United States Patent [19]

Casey

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[45] **Mar. 18, 1975**

[54] **GAME APPARATUS**

[76] Inventor: **William J. Casey,** 3204 Colony Club Rd., Pompano Beach, Fla. 32506

[22] Filed: **June 8, 1973**

[21] Appl. No.: **368,138**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 112,169, Feb. 3, 1971, abandoned, Continuation-in-part of Ser. No. 881,553, Dec. 2, 1969, abandoned, which is a continuation-in-part of Ser. No. 826,807, May 22, 1969, abandoned.

[52] **U.S. Cl.**..... **273/87 R,** 273/176 H, 273/178 A, 273/178 B

[51] **Int. Cl.** **A63f 7/06**

[58] **Field of Search**..... 273/87, 87.2, 87.4, 176 R, 273/176 B, 176 E, 176 F, 176 H, 34 A, 273/176 D, 178 B

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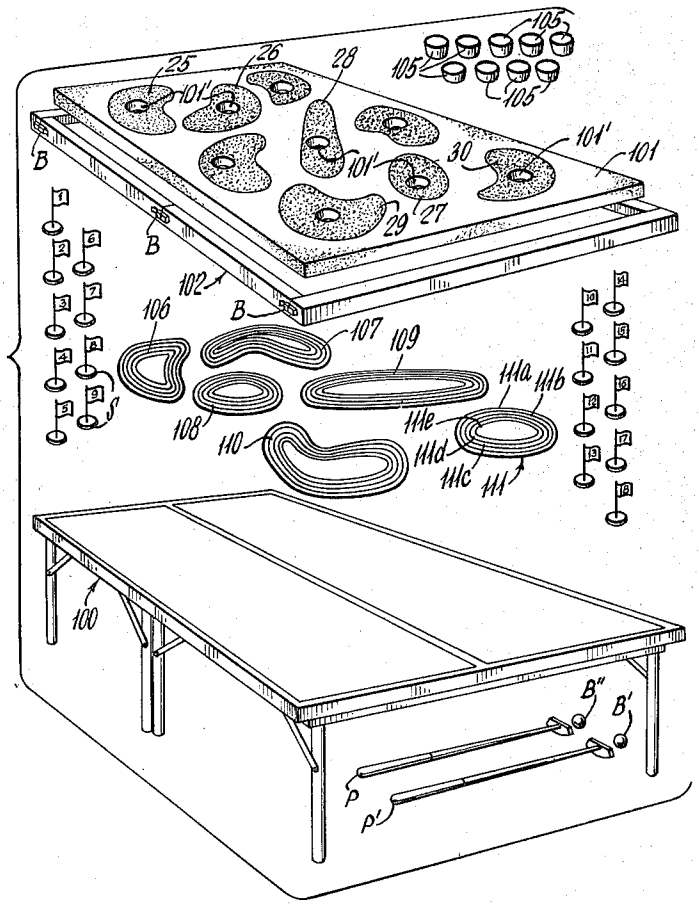
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Primary Examiner—Richard C. Pinkham
Assistant Examiner—Harry G. Strappello
Attorney, Agent, or Firm—Nolte and Nolte

[57] **ABSTRACT**

Game apparatus, especially for miniature golf. A flexible blanket is draped over one or several mounds to simulate a putting green. Provision is made for cups, completely contained in the putting green blanket in one embodiment, for insertion of the cups in underlying mounds in another. The blanket, mounds and cups can be quickly assembled on a table, or other suitable support and provision is made to grade the edges of the blanket to prevent resting of the ball along rails which contain the game. The blanket may also have a putting fringe surrounding the putting greens. By shifting these mounds, miniature versions of typical greens of of any particular green can be formed. The mounds can also be made higher or lower.

7 Claims, 23 Drawing Figures



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SHEET 1 OF 4

Fig. 1.

