Aug. 8, 1961 P. T. HINES 2,995,372

MINIATURE GOLF GAME APPARATUS

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Fig. 1.

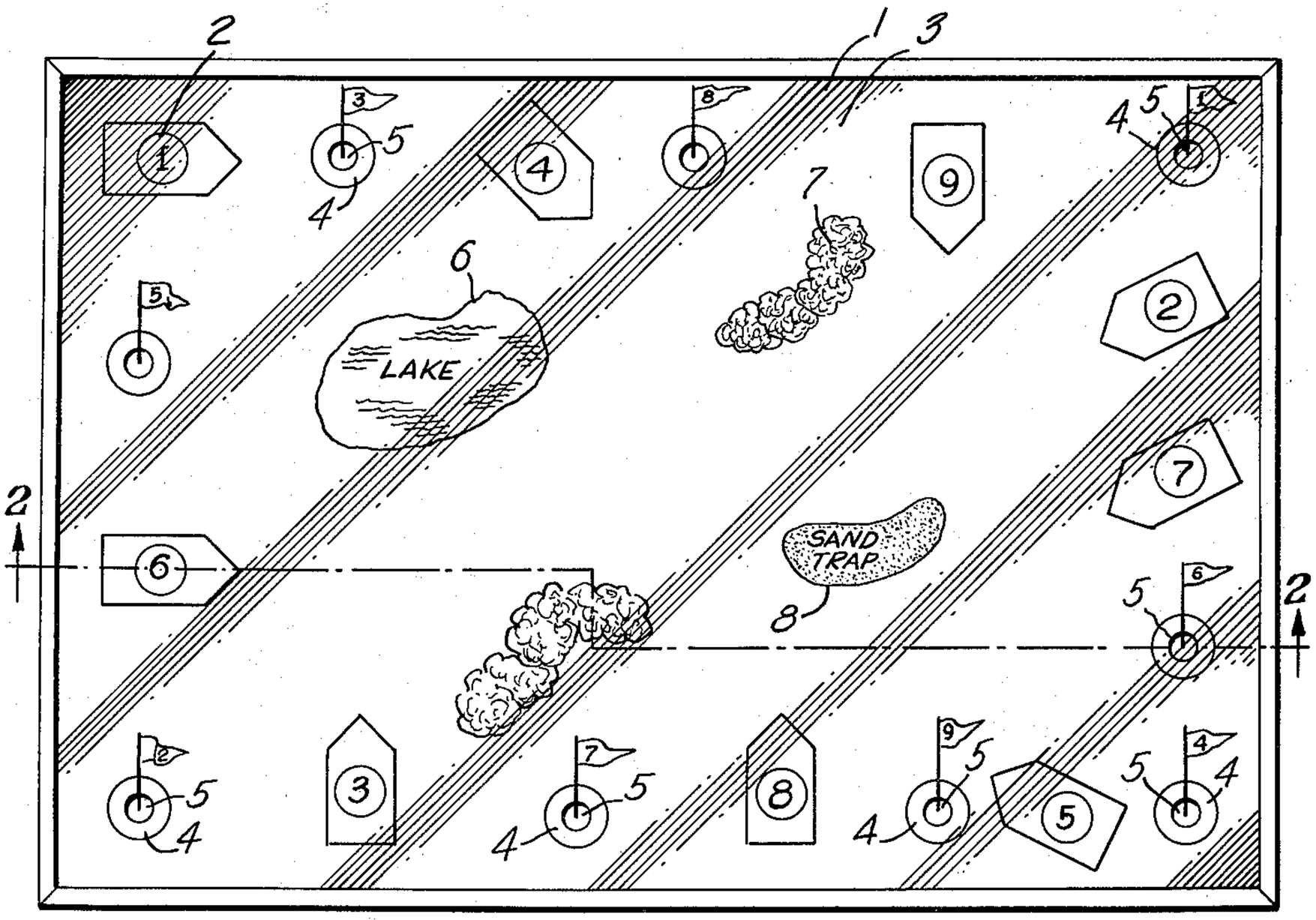
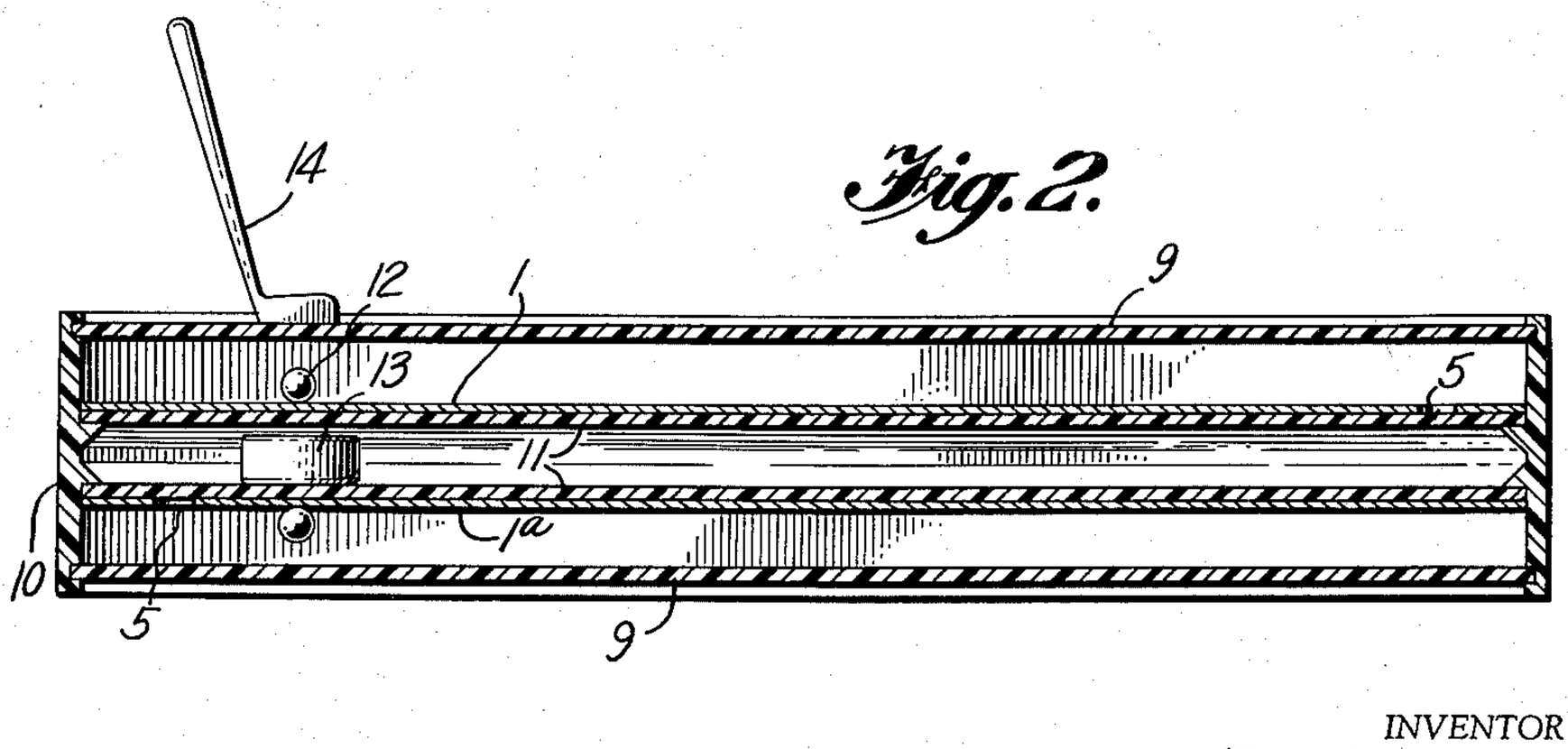


Fig. 2.



