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CH-6901 Lugano (CH)(54) **An improved bowling alley.**

(57) A bowling alley comprising a leveled playing surface (1,2) covered with a low-friction carpet (4) and two pairs of opposing resilient raised rims (5) provided with pockets (13) at the joining corners thereof and at intermediate positions of the two longer rims (5).

Each of the raised rims comprises a length of an

elongated member incorporating means (2a, 2b, 2c) for securing the member to the playing surface and provided with a resilient profiled band (6) of elastomeric material.

A protection arcuated metal strap (8) is inwardly secured to the raised rims (5) for preventing the bowls (7) from escaping out of the bowling alley.

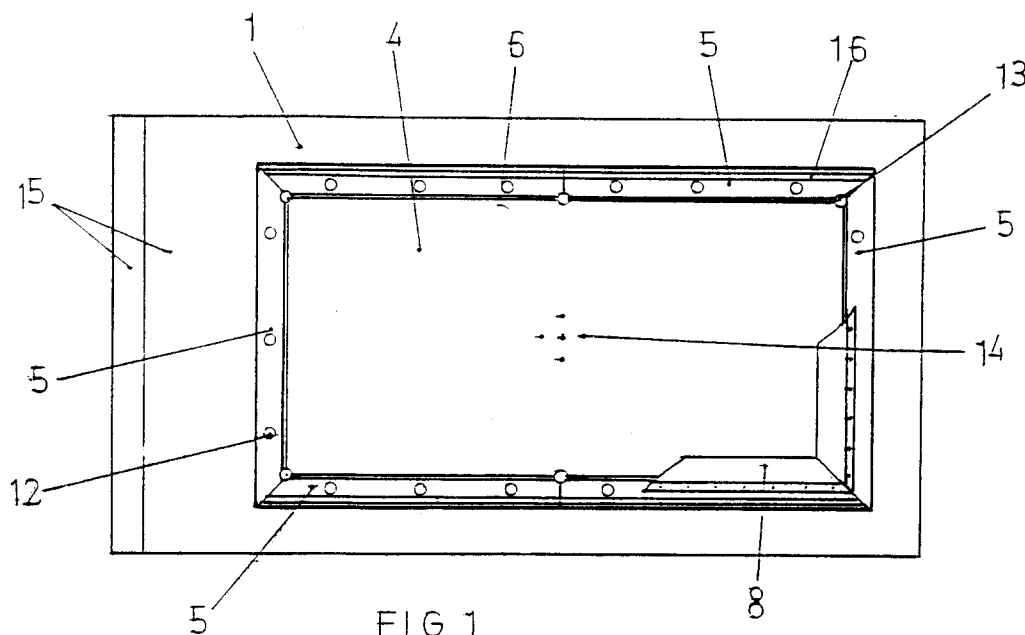


FIG 1

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The present invention relates to an improved bowling alley.

As it is known billiard game is played on a small size table delimited by resilient raised sides or rims, where the players, standing outside the playing surface, strike the balls using a cue or hands according to different rules of games. For many reasons connected to the precision requirements this has been usually considered as an indoor game.

On the other hand bowls game have been played since long and because of the playing field size it is an outdoor game also requiring some physical effort, and the players shoot their throws standing over the playing surface.

The object of the present invention is to provide a new playing structure for playing a number of novel games that share features of the above mentioned games, i.e. billiard and bowls.

The invention refers to a quite large size structure resembling in part that of a billiard table but which is comparable with a bowling alley or lane, realized with proper materials and techniques, where a player throws the balls or the bowls standing upon the playing lane, using balls about as large as conventional bowls, but with the opportunity of playing with an improved accuracy and of taking advantage of the ball bouncing or rebounding as it happens in billiard games, using for example the rules of the billiard games in which the balls are hand-thrown.

The above object is accomplished by a bowling alley as claimed in claim 1.

Additional advantageous features are recited in the dependent claims.

