July 1, 1969 B. DI MOTTA 3,452,987

TILTABLE ELECTRIC GAME BOX

Filed Aug. 10, 1966 Sheet 1 of 4

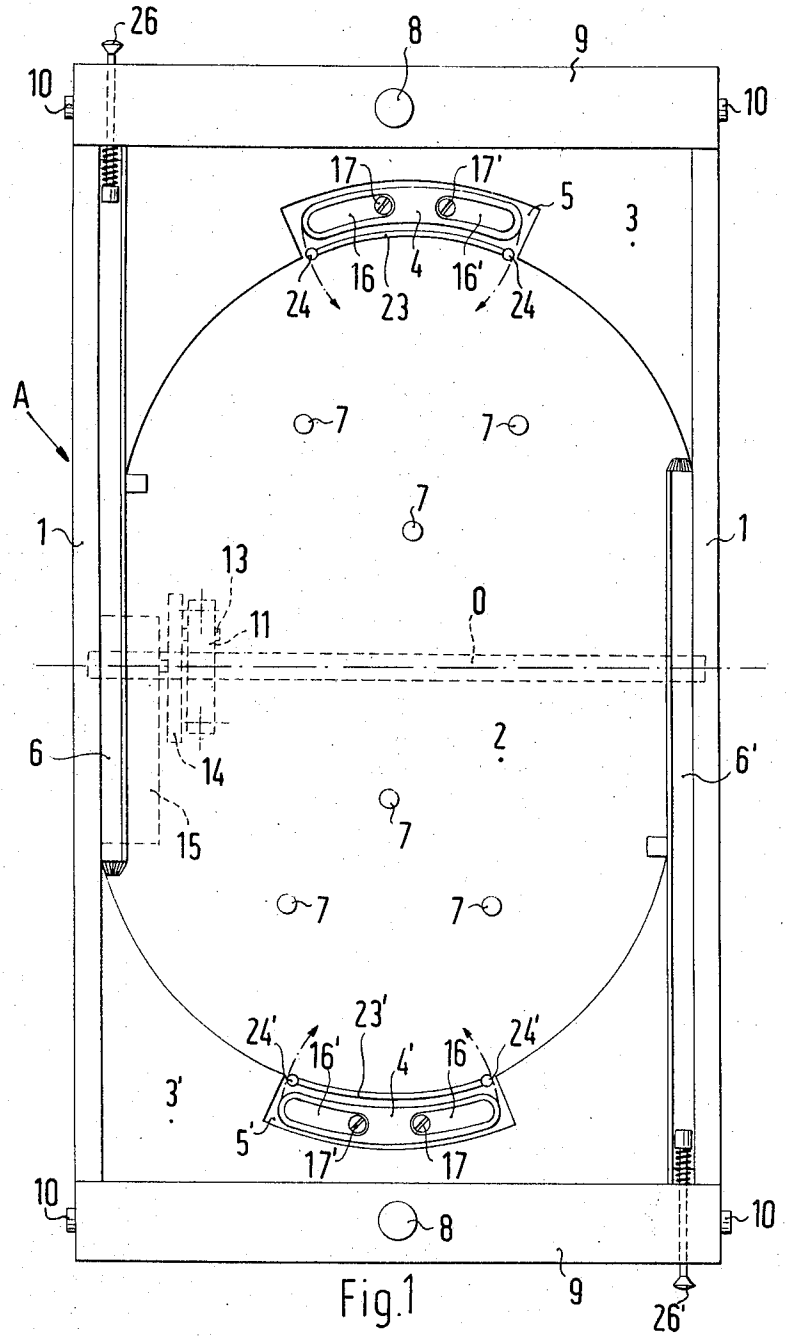


Fig.1

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TILTABLE ELECTRIC GAME BOX