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MINIATURE GOLF GAME APPARATUS

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This invention relates to a miniature golf game apparatus characterized by playing conditions approaching those involved in full scale golf.

Heretofore a variety of game apparatus has been proposed for use in playing miniature golf. An early form of apparatus comprises a game board including a simulated golf course playing surface upon which a miniature golf ball is positioned. Movement of the ball is effected by tilting the apparatus to induce the ball to roll in the direction of tilting. As will readily be appreciated, this mode of actuation bears little resemblance to conditions encountered in full scale golf.

In an effort to impart more realism to miniature golf apparatus, there has been proposed the use of a miniature golf club and ball in conjunction with a miniature golf course configured playing board. Although this development approaches considerably further realistic game conditions, it is subject to the substantial disadvantage of lack of control over the miniature ball. In attempting to manipulate the ball with the miniature golf club, it is not at all unusual for the ball to be projected completely outside the confines of the apparatus, frequently being lost to the players due to its miniature size.

A still further attempt at providing a satisfactory miniature golf apparatus involves the use of a playing surface, a miniature golf ball positioned thereon, a transparent cover spaced from the surface, and a magnet actuating member. In this apparatus, movement of the miniature golf ball is influenced by positioning the magnet adjacent the transparent cover over the position of the ball on the playing surface and then attempting to manipulate the ball along predetermined paths containing movement obstacles. This apparatus, in requiring the use of predetermined paths, limits severely the degree of ball movement encountered in full scale golf. In addition, when the magnet actuating member is not in use, the miniature ball, like the ball employed in the previously described apparatus, is subject to displacement due to inadvertent jogging of the game board. As such miniature games are generally used by persons of less than mature age, the likelihood of such inadvertent board movement is substantial with the result that playing conditions are severely hampered.

The use of magnet means for controlling the movement of game pieces has found widespread application. Thus, it is fairly commonplace to employ a magnet either above or below a playing surface to induce movement of a game piece. When employed above the game surface, the magnet member tends to pull the game piece away from the game surface, thus destroying the generally desired contact of the game piece with the game board. Such loss of contact frequently permits the game piece to move outside the periphery of the game area or into undesired areas within the game area. Although use of a magnet actuating member below the surface of a game board diminishes the likelihood of this unwanted effect, movement of the magnet actuating member at such a rate as to lose the maintenance of magnetic contact with the game piece, or actual removal of the actuating member from magnetic range of the game piece, permits inadvertent and undesired movement of the game piece such as described in connection with the nonmagnetic games above.

Through the present invention, a miniature golf apparatus is provided wherein, by magnetic means, movement of a miniature golf ball is influenced by movement of a golf club resembling actuator. The magnet means is employed to maintain the miniature golf ball in contact with the simulated golf course playing surface at all times. Thus, although the ball is susceptible to free movement in the plane of the playing surface, it is confined to this surface. In addition to maintaining the ball in contact with the playing surface, the magnet means serves to steady the ball during playing conditions to avoid excessive or inadvertent movement due to accidental jogging of the apparatus and to steady movement of the ball when manipulated under the influence of the actuating golf club.

It is a further object to provide a miniature golf game apparatus provided with means for confining the miniature game piece or golf ball to the peripheral limits of the apparatus playing surface and to prevent the game piece from being accidentally discharged from the apparatus.

It is a further and particularly significant object to provide a miniature golf apparatus wherein movement of a miniature golf ball across a simulated golf course playing surface is influenced by movement of an actuating member resembling a miniature golf club, which actuating member may be manipulated in a manner corresponding to that in which a full scale golf club is utilized.

