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GAME HAVING CIRCULAR PLAYING AREA WITH
RADIALLY EXTENDING NET BARRIERS

3,452,985

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Sheet 1 of 2

FIG. 1.

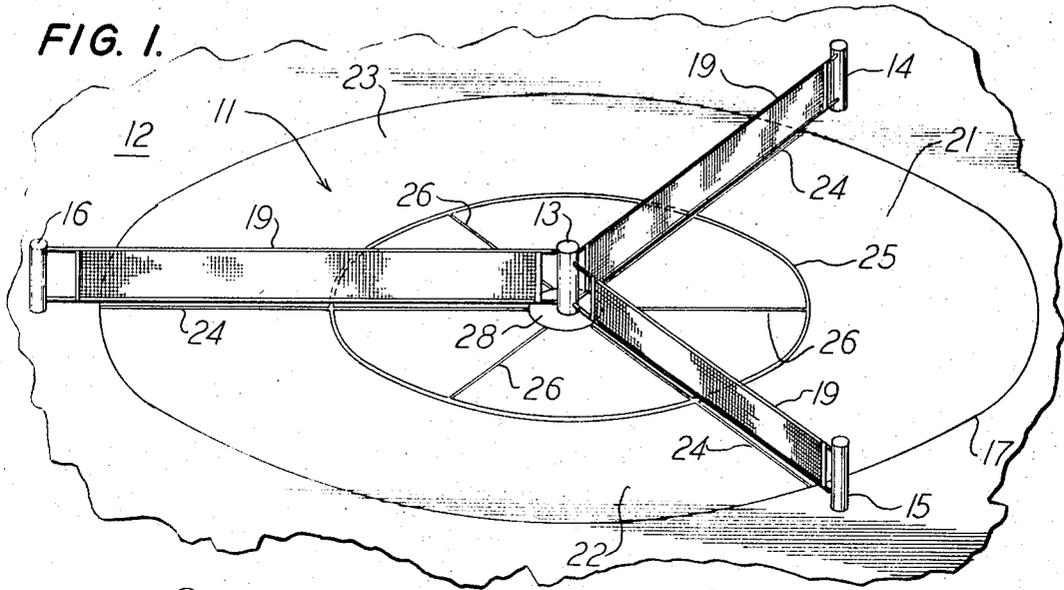


FIG. 2.

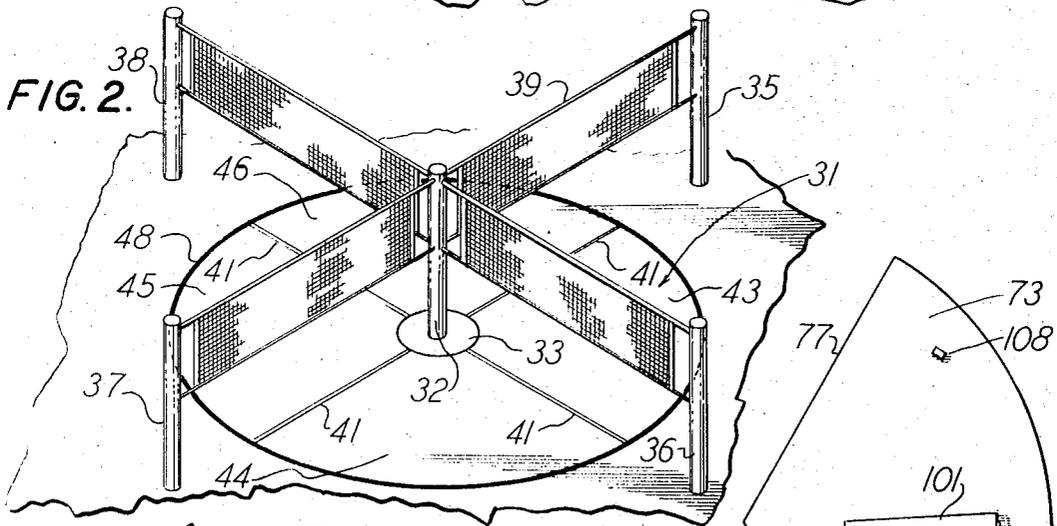


FIG. 3.

