the frame ends 20 and frame sides 22 may vary depending on the size and configuration of the pool table 10 into which frame 12 is incorporated. In some embodiments, frame 12 may be incorporated into a 4' by 8' pool table. In such embodiments, frame ends 20 may have a length L_x of about 4', and frame sides 22 may have a length L_y of about 8'. In other embodiments, frame 12 may be incorporated into a pool table of another size, for example 3'6"x7', 4'x8', 5'x10', 6'x12', or 9'6"x5'10". In such embodiments, frame ends 20 may have a length equal to the width of the pool table 10, and frame sides 22 may have a length equal to the length of the pool table 10.

[0024] The end beams (or frame ends) 20 each can be constructed of a single unitary member 21. Member 21 may comprise, for example, a length of oak, maple, mahogany, or another type of wood. The width (i.e., vertical extent in the assembled table 10) of member 21 may vary depending on the size and configuration of the pool table 10 into which frame 12 is incorporated. In some examples, the width may be about 10 inches.

[0025] Referring to FIG. 3, each side beam 22 comprises at least two longitudinally extending beam segments 24 coupled together (generally end-to-end) to span the length of the frame 12. The beam segments 24 are structural, load-bearing members of the frame 12. Each beam segment 24 generally bears at least some of the weight of the playing surface 14.

[0026] In the example shown, each side beam 22 comprises two beam segments 24a, 24b. In other examples, one or more of the side beams 22 may comprise greater than two beam segments 24. For example, each side beam 22 may comprise three beam segments 24.

[0027] Referring to FIG. 3, in the example shown, each beam segment 24 comprises an inner surface 36 directed towards the frame interior, an outer surface 38 opposite the inner surface 36, and first and second opposed ends 26 and 28, respectively. In the example shown, the second ends 26 of each beam segment 24 along each side of the frame 12 are directed outwardly with respect to the lengthwise center of the frame 12. The first ends 26 of the two beam segments 24 on each side of the frame 12 are directed towards each other. The first and second ends 26, 28 need not be parallel to each other.

[0028] Each beam segment 24 has a longitudinal extent or length L_SEG (i.e., the longest distance between first end 26 and second end 28) that is less than or equal to half of the longitudinal extent or length L_x of each frame side (i.e., the longest distance between second ends 26 of each frame segment 24 forming each frame side). For example, when the frame 12 is incorporated into a 4’x8’ pool table, the length L_x of each frame end (end beam) 20 may be about 4’, the length L_y of each frame side (side beam) 22 may be about 8’, and the length L_SEG of each beam segment 24 may be approximately 4’. Accordingly, when disassembled, the beam 12 may be shipped and stored in a container whose maximum dimension is slightly larger than 4’ (i.e., slightly larger than the largest length of the end beams 20 or side beams 22).

[0029] In the example shown, the beam segments 24 are of generally equal length to each other, and are of generally equal length as the end beams 20. However, in alternate embodiments, the beam segments 24 and/or end beams 20 may be of different lengths.

[0030] The beam segments 24a, 24b may be coupled together in a variety of ways. In the embodiment shown, the beam segments 24a, 24b are secured together at a butt-joint. That is, the first ends 26 of each of the beam segments 24a, 24b define an end face 30, and the beam segments 24a, 24b are coupled together by abutting the end faces 30 to form a seam 32 therebetween, and securing the end faces together.

[0031] The end faces 30 may be secured together in a variety of ways. Referring to FIG. 4A, a cam-and-dowel fastener 34 may be used to secure end faces 30 together. The cam-and-dowel fastener 34 may be, for example, a fastener sold under the trademark Minifix®. In the embodiment shown, the cam-and-dowel fastener 34 comprises a dowel 35 fixedly secured in a recess of end face 30 of beam segment 24a, and extending outwardly therefrom, and a cam 37 received in an opposing recess in end face 30 of frame segment 24b. The end faces are secured together by inserting the dowel 35 into the cam 37, abutting the end faces 30, and rotating the cam 37 via a slotted head 39 thereof to tighten the cam 37 about the dowel 35. In the embodiment shown, the cam-and-dowel fastener 34 is configured such that when the inner surface 36 of frame side 22 is viewed, the slotted head 39 of the cam 37 is visible; however, when the outer surface 38 of the frame side 22 is viewed, the cam-and-dowel fastener 34 is hidden.

[0032] In the embodiment shown in FIG. 4A, the frame segments 24 are coupled together using two cam-and-dowel fasteners 43 at each seam 32. However, in alternate embodiments, only one cam-and-dowel fastener may be used, or more than two cam-and-dowel fasteners may be used.