To accomplish the objects of this invention, there is contemplated a game apparatus comprising a nonmagnetic playing surface, and a movable assembly including a movable magnetically attractable game piece positioned above the playing surface and a movable magnet control member positioned below the playing surface within effective magnetic range of said game piece. The magnetically coupled magnet control member and game piece are both substantially unrestrained for movement parallel to and within the periphery of said playing surface. Included in the apparatus is a housing having a transparent cover spaced above the playing surface and a side wall surrounding the peripheral edge of the playing surface and extending both above and below the surface to define a barrier confining the magnet control member and the game piece to the peripheral limits of the playing surface. A magnetically attractable actuating member which may take the form of a miniature golf club is provided. This actuating member, when positioned within effective magnetic range of the magnet control member, induces movement of the magnet control member parallel to the playing surface responsive to its movement across the surface. The magnet control member, so induced to move, in turn induces corresponding movement of the magnetically attractable game piece parallel to the playing surface and by virtue of its magnetic attraction for the game piece serves to retain the game piece in contact with this surface.

The apparatus having been generally described, its specific structural features will now be examined by reference to the appended drawings in which:

FIGURE 1 is a top plan view of the apparatus, in a preferred embodiment, showing in detail a simulated golf course playing surface, and

FIGURE 2 is a sectional view taken along the line 2—2 of FIGURE 1 and showing the actuating member game piece and magnet control member in their normal mode of association.

As illustrated in FIGURE 1, the apparatus non-magnetic playing surface **1** includes elements conventionally encountered on a full scale golf course. There are provided simulated tees **2**, simulated fairways **3**, and simulated greens **4** including holes **5**. Although not necessary, it may be convenient in the playing surface to provide indentations in the playing surface corresponding to the holes on each green. Also provided are such simulated obstacles as bodies of water **6**, woods **7**, and sand-

traps 8. While the particular arrangement of these elements is discretionary, they should be associated as nearly as possible to provide the difficulties and problems encountered in conventional golf courses. Indeed, a particular element of interest may be added by conforming the playing surface layout to actual well known golf courses.

The actual structure of the apparatus, including the elements employed in playing miniature golf, are best shown by reference to FIGURE 2. FIGURE 2 discloses the dual playing surface feature of the preferred embodiment of this invention. Thus, there is provided not only a playing surface 1 as shown in FIGURE 1 but an additional playing surface 1*a* on the opposite side of the apparatus. This second playing surface 1*a* may include an additional nine-hole course such as is simulated on the first playing surface so as to provide a full eighteen-hole simulated golf course.

In the cross section view of FIGURE 2, the elements of the game apparatus housing are clearly delineated. Included in the housing is a transparent cover 9 spaced above each playing surface and a side wall 10 surrounding the peripheral edge of the playing surfaces and extending both above and below each surface.

The underface of each playing surface is either polished or made smooth by other conventional techniques to reduce its friction characteristics to a minimum. A preferred method of smoothing this underface involves the incorporation of a sheet 11 of highly polished or normally smooth plastic material beneath each playing surface.

Between each cover and playing surface is positioned at least one simulated game piece or golf ball 12. Beneath the playing surface is positioned a magnet control member 13. The magnet control member 13 is selected as having sufficient magnetic strength so as to be magnetically effective with respect to the game piece 12. To assure effective magnetic interaction between the game piece 12 and magnet control member 13, it will be necessary, of course, in each instance to properly correlate the magnetic strength of the control member 13 with the thickness of the playing surface 1 and underlying plastic sheet 12.

Because of the magnetic attraction between the game piece 12 and magnet control member 13, the game piece 12 will be attracted at all times toward the control piece 13 and thus held in contact with the playing surface 1. Movement of the control piece, facilitated by the smooth or polished underface of the playing surface, will result in corresponding movement of the game piece 12 parallel to and in contact with the playing surface 1. Because of the peripheral side wall 10, both the control member 13 and game piece 12 at all times will be maintained within the periphery of the playing surface 1. The use of the transparent cover 9 provides additional assurance that the game piece will not leave the confines of the apparatus.