The invention will now be described in details with reference to the accompanying drawings, that illustrate a preferred but non limiting example thereof, in which:

Fig. 1 is a plane view of the bowling alley according to the invention;

Fig. 2 is a side view of the bowling alley according to the invention;

Fig. 3 is scrap cross section view showing the construction of the raised rims.

With reference to the Figures, the bowling alley according to the invention consists of a substantial-ley rectangular playing field comprising a reinforced concrete bed or sill 1 upon which prefabricated panels 2 stand forming a leveled playing surface. Preferably, the concrete bed 1 is resting on a platform slightly protruding from a ground floor.

Panels 2 are provided with plate-screw adjusting devices for a perfect leveling of the surface. With reference in particular to Fig. 3, each of such devices comprises a screw 3, a lower plate 3a mounted at the end of the screw 3 and in contact

with the bed 1, and an upper plate 3b partially embedded into the underside of the panel 2 and provided with an threaded hole for receiving the screw 3. The panel has a through hole for housing the screw so that it does not protrude above the panel upper surface. Although the rims are preferably built with sections of prefabricated elements it is also envisable a construction by means of a prefabricated enbloc structure.

A carpet 4 of a weatherproof material, such as a plastic material for example, is laid over the panels 2 and stuck thereto by means of a proper cement or glue for a better controll of the rolling bowls (or balls). The size of the alley is such as to allow the players stepping over it when throwing the bowls.

Around the carpet periphery there are located two pairs of opposing raised rims 5 which are joined together at their ends for forming the alley corners.

The rims or borders 5 are provided with screw locking devices, each comprising a rod 2a having its lower portion embedded or otherwise secured into a panel and a threaded portion protruding therefrom into a through hole in the rim member and engaging a nut 2c through a washer 2b. The hole has an upper section of larger diameter thus allowing for the proper alignment of the rims, and is closed by a top cap 12.

A profile 6 of a natural or synthetic elastomer is fitted to the inwardly facing side the rims 5 along their whole length for allowing the bouncing of the bowls 7 at an angle equal to the incident one. The elastomeric profile 6 is secured to the rim members 5 by means of complementary indented shapes resembling that of a half-dovetail, and a suitable arcuated metal strap 8 is fixed by means of screws 9 to the upper face of the rims 5. The arcuated metal strap 8 accomplishes both the functions of protecting the rim from atmospheric agents and of reflecting the light from neon (or other type) lamps 10 attached thereunder for illumination purpose.

This strap 8 has further the purpose of preventing the bowls 7 from escaping outside the playing field in case they hit the rims at high speed. An rounded profile 11 is applied to the inward projecting edge of the strap 8 for preventing damages to bowls that bump against it.

In the rims of the bowling alley there are provided six pockets 13, as in a conventional billiard table, that affect the scoring in a manner similar to the billiard game, i.e. scores can be either gained or lost according to a set of prefixed rules when a bowl falls into a pocket. Furthermore, five or more skittles 14 can be located in the midfield, for similar purposes.

A low channel 16 is formed along the upper side of the rims, near the outer edge of the rim, for returning the bowls that have been dropped into the pockets 13.

A bench 15 is located in the free area of the concrete bed 1 for players waiting to play or for viewers, and all the components of the bowling alley are generally manufactured with weatherproof materials.

Of course the same construction can be realized with weatherproof materials also for a smaller size playing fields, so that it will be possible obtaining a new range of games to be played outdoor, with dimensions allowing to play both in traditional way or by stepping over the playing field.

The goal of the novel games to be played with the structure of the invention will be that of scoring both by direct or rebounding approach, as well as by hitting the jack ball or the opponent's bowls beyond the half-way line, however, due to the much larger size of the playing field over which the players can both stand and step, a new game comparable to a new sport is made possible, requiring a remarkable degree of concentration and physical effort, and that will be normally played outdoor.

Claims

1. A rectangular bowling alley characterized in that it comprises a leveled playing surface (1,2) covered with a low-friction carpet (4) stuck thereto, and two pairs of opposing resilient raised rims (5) provided with pockets (13) at the joining corners thereof and at an intermediate position of the two longer rims (5).