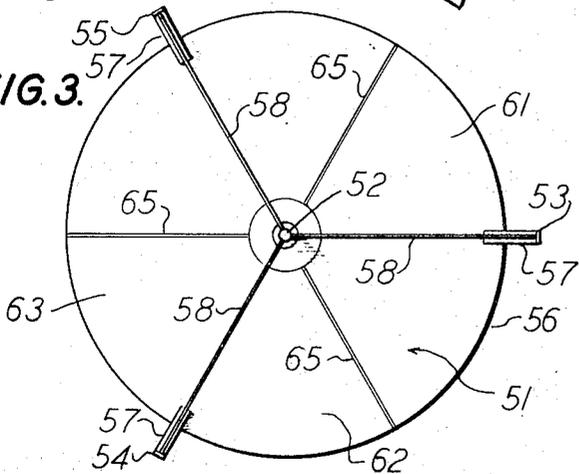
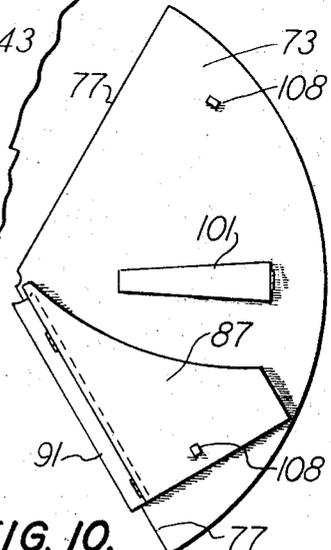


FIG. 10.

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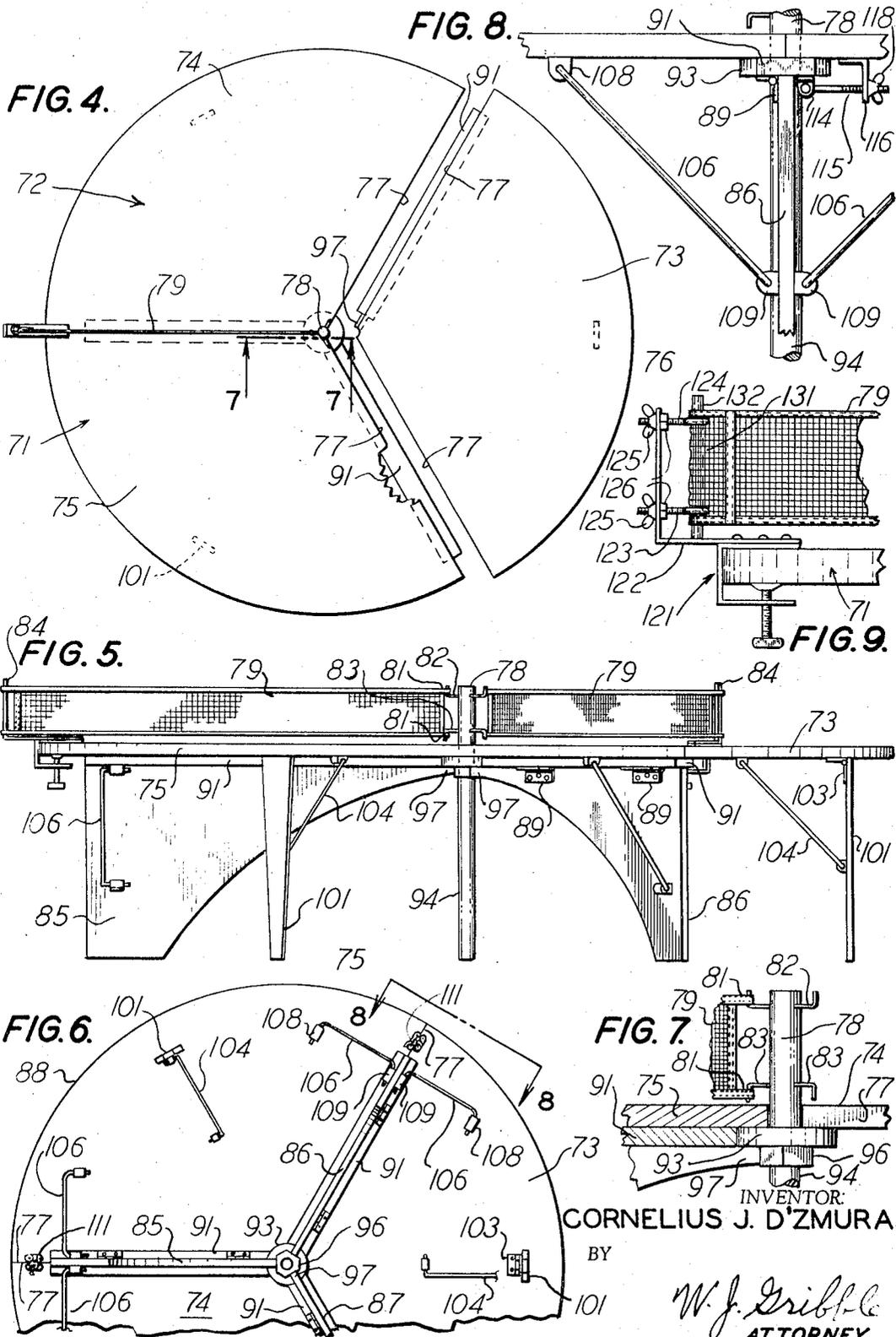
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**GAME HAVING CIRCULAR PLAYING AREA WITH
RADIALLY EXTENDING NET BARRIERS**