To manipulate the game piece 12, there is provided an actuating member 14 in the form of a miniature golf club. The actuating member is of magnetically attractable material and the dimensions of the apparatus housing are such as to insure that the actuating member, when placed adjacent cover 9, is within effective magnetic range of the magnet control member 13. Thus, to manipulate the game piece 12, it is merely necessary to move the actuating member 14 across the transparent cover over the magnetic control member 13. Because of the magnetic interaction between the control member 13 and the actuating member 14, movement of the actuating member 14 across the transparent cover 9 induces movement of the magnet control member 13 parallel to the playing surface 1. The induced movement of the magnet control member, in turn, as previously described, induces a corresponding movement of the game piece 12 by virtue of

the magnetic interaction between the magnet control member 13 and the game piece 12.

In playing the game, a variety of rules in connection with the use of the actuating member may be imposed. To approach the most realistic conditions possible, however, the miniature golf club actuating member 14 should be required to actually be swung or moved rapidly over the transparent cover 9 in the vicinity of the game piece 12 and associated magnet control member 13 so as to induce a substantialy free movement of the game piece 12 and control member 13 resembling that produced by actually striking a full scale golf ball with a full scale golf club. Upon being influenced to undergo such free movement, the movement of the game piece 12 is stabilized by the association of the magnet control member 13. The inertia of this member reduces its tendency to erratic movement to a minimum. Its movement being so stabilized, and because of its magnetic attraction and movement inducing relationship to the game piece, the movement of the game piece 12 will be similarly stabilized.

Because of the smooth and substantially unobstructed character of the underface 11 of the playing surface 1, which permits essentially free movement of the magnet control member 13, free directional movement of the game piece is permitted. Thus, any induced movement of the game piece 12 is likely to result in the game piece being positioned in a hazard, or conversely in a desirable position, on the playing surface so as to produce realistic playing conditions.

Although the actuating member has been described both as to its preferred structure and mode of utilization, alternative arrangements are readily apparent. The actuating member as disclosed, instead of being used to impart free movement to the control member and game piece, may be moved with the control member and game piece so as to provide controlled movement thereof. In addition rather than inducing movement of the game piece and control member from above the playing surface, such movement may be readily induced from below the surface by merely moving the actuating member across the underside of the apparatus housing.

As illustrated, the miniature golf game apparatus includes two playing surfaces defining between them a cavity within which a magnet control member is freely movable or floatable. The magnet control member within the cavity is within effecting magnetic range of a magnetically attractable actuating member moved across the face of the transparent cover on either side of the apparatus. As is obvious, however, the invention may be practiced with but a single playing surface so as to include merely a single playing surface, game piece above the surface, magnet control member below the surface, transparent surface spaced from and above the playing surface, and side wall encircling the surface. Although a bottom wall for a single playing surface embodiment, in certain instances, may be desirable to define a cavity for the magnet control member, it is possible that this bottom wall be eliminated so as to permit the magnet control member to be manually positioned as desired. This would particularly facilitate positioning of the game piece in initiating playing of the game.

Although the apparatus has been specifically described in connection with the simulation of a minature golf course, its application extends far beyond this game to include other games in which freely movable game pieces are involved. Thus, where the double playing surface preferred embodiment is utilized, it may be desirable to incorporate a playing surface corresponding to one game on one surface and to utilize a completely dissimilar playing surface corresponding to a different game on the other surface.

In order to achieve the most efficient operation of the disclosed combination of magnetically attractable actuator

and magnetically coupled game piece and control member, only the control member should be, or include, a magnet. This insures that under any mode of operation of the game, the magnetic interaction between the actuator and the assembly of game piece and control member will not separate the game piece from the apparatus playing surface or disengage the magnetic coupling between the game piece and control member. It is possible, however, by judiciously balancing the dimensions, weights, and magnetic properties of the apparatus components, that the game piece alone, both the control member and the actuator, both the game piece and the acutator, or both the game piece and the actuator as well as the control member, may be, or include, a magnet. In the event that these alternative arrangements are employed, care must be taken to insure that the magnetic interaction between the actuating member and game piece or control member does not overcome the magnetic interaction between the game piece and control member so as to cause separation of these latter elements.