2. A bowling alley as claimed in claim 1, characterized in that each of said raised rims comprises a length of an elongated member incorporating means (2a, 2b, 2c) for securing the member to the playing surface, and provided with a resilient profiled band (6) of elastomeric material, the lengths being joined together to form the four corners of said rectangular bowling alley.

3. A bowling alley as claimed in claim 2, characterized in that a protection arcuated metal strap (8) is secured to said elongated member forming the raised rims (5) for preventing the bowls (7) from coming out of the bowling alley.

4. A bowling alley as claimed in claim 3, characterized in that lamps (10) are secured to the undersurface of said protection arcuated straps (8).

5. A bowling alley as claimed in claim 3 or 4, characterized in that the free edge of said protection strap (8) is covered by a rounded profile (11).

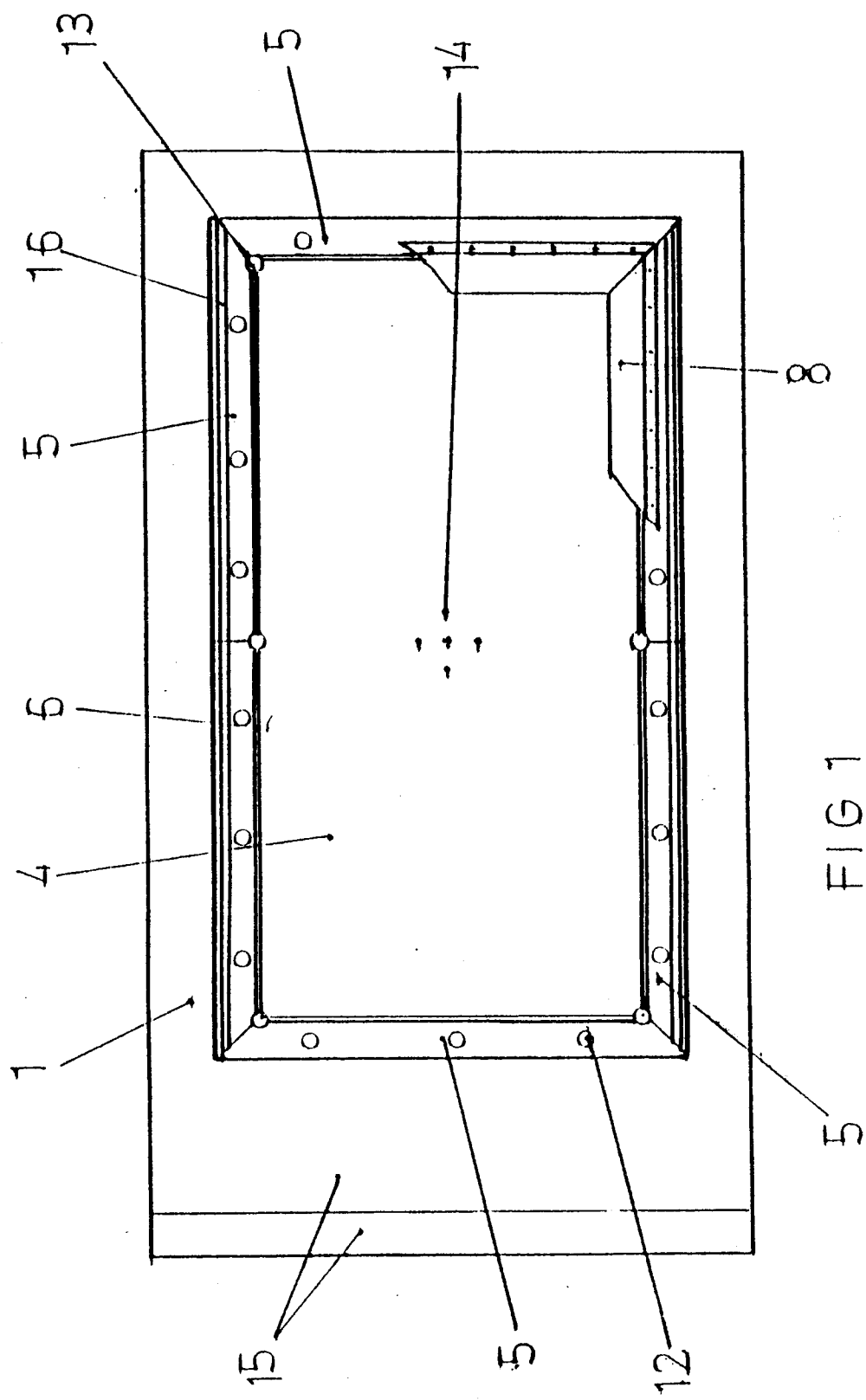
6. A bowling alley as claimed in claim 2, characterized in that said elongated member has a substantially rectangular cross section and said profiled band (6) of elastomeric material is applied over one of the short sides.

