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Lundstrom

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[54] **INVERTIBLE FLOATING GAME BOARD WITH PING-PONG AND POOL TABLE SURFACES**

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[21] Appl. No.: **294,640**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 163,909, July 19, 1971, abandoned.

[52] **U.S. Cl.**..... **273/5 R,** 114/.5 F, 273/3 R, 273/6, 273/8, 273/12, 273/30, 273/136 R, 273/DIG. 2, 273/DIG. 8

[51] **Int. Cl.**..... **A63d 15/04,** A63b 67/04

[58] **Field of Search**..... 273/2, 3 R, 3 A, 4 C, 5 R, 273/6, 8, 12, 30, 136 H, DIG. 2, DIG. 8, 136 R; 272/1 B; 9/11 R; 114/.5 F, 206 R

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Primary Examiner—Richard C. Pinkham
Assistant Examiner—R. T. Stouffer
Attorney, Agent, or Firm—Bayard Jones; Foster York

[57] **ABSTRACT**

An invertible floating game board provides one hard dense surface for ping-pong and the other for pool. One embodiment comprises a box of molded plastic, the interior being filled with low density (one to three pounds/cubic foot) foamed polystyrene or polyurethane. The pool table surface has a rail around it and pockets in the corner. The pockets are provided with drain holes which drain water when the pool table surface is uppermost and which vent air when the Ping-pong table surface is uppermost. The Ping-pong table surface has a removable barrier or "net." The game board is preferably anchored in a swimming pool by two weights, one for each side, connected by ropes to the midpoint of each side of the board. In a second embodiment, side walls are glued to the side edges of a sandwich structure comprising the foamed plastic and hard surface layers.