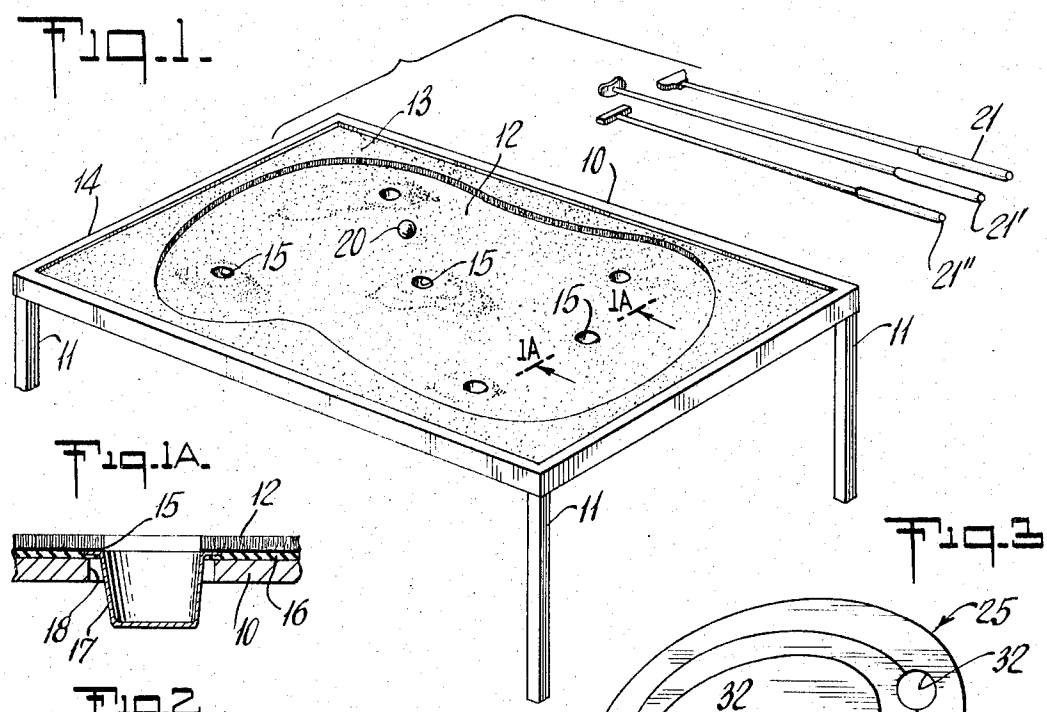


Fig. 1A.

Fig. 2.

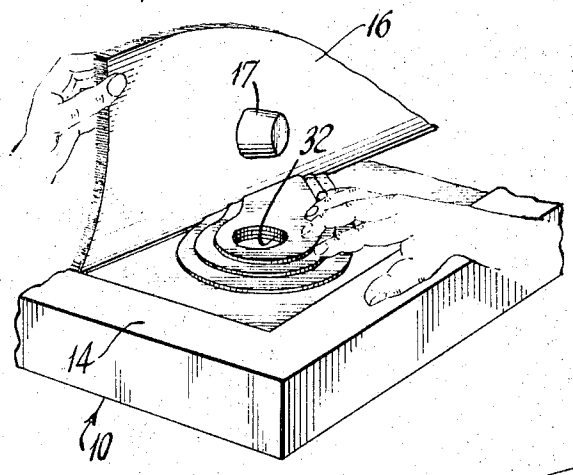


Fig. 3.

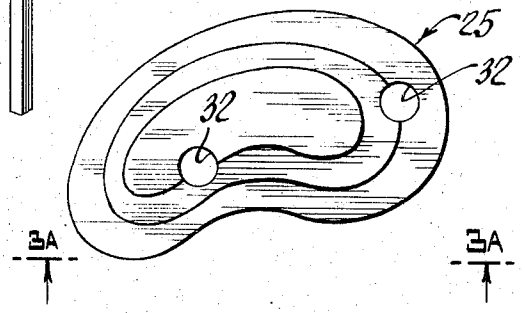


Fig. 3A.

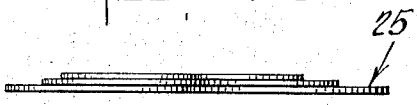


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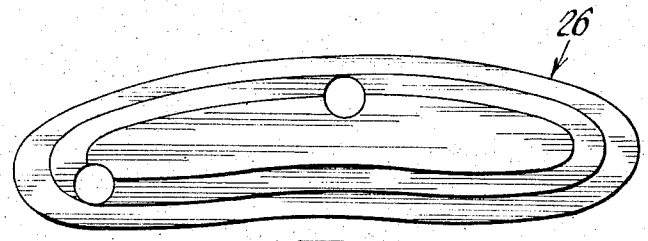
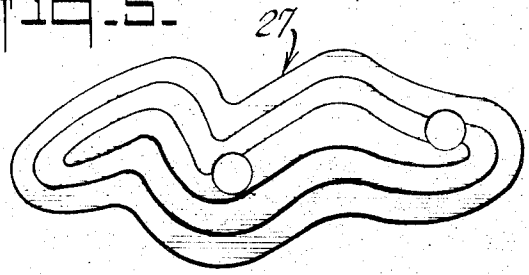


Fig. 5.



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Fig. 6.

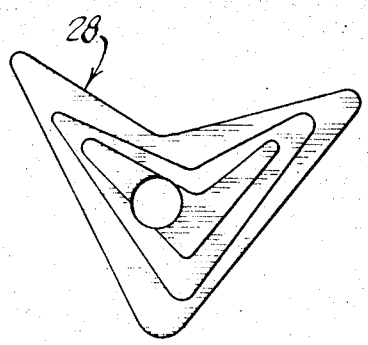


Fig. 7.