The invention having been described in connection with particular and preferred structural embodiments, its full scope may be determined from the presented claims.

I claim:

1. A game apparatus comprising: a nonmagnetic playing surface, a movable magnetically attractable game piece positioned on said playing surface, a movable magnet control member positioned behind said playing surface within effective magnetic range of said game piece, said magnet control member and said game piece being substantially unrestrained for movement parallel to and within the periphery of said playing surface, a housing including a transparent cover spaced from said playing surface, and a magnetically attractable actuating member, said actuating member, when positioned over said cover within effective magnetic range of said magnet control member, being effective to magnetically induce movement of said magnet control member parallel to said playing surface responsive to movement of said actuating member across said surface, said magnet control member, when so moved by said actuating member, magnetically inducing corresponding movement of said magnetically attractable game piece parallel to said playing surface and magnetically retaining said game piece in contact with said playing surface.

2. A miniature golf game apparatus comprising: a nonmagnetic golf course simulating playing surface, a movable, magnetically attractable, golf ball simulating, game piece positioned on said playing surface, a movable magnet control member positioned below said playing surface within effective magnetic range of said game piece, said magnet control member and said game piece being substantially unrestrained for movement parallel to and within the periphery of said playing surface, a housing including a transparent cover spaced above said playing surface and a side wall surrounding the peripheral edge of said playing surface and extending on both sides of said surface to define a barrier to movement of said magnet control member and said game piece out of the peripheral limits of said surface, and a magnetically attractable golf club simulating actuating member, said actuating member, when positioned above said cover within effective magnetic range of said magnet control member, being effective to magnetically induce movement of said magnet control member parallel to said playing surface responsive to movement of said actuating member across said surface, said magnet control member, when so moved by said actuating member, magnetically inducing corresponding movement of said magnetically attractable game piece parallel to said playing surface and magnetically retaining said game piece in control with said playing surface.

3. A game apparatus comprising: two spaced, nonmagnetic, oppositely facing, playing surfaces, a movable magnetically attractable game piece positioned on each playing surface, a movable magnet control member positioned between said oppositely facing playing surfaces, within effective magnetic range of said game piece on each surface, said magnet control member and said game pieces being substantially unrestrained for movement parallel to and within the peripheries of said playing surfaces, a housing including a transparent cover spaced from each of said playing surfaces and a side wall surrounding and joining the peripheral edges of said playing surfaces to define a cavity confining said magnet control member and extending above each playing surface to each of said covers to define cavities confining said game pieces, and a magnetically attractable actuating member, said actuating member, when positioned over either of said covers within effective magnetic range of said magnet control member being effective to magnetically induce movement of said magnet control member parallel to said playing surface responsive to movement of said actuating member across said surface, said magnet control member, when so moved by said actuating member, magnetically inducing corresponding movement of said magnetically attractable game piece parallel to said playing surface and magnetically retaining said game piece in contact with said playing surface.

4. A game apparatus comprising: a non-magnetic playing surface, a movable assembly including a magnetically coupled game piece and inertia producing control member, said game piece being positioned on said playing surface and said control member being positioned behind said playing surface, said assembly being substantially unrestrained for movement transverse of and within the periphery of said playing surface, a housing including a transparent cover spaced from said playing surface, and a magnetically attractable actuating member, said actuating member, when positioned over said cover within effective magnetic range of said assembly being effective to magnetically induce movement of said assembly transverse of said playing surface responsive to transverse movement of said actuating member across said surface.

References Cited in the file of this patent

UNITED STATES PATENTS

2,590,002	Frazier	Mar. 18, 1952
2,616,696	Field	Nov. 4, 1952
2,750,192	Haslett	June 12, 1956

FOREIGN PATENTS

413,442	Italy	Apr. 23, 1946
1,185,949	France	Aug. 10, 1959