May 19, 1964 P. A. LATHAM 3,133,734

BALL RETURN GAME

Filed Sept. 21, 1960

2 Sheets-Sheet 1

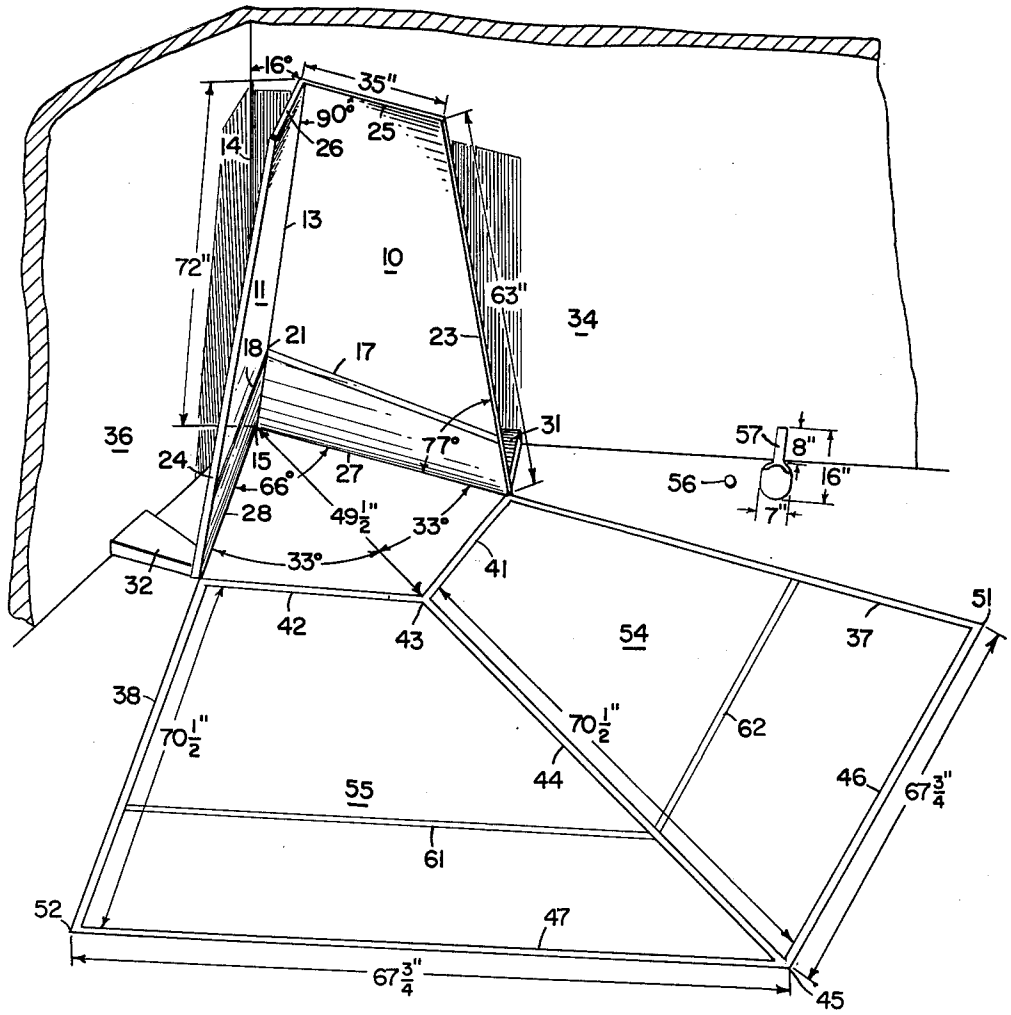


FIG. 1

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FIG. 3

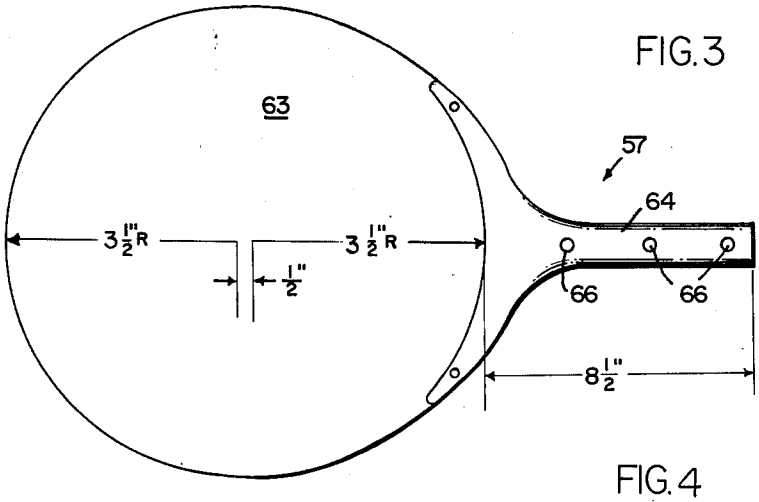
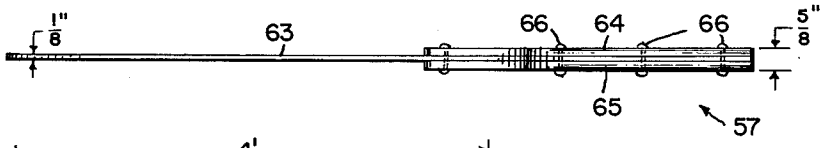


FIG. 4



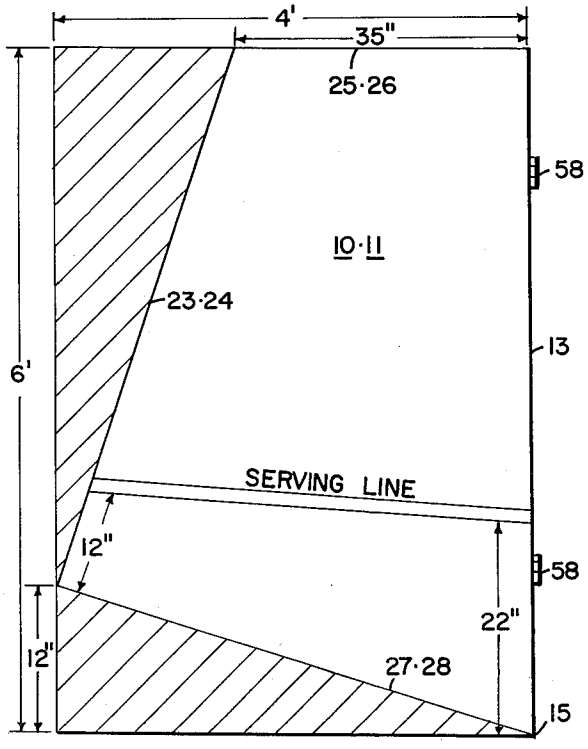


FIG. 2

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United States Patent Office 3,133,734 Patented May 19, 1964

3,133,734

BALL RETURN GAME

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Filed Sept. 21, 1960, Ser. No. 57,580
6 Claims. (Cl. 273—95)

The present invention relates in general to exercise and amusement and more particularly concerns a novel game for providing indoor exercise and amusement in confined areas with an inexpensive structure which is easy to assemble. Yet, this structure negligibly interferes with using the room of its location for other purposes.

Games such as squash and handball have been popular for many years because players enjoy the game while receiving the health benefits of exercise. However, these games require relatively large specially-enclosed areas so that facilities are not available to most individuals except in special locations, such as athletic clubs.

Accordingly, it is an important object of the present invention to provide a game which offers both amusement and exercise in most homes with but little additional equipment while limiting the effective play area.

It is another object of the invention to achieve the preceding object with structure relatively easy to assemble quickly, yet the structure negligibly interferes with the use of the play area for other purposes.

It is another object of the invention to provide a method of amusement and exercising in accordance with the preceding objects.

According to the invention, the game structure is adapted to be situated in the corner of a room and comprises first and second substantially rigid panels forming a corner of less than 90°. The bottom edges of the panels are preferably arranged so that when these edges rest upon a floor or other horizontal surface, the corner formed by the panels tilts downward toward the region bounded by the two bottom edges. Means are provided for visibly defining a curve extending from a point on the straight line of contact between the panels on opposite sides of this line to extreme generally vertical edges of the respective panels to define a predetermined play area.

When the game corner is located in the corner of a room, a resilient ball which a player impells upon either of the panels from the room bounces one or more times from the structure so that it usually returns to a point in the room outside the game corner. This point of return is accessible to a competing player so that he may reach the ball and take a full swing to drive it back toward the game corner. Suitable marking means define a playing area on the floor of the room where the structure is located.

Other features, objects and advantages of the invention will become apparent from the following specification when read in connection with the accompanying drawing in which:

FIG. 1 shows a perspective view of a preferred embodiment of the invention with intersecting panels located in the corner of a room;

FIG. 2 shows the novel planar means laid out on a rectangular board to illustrate a way of making each planar means from a rectangular board of minimum area; and,

FIGS. 3 and 4 show a preferred embodiment of a paddle for playing the game.