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6 Claims

ABSTRACT OF THE DISCLOSURE

The invention is a type of game played with a ball on a surface such as a table top. The game provides for a center post with radially extending nets along a plurality of radii such as three or four. The playing surface is marked out in a circular area traversed by the radial nets and the game may be played by way of using a ball, shuttlecock or the like which is bounced against the playing area and over the net parts.

The invention relates to apparatus for games using a projectile such as a ball or a shuttlecock and more particularly to such games employing a net or other barrier across which the player propels the projectile.

Many of the more popular athletic games of today are restricted in the number of players that can participate. Conventionally, games such as tennis, Ping-pong, badminton, and others are played by two teams of one or two players. Many play groups are not composed of an even number of players and often some of the group cannot participate with the others. I have invented game apparatus which is adapted for use with three or four or more teams, but which is used fundamentally in the same fashion as the basic games set forth above. While certain technical refinements and skills must be developed to utilize the apparatus, these are but extensions of the basic skills already known.

The invention contemplates game apparatus for use with a projectile, such as a ball, that comprises a playing surface with a hub support post centrally located on the playing surface. A plurality of outer support posts are spaced about the perimeter of the playing surface. A net extends from each outer support post to the hub support post. The nets divide the playing surface into a plurality of playing areas which may be of many configurations.

In a preferred form of the apparatus, the playing surface is a circular table top. The table top may comprise a plurality of arcuate segments suitably joined to form a top and held upon several support legs. The joint lines of the arcuate segments preferably coincide with the paths of the nets. Such a table may be used to play table tennis or Ping-pong.

The playing surface of the apparatus may be divided by markings either on the ground or on a table top to further divide the playing areas defined by the nets. In some of the games, such as Ping-pong, I prefer to establish a "null circle" about the hub support post. A playing projectile landing in the null circle becomes dead and play must be reinitiated. The reason for the null circle is the relative difficulty of returning the projectile from that particular area where the nets converge.

The game apparatus of the invention is adapted to several projectile and net games. The several teams and playing areas require increased alertness on the part of individual players and add greater freedom of choice to the response of a player to a particular situation. Thus a game is provided which is not only novel, but which has increased elements of excitement.

These and other advantages of the invention are ap-

parent in the following detailed description and drawing in which:

FIG. 1 is a schematic oblique view of a tennis court in accordance with the invention;

FIG. 2 is an oblique view of apparatus for volleyball or badminton;

FIG. 3 is a top plan view of a table tennis game apparatus;

FIG. 4 is a top plan view of a preferred embodiment of the invention, having a segmented circular playing surface;

FIG. 5 is a side elevation of the apparatus of FIG. 4;

FIG. 6 is a fragmentary bottom plan view of the apparatus of FIG. 4;

FIG. 7 is a fragmentary sectional elevational taken along lines 7—7 of FIG. 4;

FIG. 8 is a fragmentary side elevation taken along a line similar to line 8—8 of FIG. 6 and revolved into normal vertical orientation;

FIG. 9 is a fragmentary side elevation of an alternate embodiment of the invention showing net holding means; and

FIG. 10 is a bottom plan view showing schematically a segment of the apparatus of FIG. 4 with the support legs thereof folding for storage.

In FIG. 1 a circular playing surface 11 is supported upon a ground area 12. A central support post 13 is embedded at the center of the circular playing surface. A plurality of outer support posts 14, 15, 16 is fixed to the ground just outside the perimeter 17 of the playing surface. A barrier net 19 stretches tightly between each outer support post and the hub support post. The net may be a conventional tennis net and be fixed conventionally at the regulation height for that game. The nets divide the circular playing surface into a plurality of playing areas 21, 22, 23 which are further demarked by a ground line border 24. A circular boundary line 25 and a plurality of radial dividing lines 26 further subdivide the playing areas into the various service courts, similar to the manner in which a rectangular tennis court is divided.

Playing surface 11 may be a grass court, or may be of clay, cement, or any of the substances commonly used in the game of tennis.

A null circle 28 surrounds the hub support post 13. This area may be of a differing substance from the rest of the playing surface such that the reaction of the ball to the null circle is distinctive.