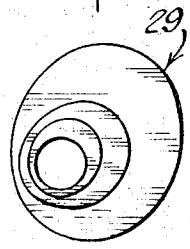


Fig. 8.

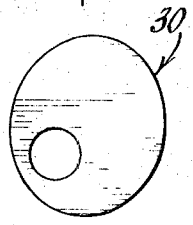


Fig. 9.

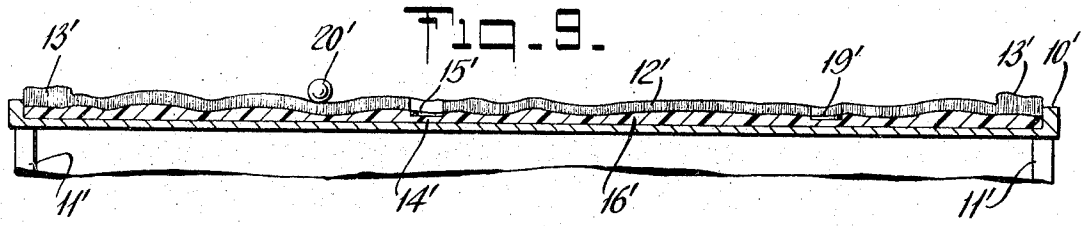


Fig. 10.

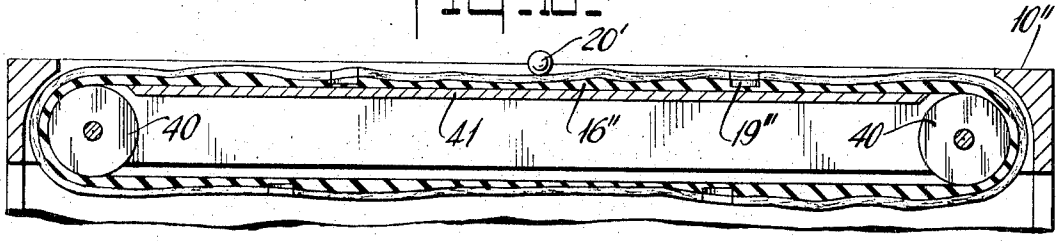
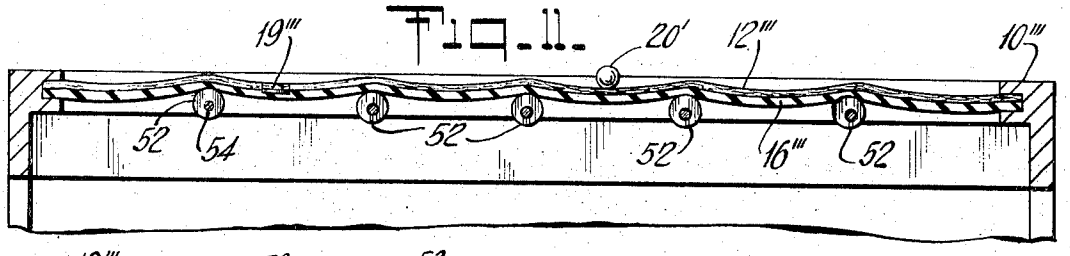


Fig. 11.



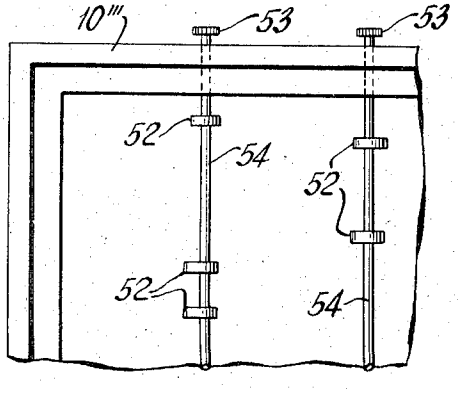


Fig. 12.