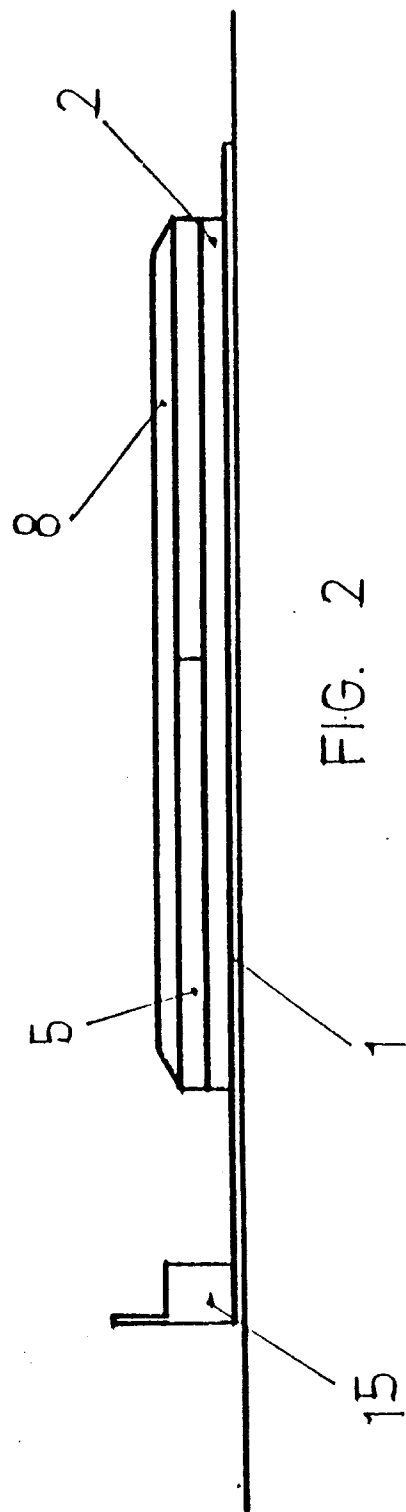
7. A bowling alley as claimed in claim 2, characterized in that said elastomeric material is natural or synthetic rubber.

