This invention relates to a magnetic amusement device requiring playing skill.

The instant device is an improvement on and utilizes the basic principles of the game shown in my Patent No. 2,463,795. Thus the instant device and the patented game employ a bar-type magnetic playing piece movable over a course on a non-magnetic playing board when influenced by a bar-type control magnet movable below the playing board. The course is provided with spaced hurdles which arrest movement of the game piece. If the control magnet is skillfully manipulated, like poles on the magnets may be brought to a superimposed position to cause the game piece to be repulsed by the control magnet and jump the hurdle.

While this basic concept is highly desirable in a game, the adaptation in my patent is subject to some objection in that it employed four game pieces and four control magnets, making a total of eight magnets. To obtain equal operating characteristics all the magnets had to be of equal strength. Furthermore, each control magnet required a separate regulator, thus complicating the structure. The combination of relatively complex structure and the necessary number of equal strength bar-type magnets resulted in too high a manufacturing cost.

An object of this invention is to provide a game having a simple construction and requiring but a few magnets while employing the basic idea of my said patent.

Another object is to provide a magnetic amusement device of the type described which may be produced at lower cost.

Still another object is to provide a game of the type described which requires more playing skill than necessary in the game of said patent.

A further object is to provide a game of the type described which has many possible variants of the playing rules.

A still further object is to provide a game of the class described which may readily be changed to vary the degree of skill required of the players.

Other objects and advantages will be pointed out in, or be apparent from, the specification and claims, as will obvious modifications of the single embodiment shown in the drawings, in which:

Fig. 1 is a plan view of my improved game;

Fig. 2 is a cross section taken on line 2—2 of Fig. 1; and

Figs. 3 through 6 diagrammatically illustrate the principle of operation.

The above objects and advantages are obtained by providing a game piece 10 including a bar-type permanent magnet 12 and adapted to travel in either direction about a circular course on the cardboard top panel or playing board 14 under the control of either of the two magnets 16, 18 mounted in and carried by the rotatable cardboard control panel 20. The control panel 20 is rotatably mounted on an axle 22 and sandwiched between the top panel 14 and a cardboard bottom panel 24. The axle 22 is mounted in and held upright by a base member 26, and the panels are retained within predetermined limits on the axis of the axle by means of a grommet 28 fitting about the upper end of the axle. The peripheral edges of the top and bottom panels fit within the channel 30 of the mitered wood frame 32. Thus the frame 32 serves to keep the top and bottom panels from rotating and to strengthen the assembly. The control panel 20 may be of such diameter as to project into the channels 30 on the frame.

The top panel 14 is provided with a plurality of arcuate slots or apertures 34 giving the players access to the rotatable control panel 20 which is punched at a plurality of circumferentially spaced points in alignment with the apertures to provide a convenient finger hold for manually rotating the control panel. Thus any convenient hole 36 in the control panel 20 may be utilized to rotate the carrier and cause the magnets 16, 18 mounted in the case to move in a circular path about the central axis. The game piece 10 may be placed under control of one or the other of the rotatable magnets to move the piece in the desired direction. As will be explained more fully hereinafter, the bar-type magnet 12 of the game piece 10 will align with either of the bar-type rotatable magnets 16, 18 with unlike poles superimposed. With this in mind, either the south or the north poles of the rotatable magnets are made to face each other so that the game piece, here shown in the form of a pig but capable of other forms, may be moved forwardly in either direction dependent upon the control magnet influencing the movement. Thus as seen in Fig. 1 the game piece is facing in the counter-clockwise direction. If placed over the other magnet 18 the piece would face in the clockwise direction.

The circular course over which the game piece is adapted to travel is provided with a plurality of generally radially positioned obstacles or hurdles 38. It will be obvious that the game piece must climb over each obstacle in order to continue its movement in a given direction.

The manner in which the game piece is made to clear the obstacle is best understood by re-
ferring to Figs. 3 through 6. Assuming the north pole of the game piece to be over the south pole of the control magnet, the forward movement of the game piece is interrupted when it strikes the obstacle 38 (Fig. 3). Continued movement of the control magnet brings the south pole of the control magnet under the south pole of the game piece (Fig. 4) until the repulsion force between the south poles causes the south pole of the game piece to rise up to a greater height than the obstacle (Fig. 5). At this time, if the north pole of the control magnet is not too remote from the south pole of the game piece, the force of attraction between the dissimilar poles will be sufficient to slide the game piece over the obstacle (Fig. 6). If, however, the rate of separation or the rate of relative movement between the two magnets is too great, the game piece will merely balk and end up resting on the obstacle or facing one side or the other requiring the control magnet to be backed up to regain control of the game piece.