12 Claims, 11 Drawing Figures

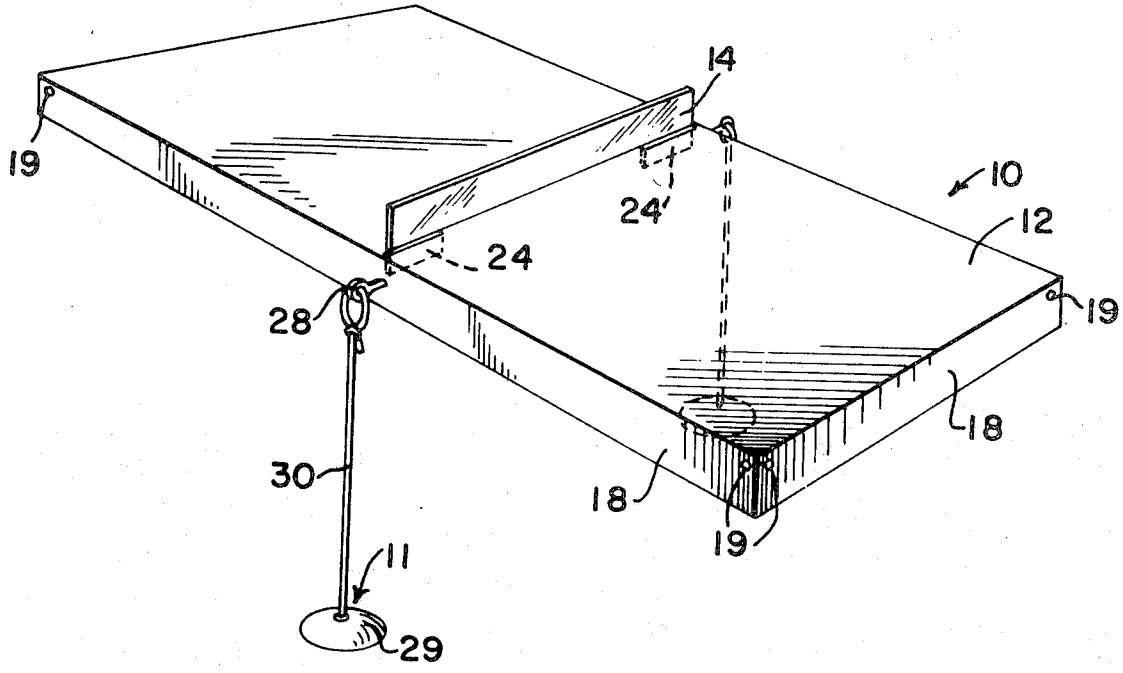


FIG. 1

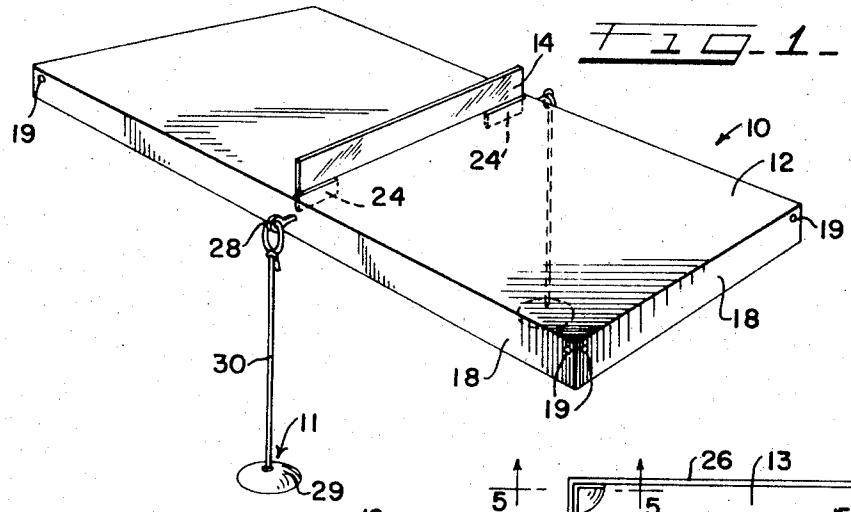
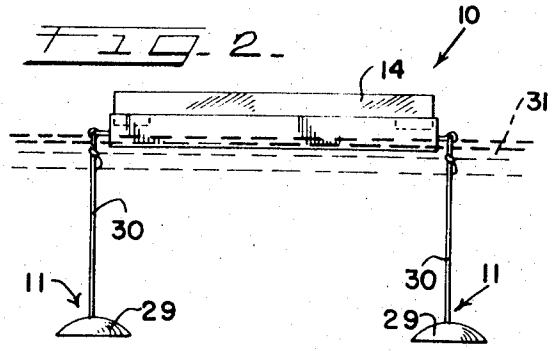


