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O'Connell

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[54] **GAME EMPLOYING MAGNET PLAYING PIECES AND MAGNETIZABLE GAME**

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[52] **U.S. Cl.** ..... **273/131 AD,** 273/137 AE
[51] **Int. Cl.** **A63f 3/02**
[58] **Field of Search** 273/131, 134

[56] **References Cited**

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[57] **ABSTRACT**

In a game involving the use of magnet playing pieces and a magnetizable game board, the element of chance is introduced by the orientation of the magnetic fields of the playing pieces which, although visually nondetectable, can be reversed by the players through physical rotation of the piece. When a player's piece is moved to a position that is a preselected critical distance from an opponent's piece, capture of the opponent's piece or by the opponent's piece occurs automatically as determined by the relative field orientations of the pieces.

8 Claims, 5 Drawing Figures

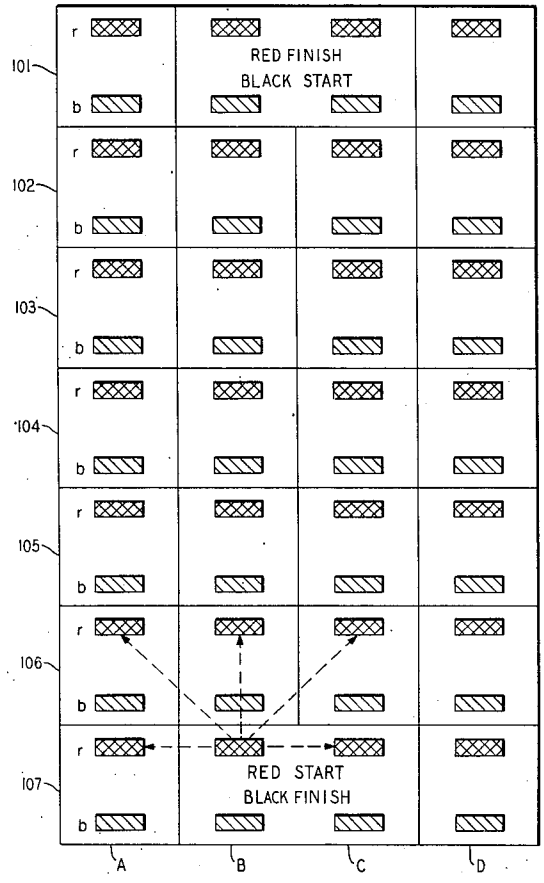


FIG. 1

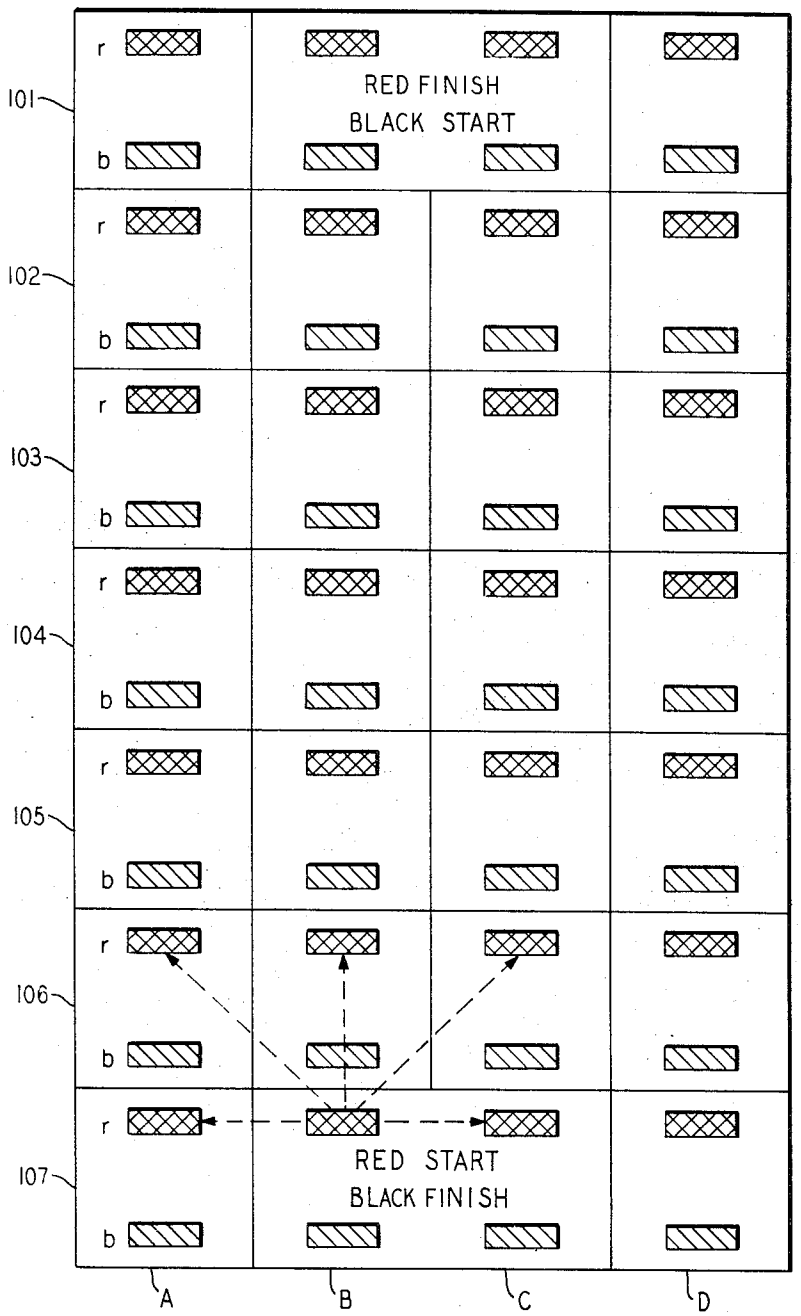

r
b
RED FINISH
BLACK START
101
102
103
104
105
106
107
RED START
BLACK FINISH
A
B
C
D

FIG. 2

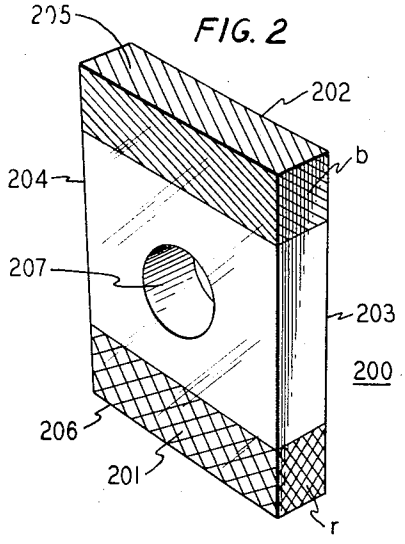


FIG. 3

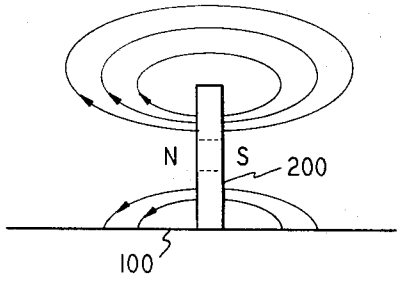


FIG. 4

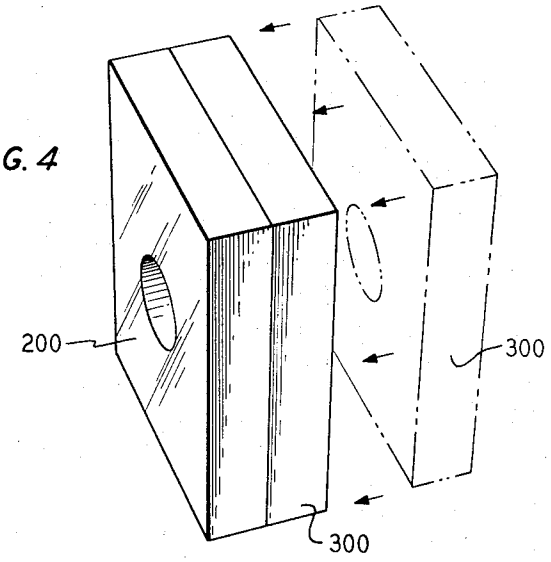
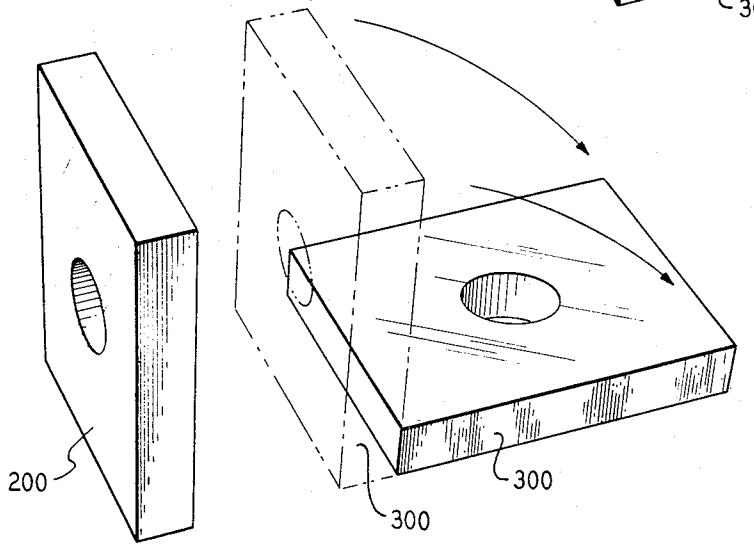