While this basic concept was embodied in my patent mentioned above, the game course in the patent constituted a straight line path and the obstacles were substantially perpendicular to the path. In the present embodiment, however, the circular path travelled by the game piece introduces an angle between the obstacles and the game piece. This angularity introduces a tendency to the game piece to balk or ride off to one side at the obstacle. The course radius may be decreased to the positioning of the control magnets or the obstacles may be varied to increase this angularity to make the game more difficult. It will be apparent, therefore, that the present embodiment permits of many variations affecting the ease of play.

The utilization of two control magnets permits the direction of movement of the game piece to be changed. Considerable skill is required for this maneuver. Assuming the game piece to be left under control of control magnet 16 and the desired direction of rotation to be counterclockwise, it is first necessary for the player to take magnet 16 out of control of the game piece and then put magnet 18 into control. The magnet 16 may be taken out of control by simply backing the game piece against an obstacle and then continuing rotation rapidly so that the rate of space, as in Fig. 1, draw from a stack of cards giving bonuses or meting out penalties. These examples will serve to indicate the almost endless variations of the control magnet is moved, the game the game piece may be placed in the space containing the three-pointed fragment of the star 40 and the control panel 20 rotated until the two-pointed fragment carried thereby is matched with the stationary fragment. At this time the control magnets will be positioned as shown in Fig. 1. When the direction of play has been determined, the control panel 20 is rotated in that direction to move the desired control magnet under the game piece. The two-pointed fragment may be placed at any angle, or even on the same side of the game piece, and the game piece may be used to indicate the position of the control magnets.

Thus the present game is capable of many variations affecting the playing skill and the rules. Furthermore, more skill is required in the play through provision of means for reversing the direction of movement. The construction is simpler than that shown in my above-mentioned patent and fewer magnets are required. Since all players use the same magnets they need not be of equal strength.

With further reference to the present embodiment it is obvious that other non-magnetic materials may be used. Similarly, the frame need not be wood. If desired the obstacles could be integral with the playing board. The height of the obstacles is governed to a large extent by the strength of the magnets. Since various changes may be made within the spirit of this invention the scope is to be limited only by the claims.

I claim:

1. In an amusement device utilizing a game piece including a bar-type magnet and adapted to slide over a playing board under the attractive influence of a bar-type control magnet, a non-magnetic playing board having a circular course for said game piece, a control panel rotatably mounted below said board, a pair of bar-type control magnets mounted in end-to-end relation on and carried by said panel for movement in a circular path being in initial alignment with said circular course, said control magnets being circumferentially spaced, the longitudinal axis of each of said control magnets being generally aligned along an arc concentric with said circular course and similar poles of said control magnets being disposed in opposite directions so that one control magnet may move said game piece forwardly around said course in a clockwise direction and the other control magnet may move said game piece forwardly about said course in a counterclockwise direction, unlike poles of said game piece and the controlling control magnet being superimposed to develop the attractive force by which the game piece is moved, and a plurality of generally radially disposed hurdles fixed to said playing board at spaced points in said course, said hurdle being high enough to arrest sliding movement of said game piece while the control magnets are relative to the piece to bring like poles of the game piece and of the control magnet into opposition and being low enough to permit an end of the game piece to slide over its top when such end is raised by repulsion between like poles of said piece and control magnets.

2. An amusement device comprising, a stationary playing board, a control panel movable under said board, means mounting said control panel for movement in opposite directions along
a predetermined path relative to said playing board and beneath the same two generally
aligned bar-type control magnets carried by said panel in spaced apart end-to-end relationship
with their axes generally aligned and parallel to the path of movement of said control panel, the
facing poles of said magnets being similar, a game piece including a bar-type magnet slidably
forwardly over said board when the poles of its magnet are superimposed over unlike poles of
one of said control magnets and said control panel is moved along said path in one direction,
and a hurdle mounted on said board to arrest sliding movement of the game piece under the
influence of the moving control magnet while said one control magnet continues to move in the
same direction to bring like poles of the control magnet and game piece into opposition, said
hurdle being low enough to permit said piece to slide over the hurdle when the repulsion between
like magnetic poles raises an end of said piece, said control panel when moved in the opposite
direction causing the game piece to move rearwardly into contact with said hurdle, said hurdle
serving as a barrier to arrest reverse movement of said piece under the control of said one control
magnet when it is desired to place the other control magnet in control relation to the game piece
to move the game piece forwardly in said opposite direction.

FRANCIS J. NEUZERLING.

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