FIG. 2 illustrates game apparatus in which a circular playing surface 31 is combined with a hub support post 32 established at the center of the playing surface. A null circle 33 surrounds the hub support post.

Four outer support posts 35, 36, 37, 38 are spaced at equal intervals about the perimeter of the playing surface. A high net 39 extends from each outer support post to the hub support post and is fastened to both. Each of the nets extends directly above a dividing line 41 on the playing surface which subdivides the surface into four playing areas 43, 44, 45, 46. Each of the playing areas is thus defined by the nets, the dividing lines 41 and the peripheral circle 48 of the playing surface.

FIG. 3 shows in a plan view game apparatus suitable for table tennis or Ping-pong. A circular table top 51 supports a hub support post 52 at its center. Outer support posts 53, 54, 55 arise from points outside of the perimeter 56 of the table top playing surface. Conventional net brackets 57 support each outer support post and may be integrally formed therewith. A conventional net 58 is secured at one end to each outer support post and at the other end to post 52. The nets 58 divide the circular playing surface defined by table top 51 into three play areas 61, 62, 63. Each of the areas is further divided by a central radial line 65 into service court areas.

In playing any of the games utilizing a projectile with the apparatus of FIGS. 1-3, the scoring system may be similar to that of either Ping-pong or tennis. In playing on the three-team court of FIG. 1, each team may keep a score of their standing with each other team. However, in the preferred scoring method the server receives a point each time a fault is committed by either of the opposing teams or players. The server propels the ball into the court of each other opposing player alternately as he keeps service. The team receiving the ball or other projectile on service must return it to the server. The server thereupon has the option as to which he will return the projectile and thereafter each team is free to select to which of the opposing two courts the projectile is returned. Service may rotate either clockwise or counter-clockwise when the server fails to return the projectile or otherwise falters.

While the circular table top of FIG. 3 is shown as unitary, the table top may be made in segments supported upon legs, as in the preferred embodiment of FIGS. 4-8. In those figures the game apparatus 71 comprises a planar circular playing surface 72 made up of three arcuate table segments 73, 74, 75. Each segment has an outer arcuate periphery 76 and converging radial edges 77. A hub support post 78 is centrally supported at the center of the table top. One end of net 79 is removably secured to post 78 by means of its edge ribbon loops 81 which are secured to upper and lower post hooks, 82, 83, respectively. The other end is attached to an outer post 84 of conventional design. In FIG. 4 the other two nets, like net 79, are removed for the sake of illustrative clarity. In FIG. 5 one net of three is removed for the same reason.

In FIG. 4 arcuate segment 73 has not been joined with segments 74 and 75 about central hub support 78. In the other figures the segments are shown assembled.

As can be seen in FIGS. 5 and 6, a pair of legs is attached to each arcuate segment. The radial legs 85, 86, 87 extend from near the peripheral rim 88 of the circular table top to the center of the table. Their extent coincides with seam formed by the juncture of the radial edges 77 of the segments. Each of the radial legs is secured by hinges such as the hinges 89 of FIG. 5 to a lap strip 91. Each lap strip is secured to a segment along one of its radial edges 77. The lap strip extends outwardly beyond edge 77 and is adapted to undergrid the area adjacent the edge 77 of the adjoining segment. Each lap strip terminates inwardly against a circular horizontal plate 93 which projects like a flange from a center leg 94. The center leg is a downward extension of hub support post 78. Immediately beneath plate 93 is a registry disc 96. As can be seen in FIG. 6, the registry disc is shaped to receive in registry the vertical ends of leg extensions 97 of each radial leg 85. The plate and the lap strips are of the same thickness. The plate abuts against the undersurface of each of the three table top segments. The leg extensions contact the undersurface of the plate when all three are assembled around center leg 94. The segments are thus positively located and supported centrally by the combination of the plate and disc and leg extensions cooperating with the lap strips and the table top segments.

The other leg of the pair of legs for each segment is a downwardly tapering medial leg 101. Each medial leg is hinged to its respective segment by a hinge 103 shown in FIG. 5 and again in FIG. 6, where a wire leg brace 104 is broken away to better illustrate the location of the hinge.

Each of the median legs 101 is preferably located near the periphery midway between the radially extending legs 85, 86, 87. Median legs 101 support the middle expanse of the segment between its edges 77. A pair of wire braces 106 stabilize each radial leg 85, 86, 87. One end of each wire brace is frictionally engaged within a brace block 108 fixed to the underside of a table top segment. The other end of each brace is frictionally fitted within a brace block 109 fixed to a face of the radial leg panel. Each

of the braces 104, 106 has the configuration of a shallow U, the short ends of which are engaged within the brace blocks. Wire braces 104 are similarly engaged with brace blocks that are fixed to the bottom side of each table top segment and the inner face of each of the legs 101.