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Fig. 13

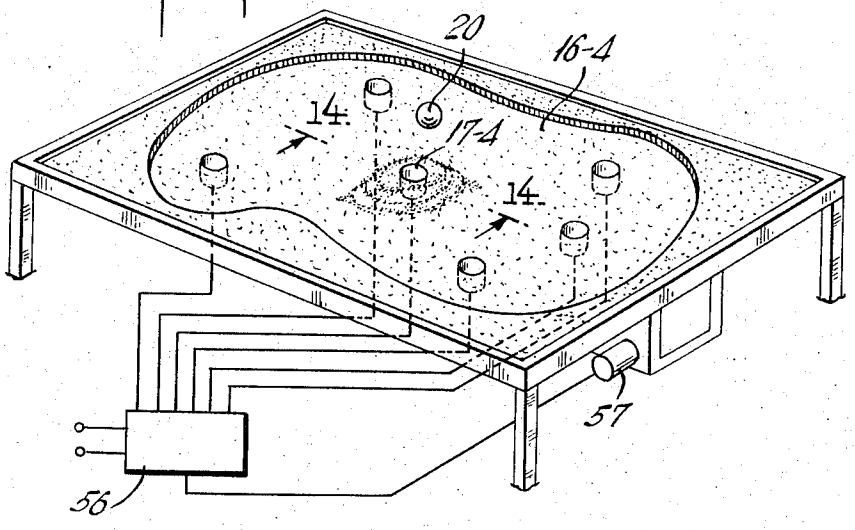


Fig. 14

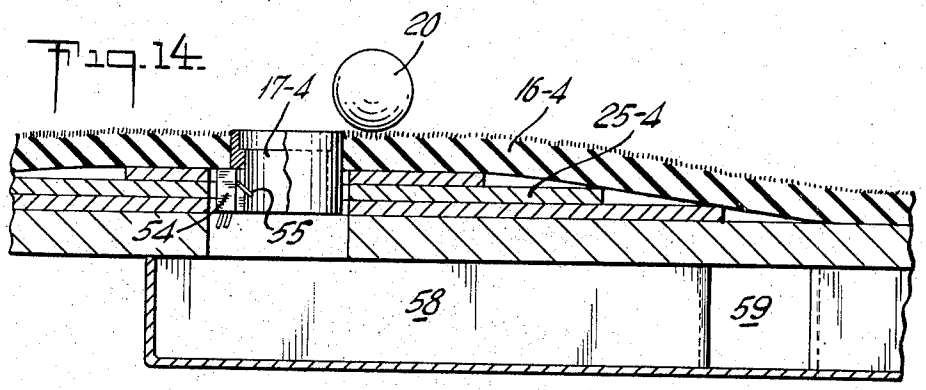
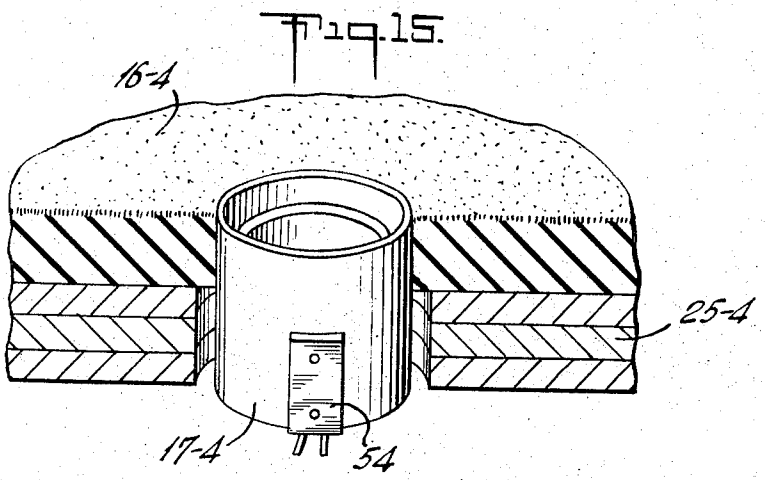


Fig. 15



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Fig.16.