FIG. 2



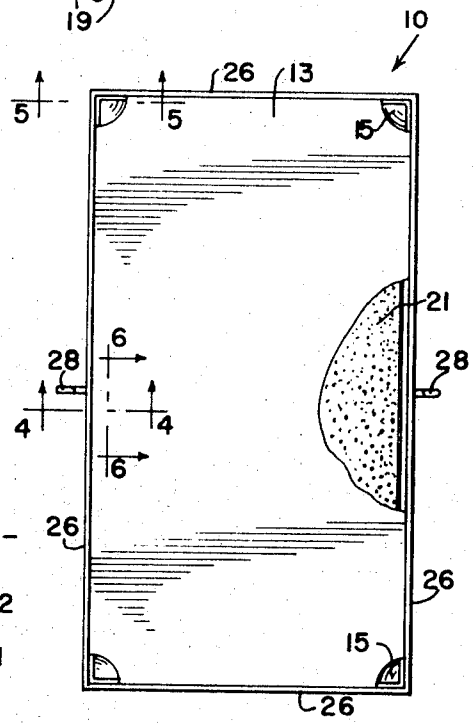


FIG. 3

FIG. 4

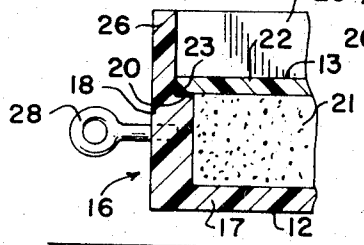


FIG. 6

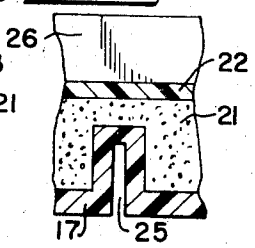


FIG. 5

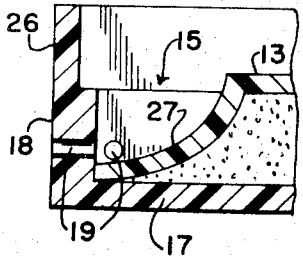
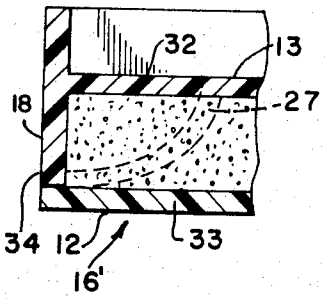