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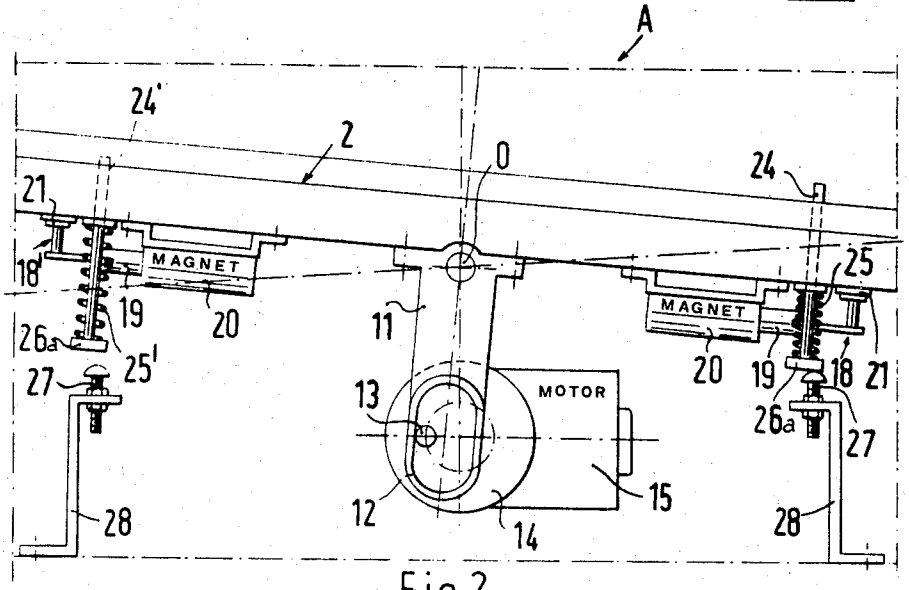


Fig.2

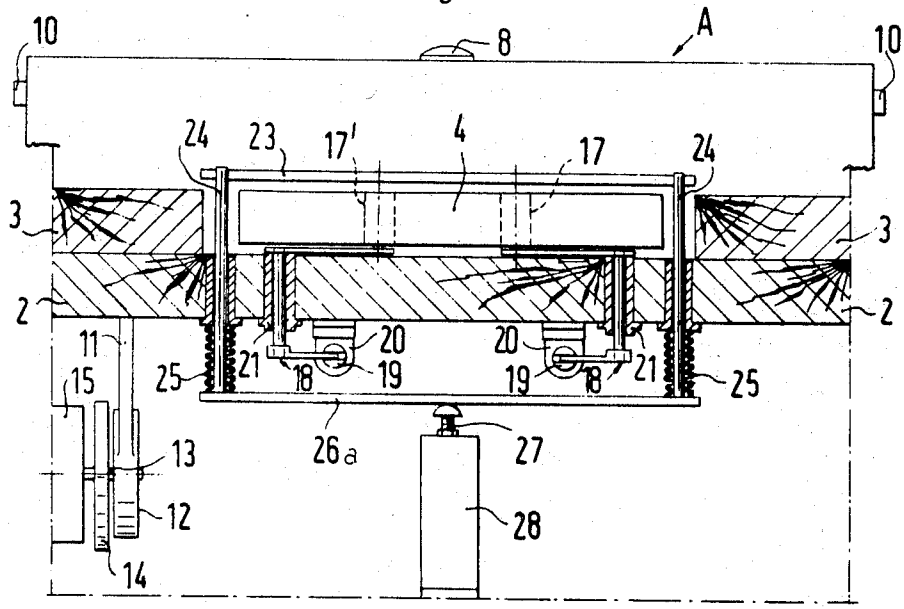


Fig.3

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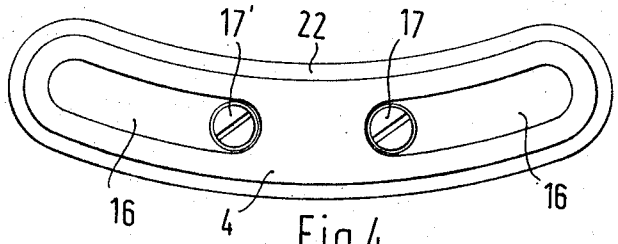