With reference now to the drawing and more particularly FIG. 1 thereof there is shown a preferred embodiment of the invention showing dimensions suitable for most basement recreation rooms. Two panels 10 and 11 form the game corner and are hinged together along a generally vertical line 13 which is tilted into the room from the room corner vertical line 14, preferably by an angle of 16° as illustrated. The bottom corner 15 of

panels 10 and 11 preferably fits flush in the lower corner of the room. Lines 17 and 18 extend downward and away from point 21 at right angles to line 13 symmetrically on opposite sides thereof to respective extreme edges 23 and 24 of panels 10 and 11, respectively, to define a serving area above lines 17 and 18.

Upper edges 25 and 26 each form a right angle with the line of contact 13. Bottom edges 27 and 28 of panels 10 and 11 each form an angle of substantially 74° with vertical line 13 and an angle of substantially 77° with extreme edges 23 and 24, respectively.

Spacers 31 and 32 each subtend an angle of substantially 12°. Spacers 31 and 32 are inserted between walls 34 and 36, respectively, and boards 10 and 11 respectively. These spacers function to maintain the angle between panels 10 and 11 at substantially 66°. The playing area may be marked on the floor of the room with pressure-sensitive adhesive-backed plastic tape of a color which contrasts with that of the floor. The side boundary lines 37 and 38 are extensions of the bottom edges 27 and 28, respectively. Two lines 41 and 42 extend from a point 43 along the line bisecting the angle between panels 10 and 11 to the junction of edge 27 with line 37 and the junction of edge 28 with line 38, respectively, the lines 41 and 42 being chords of a circle centered at corner 15. A center line 44 extends between point 43 and another point 45 on the line bisecting the angle between panels 10 and 11. Base lines 46 and 47 extend between point 45 and points of intersection 51 and 52, respectively, with sidelines 37 and 38, respectively. Lines 46 and 47 form chords of a circle centered at corner point 15. The marking lines define right and left back courts 54 and 55, respectively. Lines 61 and 62 define the back of the serving areas in sides 55 and 54, respectively, of the court.

Referring to FIG. 2, there is shown a standard 4 x 6 board with panels 10 and 11 laid out thereon. In FIG. 2, the same reference numerals used in FIG. 1 identify corresponding portions in FIG. 2. Note that the side panels are prepared merely by making two straight line cuts, one along the bottom edge and the other along the extreme edge of each panel. The two side panels may be prepared simultaneously by laying one board on top of the other before cutting. In fact, the number of boards which may be prepared simultaneously is limited primarily by the maximum thickness which can be cut by a saw or other cutting means. Production techniques are simplified and costs reduced since both left and right panels are identical.

Referring to FIGS. 3 and 4, there is shown top and side views respectively of a preferred embodiment of paddle 57, shown in FIG. 1 beside a hard rubber ball 56. Paddle 57 preferably comprises a sheet of aluminum 63 sandwiched between generally T-shaped plywood reinforcing strips 64 forming an assembly held together by rivets 66, or other suitable means. The cap of the T reinforces the portion of the paddle face adjacent to the handle where the maximum bending moments are expected to be developed. The stem of the T covers the handle portion of the sheet while the cap of the T covers the area of the face portion of the sheet immediately adjacent to the handle portion.

Aluminum, plywood or plastic may be used for the sheet 63. Other materials capable of withstanding the tensile stresses developed during play may be used instead. The game may be played with other paddles, such as a squash or tennis racket having a stringed face, but such rackets are not preferred because the resiliency of the strings causes the ball to be propelled from the racket with excessive velocity for most play in homes indoors.

Having described the structure of a preferred embodiment of the invention, it is appropriate to consider how the structure embodies the principles of the invention.

In conventional squash and handball, each player generally strives to force his opponent to hit the ball after a single bounce from the front wall and a single bounce on the floor because the opponent has less time to position himself and control his return shot. The resulting game is too fast for playing in the home. In accordance with the principles of the present invention, panels 10 and 11 are so arranged that the ball nearly always bounces off panels 10 and 11 with reduced velocity before being returned to the floor. In addition, panels 10 and 11 function to direct the ball toward an area sufficiently far from the room walls so that a player may take a full return stroke without danger of striking a wall with his paddle. to this end, the angle between panels 10 and 11 should be less than a right angle and preferably within the range of 46° to 84°. It has been discovered that the optimum angle is 66° as shown in the drawing. This angle is maintained by spacers 31 and 32. It has been found sufficient to locate point 15 in the corner of the room and place side panels 10 and 11 against spacers 31 and 32, fastening the spacers to the side panels. Evidently this is sufficient because the forces exerted by the ball on the side panels urge them toward the corner and against the spacers. The spacers also function to center the angle formed by the side panels in the room corner right angle. Any means for positioning the spacers may be used so long as they remain substantially stationary during play. It is evident that numerous other means may be employed to position the side panels appropriately.