FIG. 5



GAME EMPLOYING MAGNET PLAYING PIECES AND MAGNETIZABLE GAME

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to games and, more particularly, to games involving the use of playing boards or marked playing surfaces and playing pieces in which the object or goal is to employ one's own playing pieces to capture or supplant the playing pieces of an opponent.

2. Description of the Prior Art

A wide variety of prior art games are known that employ playing pieces designed for movement on a game board, chess and checkers being illustrative. For many game enthusiasts, games that rely entirely, or nearly so, on the skill and intellect of the players are not as attractive as they might be simply because the very unskilled player is generally at an insurmountable disadvantage. On the other hand, playing piece — playing board games that seek to combine both skill and chance such as backgammon, for example, are all too often overly complex. Additionally, such prior art games typically fail to provide that ideal blend of skill and chance wherein the novice with extraordinary luck can sometimes overcome an exceptionally skilled player. Further, prior art games of the combined luck and skill type generally employ conventional, unexciting means such as dice, spinners, the turn of a card and the like for introducing the element of chance. Suspense, surprise and overall game interest are thereby limited.

A principal object of the invention, therefore, is to introduce an ideal blend of skill and chance into a game board - playing piece type of game.

Another object is to enhance the elements of surprise and suspense involved in the means employed to provide the chance aspect of the game.

SUMMARY OF THE INVENTION

The indicated objects and additional objects are achieved in accordance with the principles of the invention by a game in which the element of chance is introduced uniquely by the magnetic characteristics of the playing pieces. Specifically, in each playing piece the orientation of its magnetic field, which cannot be detected visually, is the factor that is used to determine whether the piece captures or is captured by an opponent piece when the two are brought into close proximity.

In accordance with an important feature of the invention the playing surface or game board includes rows and columns of markings that designate the positions in which the playing pieces may be placed. The distance between a marking on which a playing piece may be positioned and the closest marking to which an opponent's playing piece may be moved is critical and is selected in accordance with the invention as a function of the magnetic field strength of the playing pieces. With the proper distance between adjacent markings in any column, the question of whether one playing piece will capture or be captured by an opponent's piece that is moved into an attacking or confronting position is dramatically and visibly answered. Specifically, the piece that is attacked will be suddenly and mysteriously knocked down and hence captured by the attacking piece provided that the orientations of the magnetic fields of the pieces, which are determined wholly by chance, are the same. Conversely, the attacked piece in effect jumps on and siezes an attacking piece, thus capturing the attacking piece, if the respective magnetic fields are aligned by chance to provide for mutual attraction.

Another important feature of the invention is that the playing pieces are preferably wafer shaped, somewhat like a domino, for example, with the poles of the magnetic field in each case being positioned on the opposite major faces of the piece. With a piece standing on one of its minor end faces, its magnetic field is substantially perpendicular to the poles and parallel to the playing surface. This arrangement ensures maximum interaction between the magnetic fields of two confronting pieces.

Still another feature of the invention is that the board or playing surface is constructed of a magnetizable material. As a result, the lower portion of the magnetic field of a piece, that is positioned on the board on one of its minor faces as described, interacts with the game board. Hence, when a piece falls as its magnetic field interacts with the field of a similarly poled confronting piece, it falls abruptly and cleanly as if hinged at its bottom edge in the direction of fall so that interference with other neighboring pieces is avoided.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a sketch of a marked playing surface or playing board in accordance with the invention;

FIG. **2** is a sketch of a playing piece in accordance with the invention;

FIG. **3** is a sketch of the piece shown in FIG. **2** additionally illustrating the configuration of the magnetic field;

FIG. **4** is a sketch illustrating the interaction of two confronting pieces when their magnetic fields are in mutually attractive relation; and

FIG. **5** is a sketch illustrating the interaction of two confronting pieces when their magnetic fields are in mutually repelling relation.