Fig.4

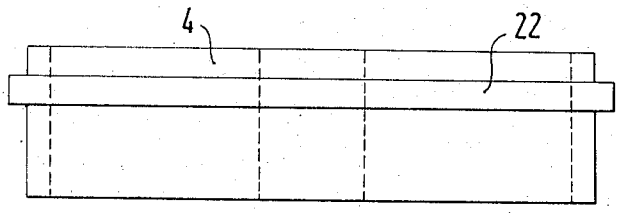


Fig.5

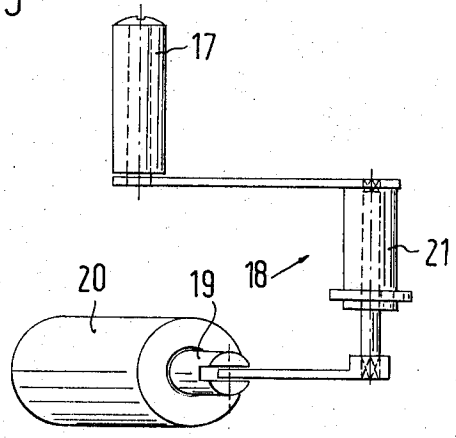


Fig.6

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TILTABLE ELECTRIC GAME BOX

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Fig. 7

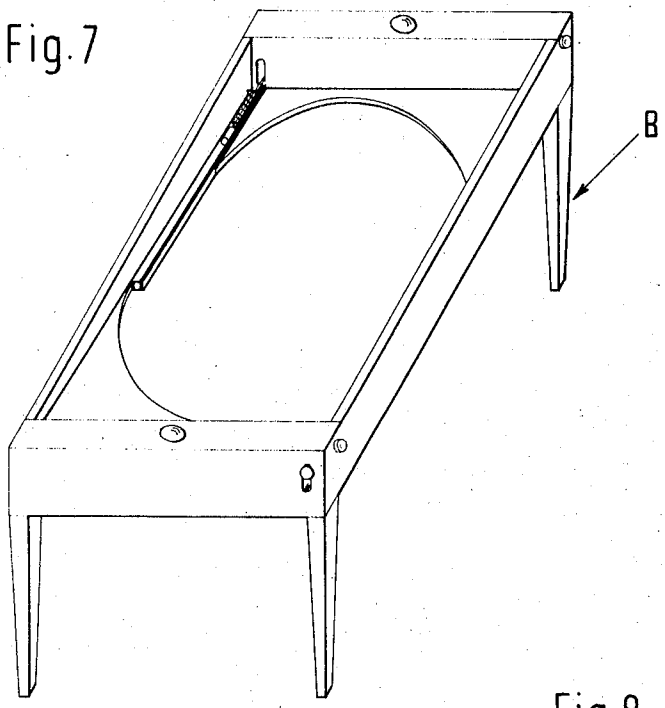
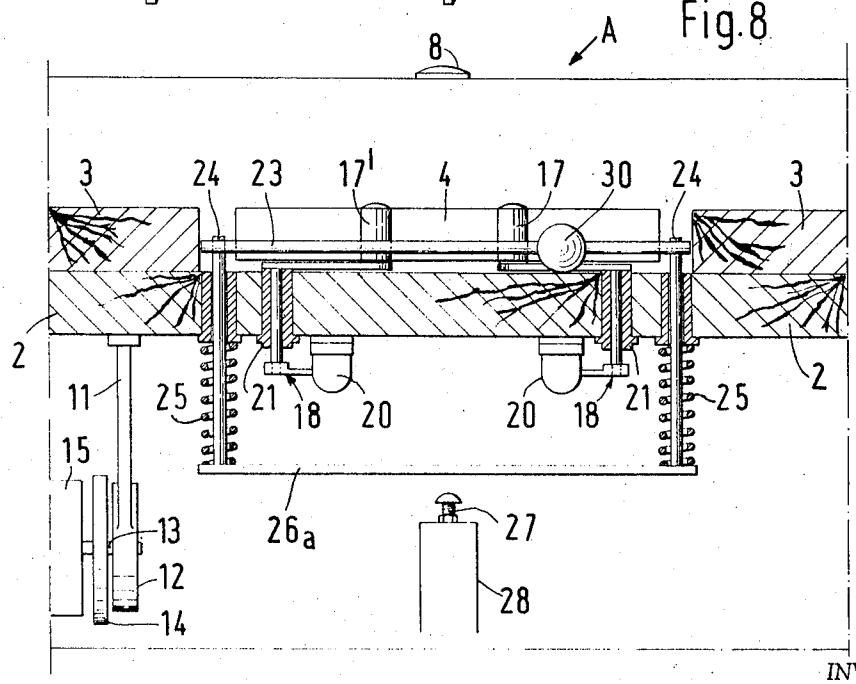


Fig. 8



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United States Patent Office 3,452,987 Patented July 1, 1969

3,452,987

TILTABLE ELECTRIC GAME BOX

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Int. Cl. A63b 67/14, 71/04; A63f 7/10
U.S. Cl. 273—110 6 Claims

ABSTRACT OF THE DISCLOSURE

An electric game box for a two-sided game for two players, consisting of a quadrangular chest supported on legs and having a playing surface adapted to be inclined about a central balancing crossbar mounted below the playing surface. A buffer is fitted on each of the shorter sides of the chest for rebounding a playing ball adapted to run on the playing surface. Each buffer is provided with a guard movable vertically in front of the buffer, as a function of the inclination of the playing surface by being connected with means resiliently engaging an abutment below the playing surface. The buffers are located in the center of two elements placed on the shorter sides of the playing surface and shaped so as to confer to the playing surface the form of an ellipse. Electric contacts are located in equal numbers on each half of the playing surface and are energized alternatively as a function of the inclination of the playing surface and the arrangement is such that when the playing ball touches one of the energized contacts, the direction of inclination of the playing surface can be changed by a player by pressing an electric push-button located on each of the shorter sides of the chest. By pressing the pushbutton an electric motor mounted below the playing surface is switched on to drive an eccentric and shift a connecting link to change the inclination of the playing surface. Each longer side of the chest is provided with a longitudinal passage with means for the propulsion of a playing ball onto the playing surface.