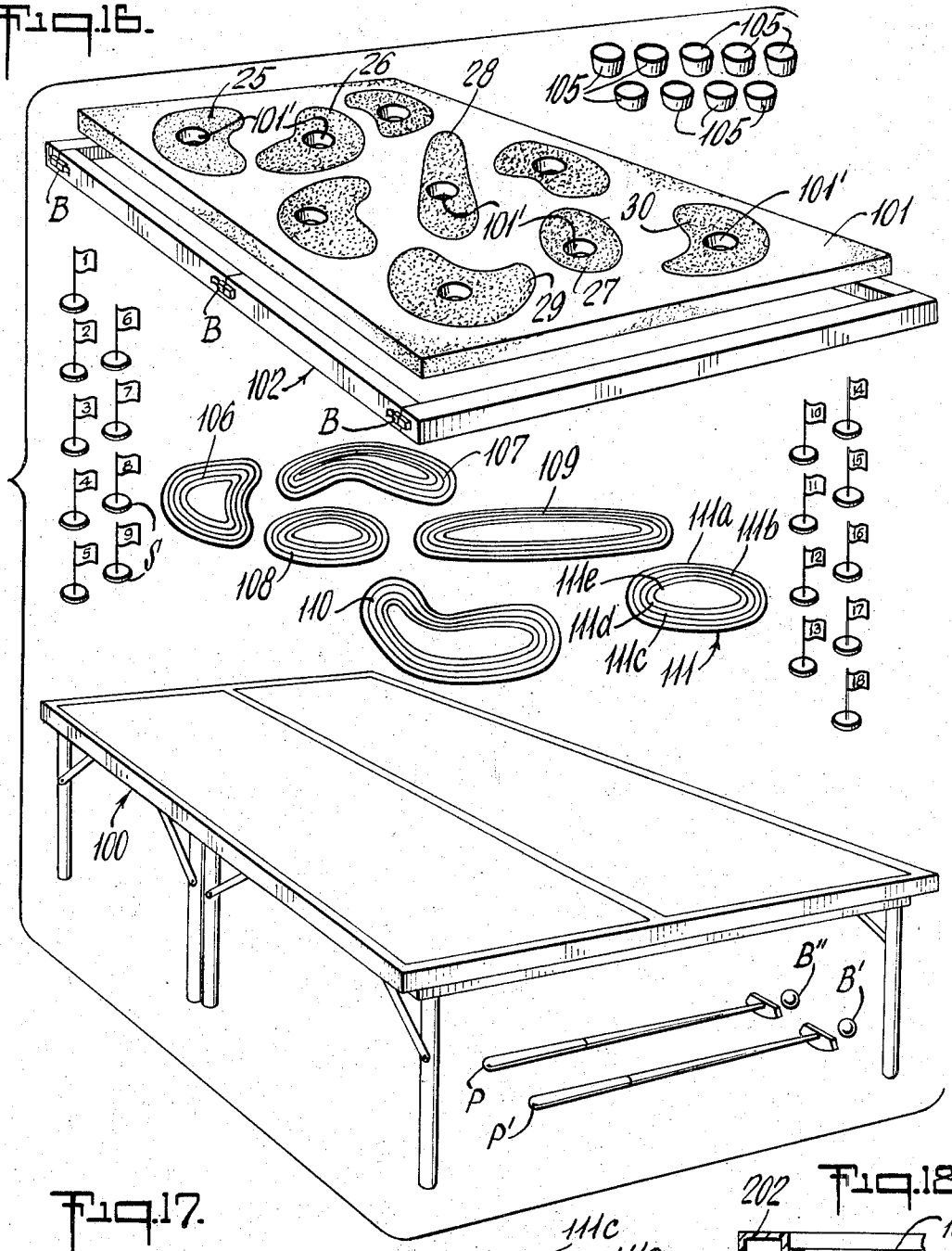


Fig.17.

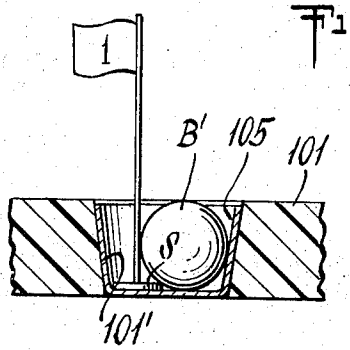


Fig.20.

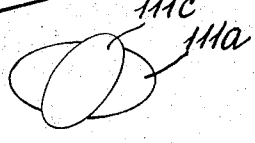


Fig.21.

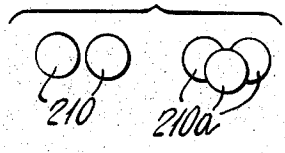


Fig.18.

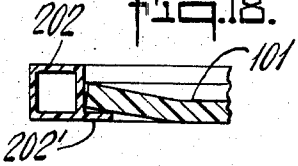
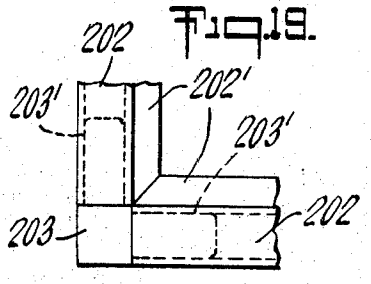


Fig.19.



GAME APPARATUS

This is a continuation-in-part of co-pending U.S. patent application Ser. No. 112,169, filed Feb. 3, 1971 now abandoned, itself a continuation-in-part of Ser. No. 881,553, filed Dec. 2, 1969, now abandoned, which was a continuation-in-part of U.S. Pat. application, Ser. No. 826,807, filed May 22, 1969 and now abandoned.

BACKGROUND AND NATURE OF THE INVENTION

This invention provides a miniature golf putting game for developing putting skill by aiding the player to develop experience in analyzing profiles and putting characteristics of various types of greens.

Miniature putting courses and replicas thereof, as used at present, having limited numbers of profiles and ground arrangements. Therefore they hardly prepare the player for the great variety of conditions actually encountered on different golf courses. The present invention has the object to provide a wider range of experience, while utilizing equipment of the utmost simplicity, which can be provided with limited cost. It is a further object to provide a game which can be utilized outdoors as well as indoors, and to provide game equipment of different dimensions and arrangements.

It is an object of the invention to provide such a golf game which is economical to manufacture and readily assembled and disassembled for use on existing table or board structures and one in which unique cup and flag structures permit continuous play through 18 holes of golf without the necessity of removing a flag for a score.

The golf game of the invention provides the players with an infinite variety of courses over which to play by permitting both horizontal and vertical variation of course undulations.