FIG. 7



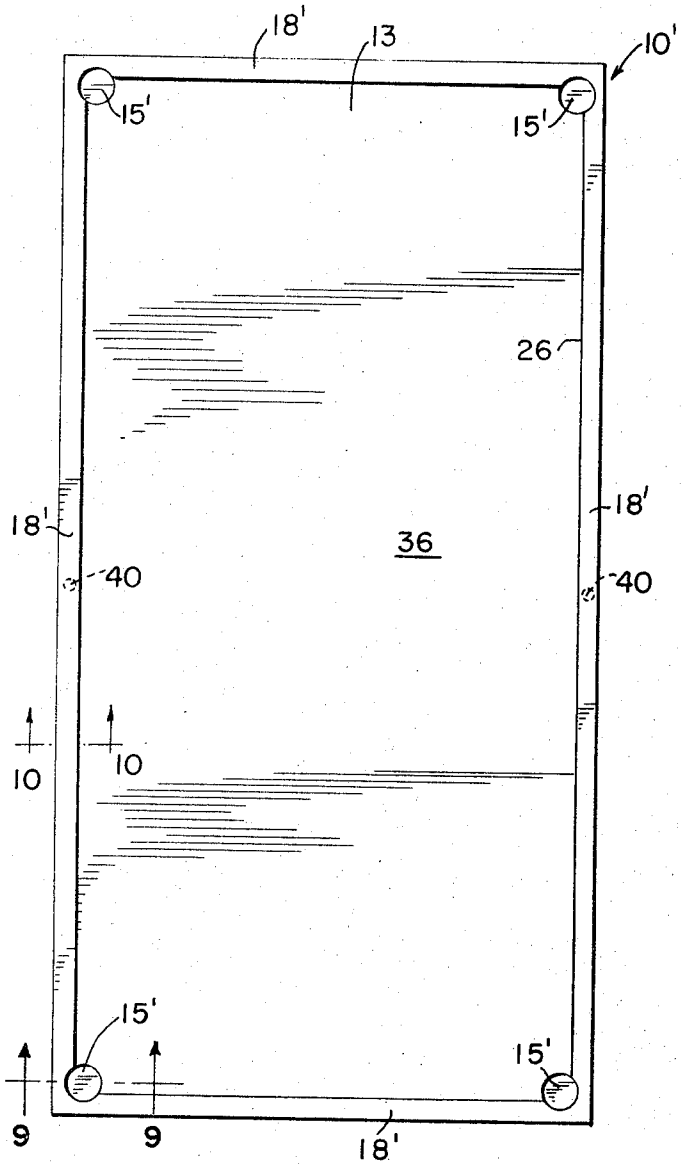


FIG. 8

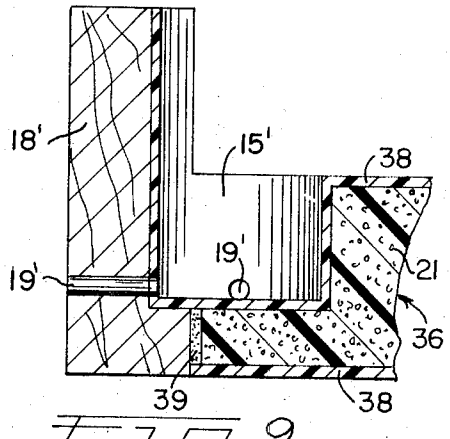


FIG. 9

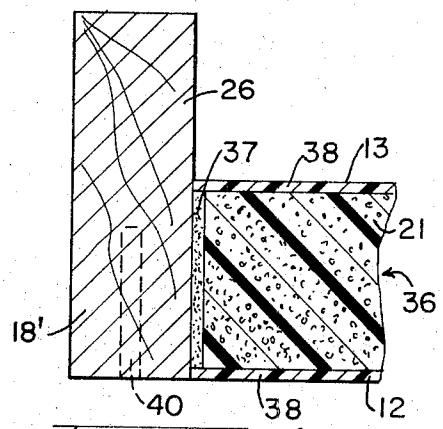


FIG. 10

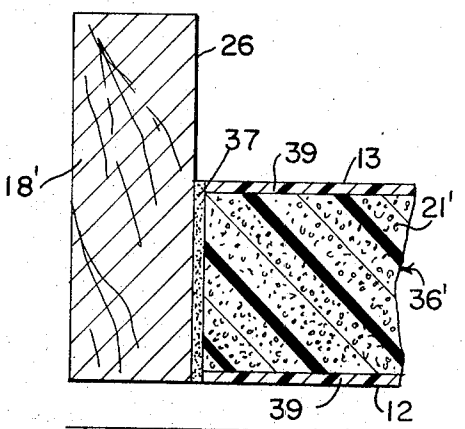


FIG. 11

INVERTIBLE FLOATING GAME BOARD WITH PING-PONG AND POOL TABLE SURFACES

This application is a continuation-in-part of my co-pending application Ser. No. 163,909, filed July 19, 1971, now abandoned.

This invention relates to a floating game board.

An object of the invention is to provide a floating game board for use in swimming pools. I have found that the movement of the board introduces additional factors of chance, or skill, or both, into certain games involving a rolling or a bouncing ball.

For instance, in Ping-pong, the bounce of the ball is affected both by the angle of the table with respect to the horizontal and by the direction and rate of movement.

In a pool-type game, the path of the rolling ball is also affected, requiring the development of skills not encountered on the usual stationary pool table.

Although the game board may be free-floating, preferably I provide means for anchoring it at the shallow end of the pool so that the players can stand on the pool bottom while playing. The anchoring means is arranged so as to permit the board to pitch or roll under the action of any waves which may be present in the pool. Lacking such waves, the board may be set into motion manually.

One of the problems encountered in the design of such a board is to provide a surface which is sufficiently hard and smooth as to be suitable for the particular game, such as Ping-pong or pool, and at the same time to incorporate into the board sufficient buoyancy as to cause it to float, and preferably above the mean water level. More specifically, the density of the material suitable for such a surface is generally incompatible with the amount of buoyancy required to provide a playing surface which is substantially buoyancy from overlapping waves.

Furthermore, a hollow board is not particularly suitable because of the improbability of maintaining a hollow structure free from cracks or leaks, considering the usage encountered in handling the board.

According to my invention, I provide a game board having a central portion comprising a block of a low density foamed plastic material having hard dense surface providing means overlying each surface thereof, the four side edges of the block being protected by side walls which, with respect to one of the surface providing means, extends upwardly and beyond same to provide a rail or cushion for a pool table surface.

The hard dense surface providing means for the pool table and Ping-pong table surfaces may be the horizontal walls of a box-type structure, the interior of which is filled with the foamed plastic material, or they may be the outer elements of a composite structure.

Other objects, features and advantages will become apparent as the description proceeds.

In the drawings:

FIG. 1 is a perspective view of a preferred embodiment of my invention;

FIG. 2 is an end view thereof;

FIG. 3 is a plan view of the reverse side;

FIG. 4 is a section taken along line 4—4 of FIG. 3;

FIG. 5 is a section taken along line 5—5 of FIG. 3;

FIG. 6 is a section taken along line 6—6 of FIG. 3;

FIG. 7 is a view similar to FIG. 4 showing a modified construction;

FIG. 8 is a plan view of a second embodiment of my invention;

FIG. 9 is a vertical section taken along line 9—9 of FIG. 8;

FIG. 10 is a vertical section taken along line 10—10 of FIG. 8; and

FIG. 11 is a view similar to FIG. 10 showing a modified construction.