The present invention concerns an electric game box for a two-sided game, for two players, consisting of a quadrangular chest, supported on legs, in which the playing surface of the game rocks, being balanced in the centre, there being fitted on the two shorter sides of the said chest two buffers, one on each of the said sides, with a vertically movable guard, for the purpose of rebounding a ball which, in running on the said playing surface, touches electrical contacts, energised alternately, which cause the playing surface to tilt if at the time of the passing of the ball over one of them in the energised state a pushbutton is pressed, there being situated on each of the longer sides of the said chest a passage for the entry and the projection of the ball on to the playing surface, each of the said passages running in the opposite direction to the other.

A preferred embodiment of the invention will now be described by way of example and with reference to the accompanying drawings, in which:

FIG. 1 is a top plan view of an electric game box according to the invention.

FIG. 2 is a view in elevation of the inside of the game box seen from one of its longer sides and enlarged with respect to FIG. 1.

FIG. 3 is a view of the inside of the game box, partially in section, seen from one of the shorter sides and enlarged with to respect to FIG. 1.

FIGS. 4, 5 and 6 show a buffer in plan view, the same seen from the side and the driving element, greately enlarged.

FIG. 7 is a perspective view of the game box.

FIG. 8 is a view similar to FIG. 3, but as seen from the opposite side.

The game box with its rocking surface is made up of a rectangular chest A mounted on four legs B (FIG. 7), the upper part of which is covered by a sheet of protecting glass held firm by lateral guides **1**. The playing surface of the game consists of a flat surface **2**, rocking about a central crossbar O, on which there are mounted, on the two shorter sides, two elements **3**, **3'** shaped so as to confer to said surface the shape of an ellipse and in the center of the elements **3**, **3'** are positioned buffers **4**, **4'**, in the shape of the arc of a circle and housed in corresponding recesses **5**, **5'** formed in the elements **3**, **3'**, and in communication with the playing surface **2**.

On the two long sides of the playing surface **2** there are two passages **6**, **6'** into which a playing ball **30** (FIG. 8) is to be inserted and the ball **30** is made to rebound by the buffers **4**, **4'** and runs over the playing surface touching mushroom-shaped electrical contacts **7** connected to a network for supply of electric current thereto and alternatively energized as a function of the tilting of the playing surface **2**. The electric contacts **7** allow the direction of tilting of the playing surface to be altered if, at the time of the passing of the ball over one of them in the energized state, one of two pushbuttons **8** situated in the centre of frontal glass stops **9** is pressed. At the upper corners of the lateral facing of the chest there are four pushbuttons **10** for actuation of the buffers **4**, **4'**.

Below the playing surface **2** and corresponding with the axis of the balancing crossbar O, is fixed a support **11** terminating in a link **12** passed through by a pivot **13** of an eccentric **14** driven by means of a small electric motor **15** when, by pressing a pushbutton **8**, it is desired to tilt the playing surface **2** in the opposite direction.

The buffers **4**, **4'**, provided on their circumferences with a damper **22** of elastic material, have two internal slots **16**, **16'** in the shape of the arc of a circle, in each of which, by means of a rotatable roller **17**, moves one end of a crankshaft **18** of which the opposite crank arm or other end is pivoted to the core **19** of an electromagnet **20**. The crankshaft **18** passes with its crank pin through the playing surface **2** from top to bottom and is guided in its rotation by a bush **21** placed in the surface **2** while the end with the freely rotatable roller **17** is adapted to move with the buffer **4**, with a radius the centre of which is the axis of the projecting end (roller **17'**) of the adjacent crankshaft **18'**, when the corresponding pushbutton **10** is pressed.