DETAILED DESCRIPTION

A game board in accordance with the invention, as shown in FIG. **1**, is marked with a substantially rectangular area **100** which is divided into a plurality of squares forming rows **101** through **107** and columns A through D. Within each square, such as square **107D** in the lower right corner of the area **100** are two small rectangular markings **107D***b* and **107D***r*, the *b* and *r* designations being used to indicate "black" and "red" colors or any other suitable indicia which differentiates the allowed positions of the pieces of one player from those of his opponent.

In one illustrative embodiment of the invention the game board employed squares such as **107D** measuring **2** inches on a side. Each of the small rectangular markings such as **107D***b* and **107D***r*, for example, measured ¾ inch by ¼ inch. Markings in the same square were spaced **1** inch apart and vertically adjacent markings in adjacent squares, such as markings **107D**r and **106D**b were spaced one-half inch apart. The space between horizontally adjacent markings such as **106A***b* and **106B***b* was 1¼ inches.

As shown in FIG. **2**, a typical playing piece in accordance with the invention has a rectangular wafer or bar configuration somewhat like a domino with major faces **201** and **202**, minor side faces **203** and **204** and minor

end faces **205** and **206.** Preferably, a central aperture **207** connects major faces **201** and **202** which serves to enhance the focusing and interaction of the magnetic fields of two confronting pieces.

Also as shown in FIG. **2,** each end of a playing piece is distinctively marked as by the colors black (*b*) or red (*r*), the top color always corresponding to the color of those small rectangular areas on the game board on which the piece may properly be placed.

The general configuration of the magnetic field of a playing piece **200** which is standing on its minor end face on a playing or game board **100** is illustrated in FIG. **3.** Since the game board **100** is of magnetizable material, the lower portion of the field is bent downwardly, as shown, to interact with the game board. It should also be noted from FIG. **3** that the direction of orientation of the magnetic field surrounding the piece **200** may be reversed simply by rotating the piece through **180** degrees around a vertical axis.

FIGS. **4** and **5** illustrate the action that takes place when two playing pieces are placed in adjacent piece markings on the game board. Assume, for example, that in FIG. **4** piece **300,** shown in dotted lines, is positioned at **106A***r* and piece **200** is moved to position **105A***b*. It is further assumed that the facing poles of the two playing pieces are opposite, one being north and the other south, and hence mutually attractive. As shown, the net force from the combined magnetic fields moves magnet **300** in the direction of the small arrows until it comes to rest against magnet **200.** Magnet **200** is held fast by the player who moved it to the position indicated so that the only movement that takes place solely through the interaction of the magnetic fields is the movement of piece **300** as described.

If the facing poles of the two magnets **200** and **300** are alike, both north or both south, and they are placed in the positions described immediately above, then the action shown in FIG. **5** takes place. Specifically, the net force from the combined magnetic fields is repulsive, tending to push the magnets apart. Since a player holds on to magnet **200,** it remains stationary and magnet **305** falls backward to the playing surface.

As indicated above, a feature of the invention calls for a magnetizable game board, such as steel, for example, which provides a "short circuit" for the magnetic flux. The net effect of the coupling of the magnetic field of a playing piece with the game board is that the magnetic force, which is in the same direction as the magnetic field, is downward. This force combined with the normal gravitational force provides the upright magnet or playing piece with additional stability. The key contribution of this net force, however, is to provide control during a piece confrontation in which repulsion occurs as illustrated in FIG. **5.** Without this control, the free magnet could readily fall several squares backward and interact with free standing magnets behind it.

A wide variety of magnetic materials are suitable for forming the playing pieces. Barium ferrite in combination with a conventional rubber binder has been found to be satisfactory, for example. In one illustrative embodiment, a satisfactory magnetic field strength was found to measure **350** gauss at the surface and 750 gauss within the aperture.

Employing the basic principles of the invention as described above, various "rules" may be devised to control the exact manner in which the features of the invention may be turned to account to provide an interesting and exciting game. For example, the game may be played in the following manner:

"RULES"

TO BEGIN

team colors are selected. The red team or player sets four pieces with their red tops upright on the red start markers *r* in row **107** of the game board, also designated RED START. The black team or player sets four pieces with their black tops upright on the black start markers *b* in row **101** of the game board, also designed BLACK START. The red team moves first. Any piece may be moved.

TO PLAY

There are two methods of moving team pieces. One method is designated the standard move and the other is the move with confrontation.

The standard move may be made in any one of the following ways:

1. Advancing any one of your team pieces one block forward to the team color marking within that block.
2. Advancing one block diagonally forward right or left to the team color marker within that block.
3. Moving one block directly right or left to the team color marker within that block.