Edge resting of the ball is prevented by providing rail structures for grading along the sides of the simulated course.

In The Drawings

FIG. **1** is a perspective view of a first preferred embodiment of this invention;

FIG. **1A** is a fragmentary view taken along lines **1A** — **1A** in FIG. **1**;

FIG. **2** is a fragmentary perspective view of similar embodiment, showing parts thereof in different positions;

FIG. **3** is a complete plan view of an element partly shown in FIG. **2**;

FIG. **3A** is an end view of the same element, taken along lines **3A** — **3A** in FIG. **3**;

FIGS. **4** and **5** show variations of FIG. **3**;

FIGS. **6–8** show further variations of FIG. **3**;

FIGS. **9, 10** and **11** are vertical sections through a second, third and fourth embodiment of this invention;

FIG. **12** is a partial plan view of the embodiment of FIG. **11.**

FIG. **13** is a perspective view of a fifth embodiment;

FIG. **14** is a section along lines **14** — **14** in FIG. **13**;

FIG. **15** is a perspective view of a detail from FIG. **13,** with parts broken off;

FIG. **16** is an exploded perspective view of a modification of the invention;

FIG. **17** is a sectional view of a cup, flag and ball in "score" position;

FIG. **18** is a cross sectioned view of a modification of a rail for grading the sides of the blanket; and

FIG. **19** is a top plan view of a modification of the rail course structure.

FIG. **20** is a top plan view of two of the layers of a mound for contouring the putting blanket.

FIG. **21** is a plan view of a plurality of disc shaped mounds.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS:

Referring first to FIGS. **1** to **3A**: Table **10** comprises a flat rectangular top or board supported by legs **11** and providing a support area for a blanket removable deposited thereon. The blanket has a smooth inner portion **12** and a rougher outer portion **13,** simulating respectively the surface of a putting green and putting fringe. Fringe **13** is shown thicker than green **12,** to impart strength to the blanket. The entire blanket and mainly the putting green portion **12** thereof can be made of rubber or of other flexible material which is elastically stretchable to adapt itself to underlying obstacles or mounds. One of these is shown in FIG. **3** and has holes **32** for cups, as is also shown in FIG. **2.** Putting and fringe areas **12, 13** advantageously have green top surfaces, which can be fabricated from any of the various available synthetic grass-type substances.

Special putting cues **21,21'**, **21''** are provided comprising a shaft and a head having a flat ball striking surface in a plane normal to the axis of the shaft to minimize spinning for a realistic putt.

In order to fit holes **32** in a mound **25,** FIG. **3,** blanket **16** has holes **15** at corresponding positions, FIG. **1.** The latter holes, if desired, can be somewhate smaller than holes **32,** and their edges can be secured to cup **17,** as shown in FIG. **2.** As best shown in FIG. **1A,** the diameter of the cup is approximately the same as that of hole **15.** As also shown in the latter figure, the cups need not extend into mounds, but can extend directly into table top **10.** The table may have a slightly over-sized hole **18** to accomodate the cup, regardless of slight irregularities or stretch in blanket **16.** As also shown in FIGS. **1** and **2,** the blanket is surrounded by an edge or rail **14** of table **10.** This provision aids in preventing the golf ball **20** from rolling off the game surface. The raised formation of fringe **13** has the same effect.

As indicated by FIGS. **4** and **5,** a great variety of mound formations can be formed. They can be produced very simply by cementing boards to one another (FIG. **3A**). This thickness and arrangement preferably is such that blanket **16,** extending over the edges of the combined mound boards, presents a substantially smooth surface. The outlines of the mounds, as indicated by FIGS. **4** to **8** at **26** to **30,** can be chosen at will. They can, for example, use a replica of the exact outline of mounds or putting cup areas existing on actual golf courses.

While FIG. **1** shows blanket **16** on table **10,** this blanket can also be deposited on other supports and, for example, on the floor of a room, the surface of a driveway or garden, or an actual golf course ground. On the other hand, modified table surface structures can be used. One of these is shown in FIG. **9.** As illustrated here, table **10'** has a combined, table-covering mound structure **16'** overlying it. Blanket **12'** in turn overlies this mound unit. The structure has recesses **14'**, coincident with cup holes **15'** in the blanket. A relatively

thick fringe portion 13' is provided around the edges of the blanket.

Another modification is shown in FIG. 10, where table 10'' has two parallel, cylindrical rollers 40, rotatably mounted on opposite sides thereof. A continuous putting green blanket 12'', with underlying mound structure 16'', having recesses 19'', is positioned around the rollers in the manner of a conveyor belt. Supporting plate 41, for example of wood is secured to the table, below the upper strand of belt 16'', so as to prevent sagging of the putting green. In this case, the exposed putting green surface can be changed, for example, by manually shifting the exposed surface thereof and thereby rotating rollers 40.