At the front of each buffer **4**, **4'** there is a vertically movable guard **23**, **23'** consisting of a rod with the same curvature as the elements **3**, **3'** so as to close the recesses **5**, **5'** when the guards **23**, **23'** are in their lowered position in which the curvature of the guards forms a continuation of the elements **3**, **3'**. The opening or closing of the guard **23**, **23'**, which allows only one end to be used for play, is regulated by the rocking of the playing surface **2**, each guard **23** being linked to two vertical rods **24**, **24'** which pass through the playing surface **2**, being held pressed down below the said surface by springs **25**, **25'** which surround the rods **24**, **24'** and are linked in pairs, for each end of the apparatus, by a crosspiece **26***a* which, when the playing surface tilts, strikes a screw **27** of adjustable height screwed to a bracket **28** fixed to the chest A in such a way that, due to the tilting of the playing surface, the rods **24** (FIG. 2) are pushed upwards by the crosspiece **26** and compress the springs **25** so that the guards **23** move upwards (FIG. 3), thus allowing the buffers **4** to operate while the springs **25'** of the opposite guard **23'** pull back the guard **23'** thus closing the recess **5'** and allowing the game to be played only at the opposite end of the apparatus.

Generally speaking two players stand facing the shorter sides of the chest A and the game is begun with the playing surface **2** tilted towards one of the players who inserts the ball **30** into the passage **6** (or **6'**) placed on his right, driving it on to the playing surface **2** by means of a known striker **26** or **26'**. The ball runs over the surface **2** on which the electrical contacts **7** are located and the other player can at a suitable moment, that is to say, when the ball touches one of these contacts **7** in an energised state, alter the tilt of the surface **2** so as to make it lean in his direction by pressing the pushbutton **8** situated at the centre of the glass stop **9**.

It is obvious that the guards **23, 23'**, when lowered, not only close the recesses of the housings of the buffers but also make uniform the trajectory which can be followed by the ball after it has been struck, each guard constituting the continuation of the curve of the elements **3, 3'** at a height corresponding to the radius of the ball **30** (FIG. 8).

What I claim is:

1. An electric game box comprising

a quadrangular chest supported on legs and having a playing surface adapted to be inclined about a central balancing crossbar mounted below the playing surface,

a buffer fitted on each of the shorter sides of the chest for rebounding a playing ball adapted to run on said playing surface,

a guard for each buffer, movable vertically as a function of the inclination of said playing surface to cover and uncover its associated buffer,

electric contacts located in equal numbers on each half of said playing surface and connected to a network for supply of electric current thereto, the contacts on each half of the playing surface being adapted to be energized alternatively as a function of the inclination of said playing surface,

an electric pushbutton on each shorter side of said chest, connected to the electric network of said electric contacts so that when said playing ball touches one of said contacts while it is energized, the pressing of the pushbutton will cause the tilting of the playing surface to the other side,

means for the propulsion of a playing ball onto said playing surface on each longer side of said chest, and

a longitudinal passage extending along each of the longer sides of said chest, one in the opposite direction to the other, and accommodating said propulsion means.

2. An electric game box as claimed in claim **1**, wherein two elements shaped so as to confer to the playing surface the shape of an ellipse are placed on the shorter sides of said playing surface and the buffers are located in the center of these elements and are in the shape of the arc of a circle and located in corresponding recesses formed in the elements and communicating with said playing surface.

3. An electric game box as claimed in claim **1**, wherein a support is secured below the playing surface along the axis of the central balancing crossbar and terminates in a link accommodating a pivot of an eccentric driven by an electric motor when a player, by pressing one of the electric pushbuttons on the shorter sides of the chest, wishes to tilt the playing surface in the opposite direction.

4. An electric game box as claimed in claim **1**, wherein the buffers are provided with a peripheral elastic damper which also helps to rebound the playing ball and the inside of each buffer is provided with two slots of the same curvature, each rotatably receiving a roller mounted at one end of a crankshaft having its other end pivoted to the core of an electromagnet, said crankshaft having a crank pin extending vertically through a bush in the playing surface to guide the crankshaft in its rotation while its end carrying the freely rotatable roller is adapted to move with the buffer about the axis of the crank pin when the associated actuating pushbutton is pressed.

5. An electric game box as claimed in claim **1**, wherein two elements shaped so as to confer to the playing surface the shape of an ellipse are placed on the shorter sides of the playing surface and each movable guard is located in front of the associated buffer and formed of a curved rod having the same curvature as the shaped elements and in its lowered position forming the continuation of the latter at a height corresponding to the radius of the playing ball, each buffer located in a recess in the associated shaped element and the inlet of the recess being adapted to be opened and closed by the vertical movement of said curved rod which for this purpose is attached to two metal rods extending through the playing surface and pressed down below the playing surface by springs and connected at their lower ends by a crosspiece adapted to abut a secrew when the associated end of the playing surface is tilted down, said screw being of adjustable height and carried by a bracket secured to the base of the quadrangular chest.

6. An electric game box as claimed in claim **1**, wherein the curvature of the buffers guard is such as to permit the playing ball to be rebounded according to the order of pressing of the electric pushbuttons.

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U.S. Cl. X.R.

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