For example, a red team piece starting at position **107***Br* is permitted to move as indicated by any one of the five dotted arrows shown in FIG. **1.**

Moves may only be made to blocks which are not currently occupied by either team. Backward moves are not allowed. Also, once a piece reaches a finish marker it may not be moved and that block is considered occupied.

The move with confrontation is made as any standard move defined above with the additional feature, however, of an objective of a face-to-face confrontation between opposing pieces. The move is accomplished by moving to an unoccupied block which directly faces a block occupied by the opponent. By such a confrontation, one of two events is bound to occur. You will cause your opponent to retreat (fall), thus capturing him, or your opponent's piece will advance toward you and capture your piece.

Retreating — If you capture your opponent, you must remove the fallen piece and place it on one of your vacant starting markers with your team color facing up. If there are no vacancies, you may hold the piece aside until it is your turn and a vacancy occurs. The piece is now a member of your set of team pieces and may be moved as any other of your team pieces may be moved.

Advancing — If your opponent advances and captures you, he must return to his previous position and remove the captured piece. He then places it on one of the vacant starting markers with his team color upright. It thus becomes a member of his set of team pieces. If there are no vacancies, the procedure described above should be followed. The game then continues with the team subjected to the confrontation making the next move.

Playing Techniques — The standard moves are usually made to advance toward the team finish markers or to gain position on the board. The moves with confrontation are usually made to attempt to increase the

number of team pieces or to try to prevent a possible scoring situation by one's opponent.

For best playing results, pieces should not be lifted from the game board but should instead be advanced by sliding in the upright position from block to block.

The pieces must always be positioned on the correct team color markers within a particular block or square on the board.

Scoring — It is evident that any number of scoring schemes might be employed satisfactorily. The following plan is illustrative. The game is terminated when one of the following conditions occurs:

1. Either team (player) successfully moves four team pieces into the appropriate team finish markers.

2. Either team (player) runs out of team pieces which can be legally moved.

For Case **1**, above, each team counts **2** points for each finish marker covered. Thus, the team that finishes first receives 8 points and the other team receives something less than 8 points. For Case **2**, each team counts 2 points for each finish marker covered and **1** point for each team piece still on the board on some marker other than the finish marker. In such a case the maximum possible score would be 12 to 0. The first team to attain **30** or more points is declared the winner.

It will be apparent to persons familiar with game strategies that a wide varity of "game rules" may be devised based on the features of the invention. For example, it is possible to introduce an additional element of skill into the game simply by numbering each piece or by otherwise giving each piece some distinctive indicia. With each piece uniquely identifiable, the magnetic orientation of a piece with respect to one other piece is made known upon each confrontation move. If a piece is involved in several confrontations, the player who is able to remember the relative magnetic orientations revealed in each case is of course placed at a distinct advantage in his ability to apply that knowledge to his game strategy.

It is to be understood that the game embodiment disclosed herein is merely illustrative of the features of the invention. Various modifications may be effected by persons skilled in the art without departing from the spirit and scope of the invention.

I claim:

1. A game comprising, in combination,

a playing surface and a plurality of playing pieces,

each of said pieces comprising a magnet having two major substantially parallel faces and a plurality of minor faces,

each of the two poles of said magnet being positioned on a respective one of said parallel faces,

said surface including a plurality of markings arranged in double rows and single columns to indicate allowed areas for positioning said pieces,

vertically adjacent ones of said markings in each of said pairs of rows being spaced from each other at a distance determined by the relative magnitudes of the magnetic fields of said pieces so that pieces oriented with opposite polarity are physically drawn together when placed in adjacent ones of said markings and are physically repelled when oriented with like polarity, one of said last named pieces being knocked over when the other of said last named pieces is fixedly held at said distance.

2. A combination in accordance with claim **1** wherein each of said magnets is constructed around a substantially central aperture extending from one of said major faces to the other.

3. A combination in accordance with claim **2** wherein each of said magnets has four of said minor faces, all of said faces being substantially rectangular.

4. A combination in accordance with claim **1** wherein one end of each of said pieces includes indicia visually identifiable with half of said markings and wherein the other end of each of said pieces bears indicia visually identifiable with the other half of said markings.

5. Apparatus in accordance with claim **1** wherein said playing surface is constructed of magnetizable material.

6. Apparatus in accordance with claim **1** wherein each of said pieces is uniquely and visually identifiable.

7. Apparatus in accordance with claim **1** wherein the field of said magnets is substantially perpendicular to said poles.

8. Apparatus in accordance with claim **1** wherein said magnets comprise barium ferrite in combination with a rubber binder.

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