FIGS. 11 and 12 show another variant using table 10'''. A blanket 16''' with a grass-like covering 19''' thereon, is secured to the table in somewhat loose condition. A plurality of rotatable rods 54 having cams 52, extend across the table and can be rotated, for example by handles 53, to modify the exposed contour of the simulation green.

Still another modification is shown by FIG. 13 to 15 wherein a table supports a putting green blanket 16-4 with mounds 25-4 thereunder and cups 17-4 therein. Each cup has a switch 54 secured thereto and arranged so that, when golf ball 20 falls into the cup it actuates a feeler 55 of the switch and thereby operates an electrical counter 56. This counter in turn actuates a mechanism 57 for issuing golf balls that have reached the cups and fallen into a collecting chute 58, having suitable connections 59 in the various cups. In this way it becomes possible to issue new golf balls at and only at the time when a predetermined number of golf balls, such as a multiple of nine as in a golf game, have reached the putting cups, provided by the game apparatus.

Referring to FIGS. 16 and 17, the golf game of the invention takes the form of an assembly of parts adapted for placement upon a table tennis table 100. Here, it should be appreciated that such an assembly may be sized for available "stock"; e.g. 4×8 plywood boards which can be mounted on carpenter's horses and the like.

In any event, the golf course of FIG. 16 comprises a blanket 101 fabricated of a flexible foam material such as polyurethene cut to fit within a 2 inch by 2 inch frame 102 measuring on the outside 9 ft. by 5 ft., the measurement of the regulation table tennis table 100.

The thickness of the blanket 101 is approximately 1 ¾ inch for obvious reasons, but preferably such that the diameter of the ball B', B'' with which the game is played, is accommodated, in this respect, the ball diameter can be larger than the thickness of the blanket so long as a "score" can be made by dropping the ball in the holes, which in this instance comprise nine cups 105 substantially of a height equal to the thickness, of the blanket 101 which is provided with apertures 101 cut to contain the cups 105 along their sides.

Mounds, 106 through 111 of various peripheral configuration are part of the assembly and are shaped as a kidney 106, and elbow, 107 substantially circular 108 or oval 111 and variously irregular 110, all as previously shown in the figures already referenced.

With reference, for example to mound 111, each mound may consist of one or more widths of variously shaped layers 111*a*, *b*, *c*, *d* and *e* each succeeding upper layer being smaller than the layer upon which it rests. These layers may be bonded together or may freely lie, one upon the other so that the players may make the game easier or harder by subtracting or adding layers to the mound. In this modification of the invention, the mounds are placed between the holes and are not provided with holes to receive cups as in the previous embodiments described, although a combination of mounds 25–30 and blanket 101 may, of course, be provided with the mounds having bonded or non-bonded layers.

While the layers may be made of any material, such as wood, or cardboard, it has also been found desirable to use layers cut from polyurethene approximately ¼ inch thick. The flexibility of such mounds beneath the weight of the blanket lends subtlety to the undulations of the upper surface of the blanket.

The cups 105 sit within the blanket as shown in FIG. 17, and should, because of the proximity of a mound, the blanket in the area of the cup be lifted above the table, suitable further support elements may be provided to assure stability beneath the cup; for instance discs 210 (FIG. 21) the approximate size of the cup bottom may be provided. However, it has been found most satisfactory to make the blanket aperture 101' smaller than the largest circumference of the sides of the cup 105 as shown in FIG. 17 to provide a tight fit for this purpose.

Flags numbered 1-9 on the left hand side of FIG. 16 are provided with stands S which are dimensioned, again with reference to FIG. 17, so that when the ball enters the cup it will displace the flag and stand to a position off center of the cup. This feature permits the players to play continuously without the necessity for lifting the flag from the cup when scoring.

Flags numbered 1-9 may be numbered respectively on the opposite side with numbers 10-18 as shown on the right hand side of FIG. 16 so that when a player is facing longitudinally of the game at one end thereof he will see holes numbered 1-9 and when standing at the other side looking longitudinally of the game will see numbers 10-18.

The frame 102 consists, in the embodiment shown in FIG. 16, of two end pieces and two pairs of side pieces, shown fully only on the left hand side of the frame depicted in FIG. 16. These frame pieces are buckled together as shown for example at B, the point being that they may be disassembled and deposited in a box along with the balls, putters P,P', and blanket which may be conveniently rolled.

The golf cue putters P,P', as in the instance depicted in FIG. 1, have putting surfaces lying in planes normal to the axes of the putter shafts.