The game board **10**, as shown in FIG. 2, floats in water **31** of a swimming pool or the like, and is maintained in position by anchor means **11** which rest at the bottom of the pool, preferably in the shallow end. The game board **10** has a central portion bounded by four side walls **18**. As shown in FIGS. 1 and 2, the obverse surface **12**, which faces upwardly, is adapted for a bounding ball game, such as Ping-pong, whereas the reverse surface **13**, shown in FIG. 3 is adapted for a rolling ball game, such as pool. The obverse surface is adapted to receive a net **14** which, in the embodiment shown, is formed of a rigid material such as clear plastic. The reverse surface **13** is provided with pockets **15** at the corners.

The central portion comprises a block **21** of low density foamed plastic material having hard dense surface providing means overlying each surface of the block **21**, such as horizontal members **17, 22**, as shown in FIGS. **3–6**, or such as the outer elements of a composite structure **36** as shown in FIGS. **8–11**.

In FIGS. **3–6**, the four side walls **18** form a part of a box-like structure **16** which also includes a bottom wall **17**. The side walls **18** are provided with a shoulder **20** adapted to receive a cover **22**.

The box structure **16** is preferably a molded plastic piece of a reasonably rigid material. In the alternative, it can be a fabricated structure of a suitable waterproof bonded plywood or hard board having its exposed surfaces covered with a suitable water resistant coating.

Suitable plastic materials are polycarbonate resin and ABS resin, both of which provide a hard dense surface suitable for bouncing and rolling ball-type games. However, certain foamed plastics, sometimes referred to as structural foams, combine a somewhat lower density with satisfactory structural and surface characteristics. A preferred material is an integral skin polyurethane foam, rigid type, having a density of from 20 to 35 pounds per cubic foot. The higher density gives a harder surface, the preferred density being substantially 30 pounds per cubic foot. For a 30 pound density, the wall thickness is substantially ⅜ inches for the bottom **17** and the cover **22** and the upper part **26** of the side walls **18**. The lower part of the side walls is substantially one inch thick.

The interior of the structure is filled with a low density foamed plastic material **21**, such as foamed polystyrene or foamed polyurethane. Preferably, it is in the form of a closed cell board or billet cut to a block of the proper dimensions and having a density of from one to seven pounds per cubic foot, with densities in the one to three pound range being preferred. Thus, substantially the entire interior volume of the space enclosed between the cover **22** and the bottom wall **17** is occupied by the foamed plastic material. The cover **22** is then secured to the shoulder by a suitable cement **23**. In the alternative, the polyurethane foam may be foamed in situ.

All foams mentioned herein, either as constituting the structure **16, 22**, or the block **21**, are water impervi-

ous by virtue either of a closed cell structure, or of an integrally formed skin.

The net **14** is provided with foot portions **24** which extend into and fit into a slot **25** molded into the box-like structure **16,** as shown in FIG. **6,** or end posts fitting into holes **40,** as shown in FIG. **10.**

That portion of the side walls **18** which extend beyond the cover **22** provide a rail or cushion **26** against which the ball rebounds in a rolling ball-type of game, such as pool.

It will be noted that the four corners of the cover are shaped to provide a curved depending portion **27** which form the pockets **15.** The cover **22** is preferably a plastic molded part so that the curved portions **27** are integral with the remainder, although the cover may be formed of a coated plywood or hard board with cut-out corners, and the curved pocket portions **27** can be separate molded parts which are suitably joint to the plywood by a waterproof cement.

Drain holes **19** are preferably provided for each of the pockets as shown in FIGS. **1** and **5.** Whereas the rail **26** cooperates with the high degree of buoyancy in tending to prevent waves from lapping over the surface **13,** when this does occur, one or more of the pockets **15** depending on the slope of the surface acts as a sump to collect this water. Since the surface **13** is normally considerably above the level of the water **31,** the water level within the pocket **15** will be substantially below the surface **13.** If the board is rocking, water collected during the depressed position will drain out of the pocket when it is elevated.