[0033] Alternately, or in addition, the end faces 30 may be secured together by securing a bracing member 34 to the inner surface 36 of segments across the seam 30, as shown in FIG. 4B. The bracing segment 34 may comprise, for example, a longitudinally extending wooden or metal member.

[0034] In yet further alternate embodiments, the end faces 30 may be secured in another manner in order to form a butt-joint therebetween.

[0035] In some examples, as can be seen in FIG. 1, an ornamental piece 48 may be coupled to the outer surface 38 of the side beam 22 to at least partially conceal the seam 32. That is, when the frame 12 is in use in the pool table 10, and a user views the pool table 10, the seam 32 may be concealed, and beam segments 24 may have the appearance of a single unitary member 21. The ornamental piece 48 may comprise, for example, a decorative wooden, metal, ceramic, plastic, or enamel member, and may be coupled to the frame side using an adhesive, or a fastener such as a screw, or nail.

[0036] In alternate embodiments, rather than coupling the beam segments 24 together at a butt-joint, the beam segments 24 may be coupled together by partially overlapping portions thereof, and securing the portions together (not shown). In yet further alternate examples, the beam segments 24 may be coupled together indirectly. That is, an intermediate piece may be positioned between the beam segments 24, and may be coupled to each of the beam segments 24 to secure the beam segments 24 together (not shown).

[0037] The beam segments 24 may be of a variety of widths (i.e., vertical extents), depending on the size and configuration of the pool table 10 into which frame 12 is incorporated. In the examples shown, each beam segment 24 has a first width W1 at the first end 26 thereof, and a second width W2 greater than...
the first width \( W_1 \) at the second end \( 28 \) thereof. The first width \( W_1 \) may be, for example about 8 inches, and the second width \( W_2 \) may be, for example, about 10 inches. In alternate embodiments, the width of the beam segment \( 24 \) may be constant over the length of the beam segment \( 24 \).

[0038] In the examples shown, beam segments \( 24 \) comprise a single unitary board, which may comprise, for example, oak, maple, mahogany, or another type of suitable wood.

[0039] The side beams \( 22 \), including the beam segments \( 24 \), and the end beams \( 20 \) may be coupled together to form the frame body \( 16 \) according to a variety of known methods. For example, side beams \( 22 \) and end beams \( 20 \) may be oriented at right angles to each other to form a rectangle, and may be secured together using cam-and-dowel-fasteners \( 34 \). Alternatively, the side beams \( 22 \) and the end beams \( 20 \) may be coupled together in another manner.

[0040] Referring again to FIG. 2, frame \( 12 \) may further comprise one or more cross-beams or ribs \( 42 \) which provide additional support to frame \( 12 \). In the embodiment shown, frame \( 12 \) comprises two transverse ribs \( 44a, 44b \), extending between the side beams \( 22 \), and three longitudinal ribs \( 46a, 46b, 46c \) extending respectively between the end beam \( 20a \) and the transverse rib \( 44a \), between the transverse ribs \( 44a \) and \( 44b \), and between the transverse rib \( 44b \) and the end beam \( 20b \).

[0041] In an alternate embodiment, shown in FIG. 5, the frame \( 12 \) may additionally comprise a third transverse rib \( 44c \) extending between the frame sides. In this example, the third transverse rib \( 44c \) extends between the side beams \( 22 \) at seams \( 32 \). Accordingly, rib \( 44c \) may provide additional support to the butt-joint at seams \( 32 \).

[0042] In further alternate examples, the frame \( 12 \) may comprise an alternate configuration and number of ribs.

[0043] Ribs \( 44 \) and \( 46 \) may be fabricated from a variety of materials, including oak, mahogany, maple, or another type of wood. Ribs \( 44 \) and \( 46 \) may be coupled to each other, to the frame ends, and/or to the frame sides according to a variety of known methods, for example using screws.

[0044] As mentioned hereinabove, frame \( 12 \) comprises a plurality of legs \( 18 \) extending downwardly from the frame body \( 16 \). The legs \( 18 \) may be of a variety of configurations, and in addition to supporting the frame body \( 16 \), the legs may have various ornamental features. In some particular embodiments, the legs \( 18 \) are sized such that, when the pool table \( 10 \) is in use, the height from the floor to the top of the pool table \( 10 \) is between about 2.5' and about 3'.

[0045] In the embodiment shown, a leg \( 18 \) is positioned at each corner region \( 23 \) of the frame body \( 16 \). The legs \( 18 \) may be secured to the frame body \( 16 \) according to known methods.