While many advantages of the invention will be obtained if line 13 between the panels is vertical, it is preferably tipped in toward the room away from the vertical. This tilting functions to position the panels to apply a downward component of force to the ball upon impact so as to cause the ball to bounce higher and direct the ball into the playing area, thereby making it more difficult to drive the ball beyond the base lines 46 and 47. This prolongs the volley to increase the entertainment value of the game and provide exercise of sustained intensity.

The structure described above may be used to play a game similar to English squash with game being fifteen points. A player may score only when serving and the game must be won by two consecutive points. Of course, other scoring techniques, such as those used in tennis or table tennis may be employed.

The ball remains in play as long as any of the following conditions are met. As long as the ball hits above either of the foul lines 17 or 18 at least once, it may hit either or both side panels 10 or 11 any number of times before it again hits the floor. If it hits the floor a second time without hitting one of the side panels, it is no longer in play. If the server allows the ball to get out of play, he loses service. If the receiver allows the ball to get out of play, the server scores a point. The ball may also hit one wall above the foul line, bounce onto the floor, then up off the other wall and remain in play until it hits the floor a second time.

The server is entitled to two serves. He stands behind one of the base lines 46 and 47 and serves the ball above one of the foul lines 17 or 18 so that it lands beyond the serving line 41 or 42 in the opposite back court ahead of lines 61 and 62. For example, if the server stands behind base line 46 of back court 54, he strives to make the ball bounce in court 55 over the serving line 42. Normally, he would try to direct the ball toward panel 11 and the ball would bounce from panel 11 to panel 10 and then into court 55. After the serve has been returned, it is unnecessary for the ball to bounce on the floor before being returned. That is, the receiving layer could hit the ball while it was still in the air after bouncing from panel 10. The server should change courts after each serve.

If the ball hits either player when traveling from either

panel toward the court, that player loses the point or the serve. If the ball hits a player when traveling from the paddle of an opponent toward either panel, the point is played over. If a player is unable to make a return shot because he feels his opponent was in the way, such player may call a let and the point is played over.

Of course, numerous variations of the proposed rules may be followed to suit the preferences of different players. The rules just described have been formulated after much experience with many players and found to establish a game providing enjoyable exercise.

The specific embodiment described herein may be varied in numerous ways. For example, the side panels 10 and 11 may fold about a horizontal axis to facilitate transportation from one playing area to the other. The marking lines may be varied to suit different situations. Different types of paddles and balls may be used or the ball may be struck by hand.

It is thus apparent that those skilled in the art may now make numerous modifications of, uses of, and departures from the specific structure and techniques disclosed herein without departing from the inventive concepts. Consequently, the invention is to be construed as limited only by the spirit and scope of the appended claims.

What is claimed is:

1. A game structure adapted to be situated in the corner of a room comprising, first and second substantially rigid planar means, means for maintaining said planar means substantially in contact along a straight line to form an angle of intersection between said planar means of less than ninety degrees, and means for supporting both said planar means with said straight line forming an angle with the vertical of much less than 45°.

2. A game structure in accordance with claim 1 wherein said angle between both said planar means is within the range of 46° to 84°.

3. A game structure in accordance with claim 2 wherein said angle between both said planar means is substantially 66°.

4. A game structure in accordance with claim 1 and further comprising means extending downward and away from a point on said straight line on opposite sides of said straight line to define predetermined play areas.

5. A game in accordance with claim 4 and further comprising, means defining a fair play area on said floor, the latter means comprising, marking means establishing a center line bisecting the angle formed by intersection of said planar means, second marking means defining left and right side lines coextensive the respective lower edges of both of said planar means, and third marking means defining a left pair of spaced generally parallel lines extending between said left side line and said center line and a right pair of generally parallel lines extending from respective ones of said left pair to points on said right side line.

6. A game structure in accordance with claim 1 wherein the lower edge of each of said planar means forms an angle with said straight line of slightly less than 90°.

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