In addition to being secured together by the center leg, the segments are additionally drawn together by a latching arrangement near their peripheral edges. As shown in FIG. 6, latches 111 similar to the window latches used on double hung windows are secured to the under side of the table top segments. These two-piece latches work on a cam principle and, as is conventional, tend to draw together the two segments to which the two components of a latch are fastened.

FIG. 8 illustrates an alternative latching means whereby edges 77 of adjoining table top segments may be securely joined. In FIG. 8 a pivot mount 114 secures a threaded shaft 115 which passes through a slotted angle 116 fixed by convenient means to the bottom surface of a table top segment. The pivot mount is secured to the lap strip 91 of the adjoining top segment. When a wing nut 118 is advanced along the threaded shaft it thrusts against the angle and pulls the two edges 77 closer together.

As has been stated heretofore, it is preferred that the nets which divide the circular playing surface into playing areas coincide in their extent with the line of the seams in the table top, affording a functionally uninterrupted playing surface in each playing area. The outer support posts may be conventional net supports, such as commonly used for table tennis and Ping-pong. Alternatively, the net supports may be as shown in FIG. 9 in which a clamping bracket 121 has secured to it an L-shaped support post 122 from which a pair of spaced eye-bolts 123, 124 extend. The eye-bolts are secured to the post by wing nuts 125 and lock nuts 126. Net 79 is doubled at its outer end to form a vertically opening loop 131.

The eye-bolts are slightly opened where the terminus of the eye meets the threaded shank such that the net may be enmeshed with the eye-bolt. Thus, the eye-bolt openings align with the net loop to permit passage of a vertical rod 132. The rod transmit the pull of the net tension to the eye-bolts. It is only necessary to remove rod 132 upwardly to disengage the net from the outer support post. If the other end of the net is engaged as shown in FIG. 7 by L-shaped hooks 82, 83 through its upper and lower ribbon tapes, the net may be removed without changing any of the tension fastenings.

In addition to affording easy net removal, the apparatus illustrated by the embodiment of FIG. 4 is adapted for easy storage. When braces 104, 106 are removed from their friction fit with their respective bracket blocks, each of the pair of legs on each segment may be folded as illustrated in FIG. 10 within the confines of the table top segment. In FIG. 10 leg 101 is folded toward the center of segment 73. Leg 87 is folded away from lap strip 91 into the position shown. Each of the segments may be thus disassembled and folded flat. The segments, after removal from center leg 94, may be stored in a relatively small space, along with the nets and the center leg and the wire braces.

Each of the embodiments illustrated affords a new and exciting game with apparatus that is simple to assemble. Only a few of the many embodiments that will occur to those skilled in this particular art have been shown. Therefore, I wish this disclosure to be regarded as illustrative only, with the measure of the invention being defined by the appended claims.

I claim:

1. A game apparatus for use with a projectile and comprising a playing surface, a hub support post centrally located on the playing surface, a plurality of outer support posts spaced about the perimeter of the playing surface, a net extending from each outer support post to the hub support post and connected to the posts, the plurality of nets dividing the playing surface into a plurality of

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playing areas, the playing surface comprising a plurality of arcuate segments joined to form a circular table top, a pair of legs secured to each table top segment, a central leg supporting all table top segments, joining means securing each segment to each adjacent segment to form a unitary playing surface, and means mounting each outer support post to the table top at a juncture of two table top segments such that the net extending from the outer support post to the hub support post is aligned directly above the juncture line of the two adjoining segments.

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2. Apparatus in accordance with claim 1 wherein one of each pair of legs supports two adjoining table top segments.

3. Apparatus in accordance with claim 1 wherein each leg of each pair of legs is secured to the table top segment underside so as to be selectively foldable against said underside.

4. Apparatus in accordance with claim 1 wherein a removable brace extends between each leg of a pair of legs and the underside of the circular table top.

5. Apparatus in accordance with claim 1 wherein the central leg is a downward extension of the hub support post.

6. Apparatus in accordance with claim 1 wherein the

joining means comprises a lap strip fixed to a segment along an arcuate edge thereof and adapted to extend beneath an adjoining segment, latch means releasably securing adjoining segments together, a horizontal plate on the central leg against which the inner end of each lap strip butts, and an extension on one leg of each pair in contact with the bottom surface of the plate so as to wedge the plate between the extension and the lower surface of the circular table top.

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