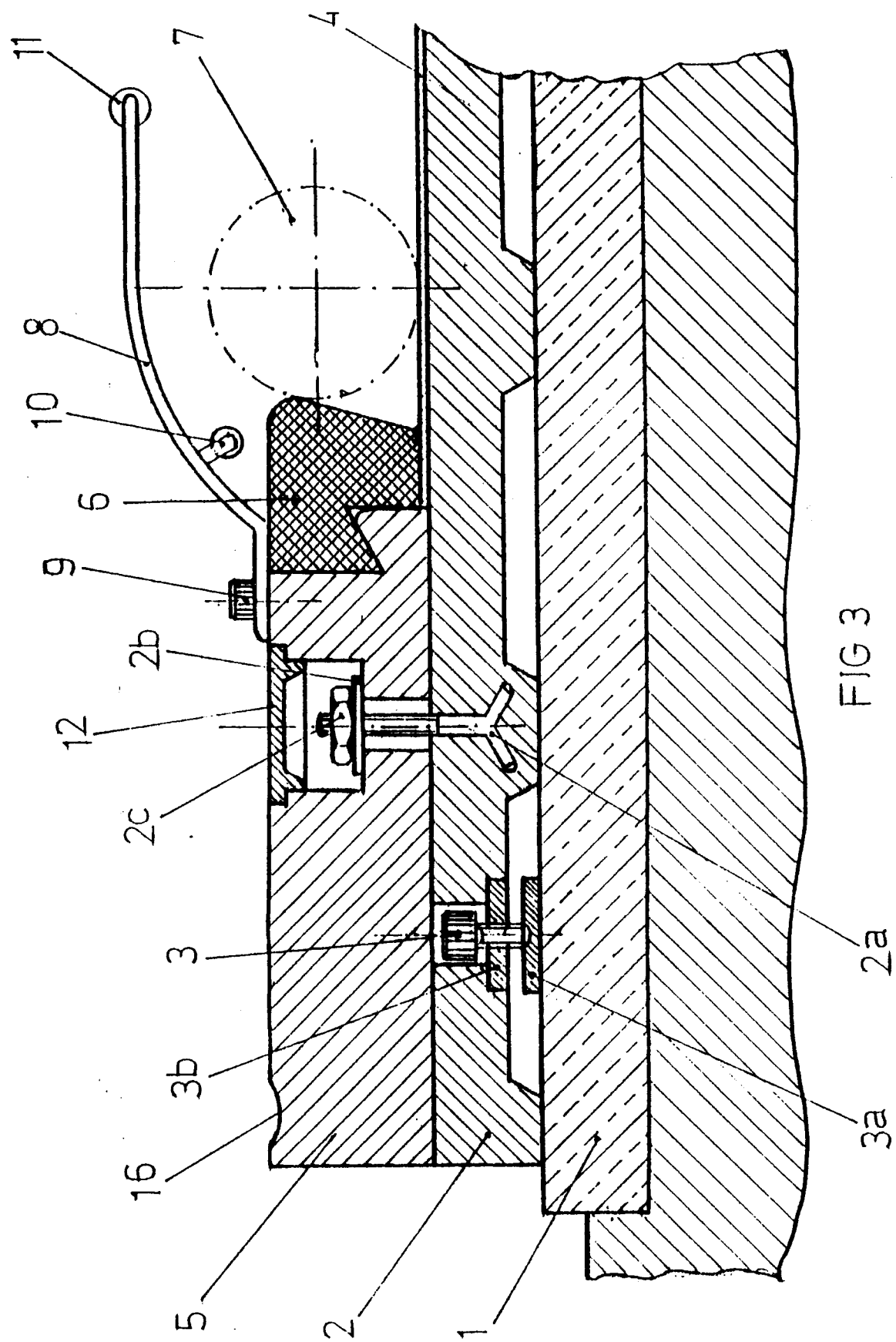
8. A bowling alley as claimed in the preceding claims, characterized in that said playing surface comprises a concrete bed (1) and a plurality of adjacent prefabricated panels (2) overlaying said concrete bed, each provided with devices (3, 3a, 3b) for leveling the playing surface.

9. A bowling alley as claimed in the preceding claims, characterized in that channels (16) are located along the rims (5) for returning the bowls (7).

10. A bowling alley as claimed in the preceding claims, characterized in that a bench for the players and/or viewers is mounted on said concrete bed (1).









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EUROPEAN SEARCH REPORT

Application Number
EP 94 11 0174

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US-A-1 946 232 (OLSEN) * the whole document * ---	1,2,6,7,9	A63D1/00 A63D15/00
X	US-A-1 950 221 (BUCKLER) * the whole document * ---	1,2,4,6-8	
A	GB-A-207 914 (OLIVER) * page 1, line 7 - line 46; figure 2X * ---	1,10	
A	US-A-4 579 342 (MORTENSEN) * abstract; figures 1-4 * ---	1	
A	FR-A-731 004 (GODEFROID) * page 2, line 15 - line 20 * * page 2, line 35 - line 39; figure 4 * -----	3,4	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A63D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 4 October 1994	Examiner Baert, F
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	