FIGS. 18 and 19 disclose a modification of the rails used to surround the blanket. In this instance, rails 202 are extruded from a suitable thermoplastic, such as nylon (although metal could be used, extruded or turned) and provides an inner lip 202' extending inwardly from the base of the extrusion, to thereby grade the edges of the blanket upwardly. This prevents the ball from resting along the inside of the rails at the corners of the rails 202. Corner pieces 203 may be provided with inserts 203' sized to fit within the extruded rail ends and to hold the same in position. The inner ends of side rails 204 (not shown), made in accordance with this embodiment, may provide for bridging inner holding elements similar to elements 203' or may be

shaped for overlapping snap lock action or may be provide any other convenient fit-hold construction.

Thus in the embodiment last described, a game which can be quickly assembled and disassembled and which is economical to manufacture has been described. Furthermore an infinite variety of course undulations are also provided by the fact that the mounds are movable horizontally and may be made as high or as low as the players desire.

Varients of the assembly of parts will now occur to those skilled in the art. For instance the flag posts and cup bottoms may be integral with the post hinged for bending upon a score as opposed to having the described flag base slide along the cup bottom.

Furthermore, the mounds **106 – 111,** when comprised of unbonded layers may have the layers turned relative to one another depicted by layers **111***a* and **111***c* in FIG. **20.** Nor need the layers of any set **116 – 111** have to be used in its similarly shaped set but may be used in combination with layers of other sets. In this last respect, when using unbonded layers of polyurethene, a layer of one size overlying a smaller layer will drape over the bottom layer, again lending subtlety to the blanket undulations.

Furthermore, the discs **210** may also be used as mound layers variously disposed (**210***a*) to provide any variety of blanket surface undulation imaginable.

Also, a long length of blanket with a single target hole and cup may be provided along with mound elements for disposition on the floor for realistic stand-up putting with a regular putter, the player standing off to the side of the blanket.

In any event, the appended claims define the invention.

What is claimed is:

1. Golf game apparatus comprising a table defining a generally horizontal playing area surface spaced vertically from a surface on which said table is supported, flexible blanket means freely laying on and being removable from said playing area surface and for simulating a golf playing area on the upper surface of said blanket, said blanket means having a plurality of holes therein each constituting means for defining a target hole into which a ball can be propelled, said blanket means being otherwise continuous, flexible means defining at least one mound for insertion beneath said blanket means and constituting means for flexing said blanket means generally only in the areas thereabove under the weight of said blanket means, said last mentioned means constituting a plurality of flexible layer means for disposition one upon the other and being freely movable between said blanket means and said playing area surface for variably changing the contour of the upper surface of said blanket means; and a putting cue comprising a shaft and a head the head having a flat ball striking surface lying in a plane normal to the axis of the shaft, whereby said cue is constituted as ball striking means for use by a player standing on the surface supporting said table.

2. Apparatus according to claim **1,** additionally including, a plurality of cups each for disposition in a corresponding one of said plurality of holes, the height of said cup and the thickness of said blanket means being substantially similar.

3. Apparatus according to claim **2,** wherein said hole in said blanket is smaller than the largest circumference of said cup whereby said blanket constitutes means for restraining said cups against movement.

4. A golf game comprising a ball and putting cue and an assembly of parts for disposition upon a flat surface of predetermined peripheral dimensions spaced from ground level at substantially table height and comprising a frame, mounds and a flexible blanket:

a. said frame comprising means for containing said game within the inner periphery thereof and within the peripheral dimension of the flat surface, said frame means having a predetermined height;

b. said mounds comprising flexible layer means freely movable horizontally upon the surface and stackable one upon the other for disposition beneath the blanket, for changing the upper contour thereof at will;

c. said putting cue comprising a shaft and a head having a flat ball striking surface lying in a plane normal to the axis of the shaft whereby said cue is constituted as ball striking means for use by a player standing adjacent the flat surface upon which said assembly of parts is disposed.

d. said blanket comprising means for filling the area within said frame and being of a predetermined height lower than the height of said frame, and further constituting means for lying upon the surface and for flexing over said mounds, the flexibility of said blanket overlying said mounds producing suitable variations in the contour thereof, said blanket having a plurality of apertures therein, said blanket in the area of said apertures being of a thickness such that said apertures constitute means for receiving said ball.

5. The golf game of claim **4** in which the assembly of parts further comprises cups and flags:

a. said cups being dimensioned for substantially closely fitting in the apertures of said blanket and having a height substantially equal to the thickness of said blanket and a circumference larger than the diameter of said ball;

b. each said flag comprising a base and a pole portion, said base being smaller than the bottom of a cup and comprising means for sliding appreciably along the bottom of a cup when struck by a ball entering the cup;

c. said flag pole portion and base and said ball being dimensioned for fitting within the confines of said cup with said flag in the stand-up position.

6. The golf game assembly of chain **4** wherein said frame further comprises a horizontal leg extending inwardly from the inner periphery thereof said leg constituting means for lifting the edges of said blanket for preventing the resting of said ball along the inner periphery of said frame.

7. The golf apparatus of claim **4** wherein said layer means are peripherally irregular.

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