The drain holes **19** also permit the venting of air when the board is in the FIG. **1** position. By preventing the entrapment of air by the rails **26,** the stability of the board is improved.

The midpoints of each side wall **18** have eye bolts **28** extending horizontally therefrom, preferably inserted during the molding operation. The anchor means **11** include a weight **29,** such as a plastic covered metallic body of lead or steel. A flexible rope **30** connects the weight **29** with the eye bolts **28.** The arrangement permits a variation in the length of the anchor so that the board may be located in different depths of the pool. Also, a certain amount of slack may be introduced into the anchoring means to permit a certain degree of roll of the board. If desired, four anchors can be provided, one at each corner of the board, but the present arrangement is preferred because it provides a pivoting action which permits the board to pitch with the waves, which adds to the fun of the game.

The board may be made of any suitable size compatible with the strength of the plastic material of which the parts **16** and **22** are formed. For instance, a board of substantially 3½ by 7½ feet is large enough to afford enjoyment at both Ping-pong and pool type games. In the example shown, foam block **21** is substantially 3½ inches thick, and the total height of the side walls **18** is seven inches.

A modified arrangement is shown in FIG. **7** in which the box-like structure **16'** has a central web **32,** the upper surface of which constitutes the pool table surface **13.** The separate cover part **33,** which is cemented to the lower edge **34** of the side walls **18,** corresponds in function to the bottom wall **17** of FIG. **4** in providing the Ping-pong surface **12.**

This arrangement utilizes a thinner wall section than the FIG. **4** arrangement, and is therefore more suitable for ordinary unfoamed plastic material such as polycarbonate or ABS.

In the embodiment of FIGS. **8–11,** the central portion of the game board is a composite structure **36.** The side walls **18'** are secured to the four side edges of the composite structure **36** by a suitable adhesive **37,** such as an epoxy cement. The side walls **18'** are strips of wood, preferably redwood or cedar 1½ or 2 inches thick. The pockets **15'** extend into the side walls **18',** being formed by drilling. Drain holes **19'** are provided. The side walls also have sockets **40** to receive the end posts of a suitable net (not shown) of clear rigid material like the net **14.** Eye bolts for anchor means may be provided as in FIGS. **1** and **2** but it has been found that the games may be played with a free floating board.

In FIGS. **9** and **10,** the composite structure **36** comprises a foam block **21** and hard dense surface providing means in the form of a coating **38** of a suitable hard setting resin which is compatible with the material of the foam block **21.** For example, with a foamed polyurethane block **21,** a urethane coating may be sprayed on. In the alternative, a sand filled urethane may be flowed on to the foam block, the pockets **15'** being plugged. Then the pocket surfaces may later be provided with a suitable coating. The coating **38** is preferably from 1/16 to ⅛ inch thick. The pool table surface may then be provided with flocking or a water resistant thin fabric which does not detract from the hard and smooth characteristics of the surface providing means **38** which adapt the surface to a rolling ball game.

In the modification of FIG. **11,** the composite structure **36'** is a preformed sandwich comprising a urethane foam **21'** sandwiched between sheets **39** of hard plastic which comprise the hard dense surface providing means.

An important feature of my invention is that by incorporating the low density foamed plastic **21** between two hard dense surface providing means or sheets to provide a sandwich type structure, either playing surface **12** or **13** will extend above the mean water level by 2 or 3 inches, representing from 50 to 75 percent of the distance between those surfaces. Thus, either playing surface is substantially free from water.

Although only preferred embodiments of the present invention have been described herein, it will be understood that various modifications and changes may be made in the constructions shown without departing from the scope of the invention, as pointed out in the appended claims.

I claim:

1. A floating game board comprising a central portion and four side walls, said central portion comprising a block of low density foamed plastic material, first surface providing means overlying one surface of said foamed plastic material, and second surface providing means overlying the other surface, said two surface providing means providing exposed hard dense surfaces suitable for rolling and bouncing ball type of games, said side walls extending beyond said first surface providing means to provide a rail which completely surrounds said first surface providing means, the surface thereof providing a pool table surface, pockets formed at the corners of said first surface providing means, said second surface providing means providing a Ping-pong table surface when said game board is inverted, and means providing a socket for receiving foot portions of a net on said Ping-pong table surface.