[0046] In some embodiments, the frame \( 12 \) of the present specification may be sold, shipped, and/or stored as a kit-of-parts in a disassembled state. For example, the kit-of-parts may comprise, for example, two end beams \( 20 \), four beam segments \( 24 \), and four legs \( 18 \). The kit-of-parts may optionally further comprise a plurality of connectors, such as cam-and-dowel connectors, a plurality of ribs, a plurality of bracing members, and a plurality of ornamental members.

[0047] The kit-of-parts may comprise parts for various sizes of pool tables. For example, the kit of parts may comprise parts for an 8'x4' pool table. In such case, because the side beams \( 22 \) comprise beam segments \( 24 \) which have a length that is less than half of the length of the side beam \( 22 \), the kit-of-parts may be shipped, stored, and sold in a container having a maximum dimension of only slightly larger than 4'.

[0048] It will be appreciated that certain features of the invention, which are, for clarity, described in the context of separate embodiments or separate aspects, may also be provided in combination in a single embodiment. Conversely, various features of the invention, which are, for brevity, described in the context of a single embodiment or aspect, may also be provided separately or in any suitable sub-combination.

[0049] Although the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, it is intended to embrace all such alternatives, modifications and variations that fall within the spirit and broad scope of the appended claims. In addition, citation or identification of any reference in this application shall not be construed as an admission that such reference is available as prior art to the present invention.

1. A frame for a billiard table, comprising:
   a) a set of horizontal beams for supporting a playing surface, the set of horizontal beams including at least two side beams extending longitudinally along opposed sides of the frame, at least two end beams extending transversely along opposed ends of the frame and generally between the side beams, the end beams each having a longitudinal extent about half that of the side beams;
   b) each side beam comprising beam segments extending lengthwise of the respective side beam, each beam segment having a longitudinal extent generally equal to or less than the longitudinal extent of the end beams; and
   c) a plurality of legs mounted beneath the set of horizontal beams.

2. A billiard table, comprising:
   a) a set of horizontal beams including at least two side beams extending longitudinally along opposed sides of the table, at least two end beams extending transversely along opposed ends of the table and generally between the side beams, the end beams each having a longitudinal extent about half that of the side beams;
   b) each side beam comprising beam segments extending lengthwise of the respective side beam, each beam segment having a longitudinal extent generally equal to or less than the longitudinal extent of the end beams;
   c) a flat playing surface (e.g. comprising slate) mounted atop the set of horizontal beams; and
   d) a plurality of legs mounted beneath the set of horizontal beams.

3. A pool table frame comprising
   a) a frame body comprising at least two frame ends, and at least two frame sides extending between the at least two frame ends;
   b) each frame side comprising at least two longitudinally extending frame segments coupled together to form each frame side such that in use, the frame segments bear at least some of the weight of a pool table surface;
   c) each frame segment having a length that is less than or equal to half of a length of each frame side; and
   d) a plurality of legs extending from the frame body.

4. The pool table frame of claim 3, wherein each frame side comprises two frame segments of substantially equal length.

5. The pool table frame of claim 4, wherein each frame segment is about 4 feet in length.
6. The pool table frame of claim 3, wherein the at least two frame segments are coupled together at end faces thereof to form a seam therebetween.

7. The pool table frame of claim 6, further comprising an ornamental piece coupled to an outer surface of the frame side to at least partially conceal the seam.

8. The pool table frame of claim 6, wherein the at least two frame segments are coupled together with at least one cam-and-dowel fastener.

9. The pool table frame of claim 6, further comprising a bracing member coupled to an inner surface of the at least two frame segments to support the at least two frame segments at the seam.

10. The pool table frame of claim 3, further comprising a plurality of ribs extending between the two frame sides.

11. The pool table frame of claim 3, wherein the at least two frame segments are coupled together at end faces thereof to form a seam therebetween, and wherein at least one of the ribs extends between the at least two frame sides at the seams thereof.

12. The pool table frame of claim 3, further comprising at least one rib extending between the at least two frame ends.

13. The pool table frame of claim 3, wherein each frame segment comprises a first width at a first end thereof, and a second width greater than the first width at a second end thereof.

14. The pool table frame of claim 13, wherein the at least two frame segments are coupled together at the first ends thereof.

15. The pool table frame of claim 14, wherein the at least two frame segments are coupled to the at least two frame ends at the second ends thereof.

16. The pool table frame of claim 3, wherein the frame ends and the frame segments are fabricated from a material selected from the group consisting of oak, maple, and mahogany.

17. A pool table comprising the pool table frame of claim 3.

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