2. A floating game board as claimed in claim 1 which includes net means removably mounted on said net receiving means.

3. A floating game board as claimed in claim 1 which includes anchor means, said anchor means including a plurality of weights adapted to rest on a pool bottom, and a rope connecting each weight to said board.

4. A floating game board as claimed in claim 3 in which said anchor means comprises two weights and two ropes, and means located at the midpoint of each longitudinal side edge of said board to which one of said ropes may be secured.

5. A floating game board comprising a central body portion and four side walls, said central body portion comprising a block of low density foamed plastic material, first surface providing means overlying one surface of said foamed plastic material, and second surface providing means overlying the other surface, said two surface providing means providing exposed hard dense surfaces suitable for rolling and bouncing ball type of games, said side walls extending beyond said first surface providing means to provide a rail which completely surrounds said first surface providing means, the surface thereof providing a pool table surface, pockets formed at the corners of said first surface providing means, drain holes extending from said pockets through said side walls, said second surface providing means providing a Ping-pong table surface when said game board is inverted, and means providing a net forming a barrier removably secured to said Ping-pong table surface.

6. A floating game board comprising an open box-like structure having side walls and a bottom wall having an exposed surface, said side and end walls each providing an upwardly facing shoulder, a cover secured to said shoulders and fitting within upper portions of said side and end walls, said upper portions extending beyond said cover to provide a rail which completely surrounds said cover, the upper surface of said cover providing a pool table surface, pockets formed at the corners of said cover, low density foamed plastic material located beneath said cover and substantially filling the space enclosed thereby, and anchor means for locating said game board in a pool, the exposed surface of said bottom wall providing a Ping-pong table surface when said game board is inverted, and means providing a net forming a barrier removably secured to said Ping-pong table surface.

7. A floating game board as claimed in claim 6 in which said box-like structure and said cover are plastic molded parts of polyurethane foam having a density of from 20 to 35 pounds per cubic foot.

8. A floating game board as claimed in claim 7 in which said density is substantially 30 pounds per cubic foot.

9. A floating game board as claimed in claim 7 in which said low density foamed plastic material has a density of from one to seven pounds per cubic foot.

10. A floating game board comprising an open box-like structure having side walls and a central web providing a horizontal wall, said side walls each having an upper portion and a lower portion, the edges of said lower portions being co-planar, a cover secured to said wall edges and providing an enclosed space, one surface of said cover being an exposed surface, said upper portions providing a rail which completely surrounds said horizontal wall, the upper surface of said horizontal wall providing a pool table surface, pockets formed at the corners of said cover, foamed plastic material located within said enclosed space and substantially filling same, and anchor means for locating said game board in a pool, the exposed surface of said cover providing a Ping-pong table surface when said game board is inverted, and means providing a net forming a barrier removably secured to said Ping-pong table surface.

11. A floating game board comprising a central portion and four side walls, said central portion comprising a block of low density foamed plastic material, first surface providing means overlying one surface of said foamed plastic material, and second surface providing means overlying the other surface, said two surface providing means providing exposed hard dense surfaces suitable for rolling and bouncing ball type of games, said side walls extending beyond said first surface providing means to provide a rail which completely surrounds said first surface providing means, the surface thereof providing a pool table surface, pockets formed at the corners of said first surface providing means, said second surface providing means providing a Ping-pong table surface when said game board is inverted, means for mounting a net on said Ping-pong table surface, the density of said block being sufficiently low that the overall density of said game board is less than half the density of water so that either of said surfaces will extend above the mean water level by a distance greater than half of the distance between said table surfaces, said pockets being of a depth greater than half of the distance between said table surfaces, and drain holes communicating with the lower portions of said pockets.

12. A floating game board as claimed in claim 11 in which said drain holes extend from said pockets through said side walls.

* * * * *