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(54) **DEVICE AND METHOD FOR MAGNETIC ELEMENT STACKING GAME**

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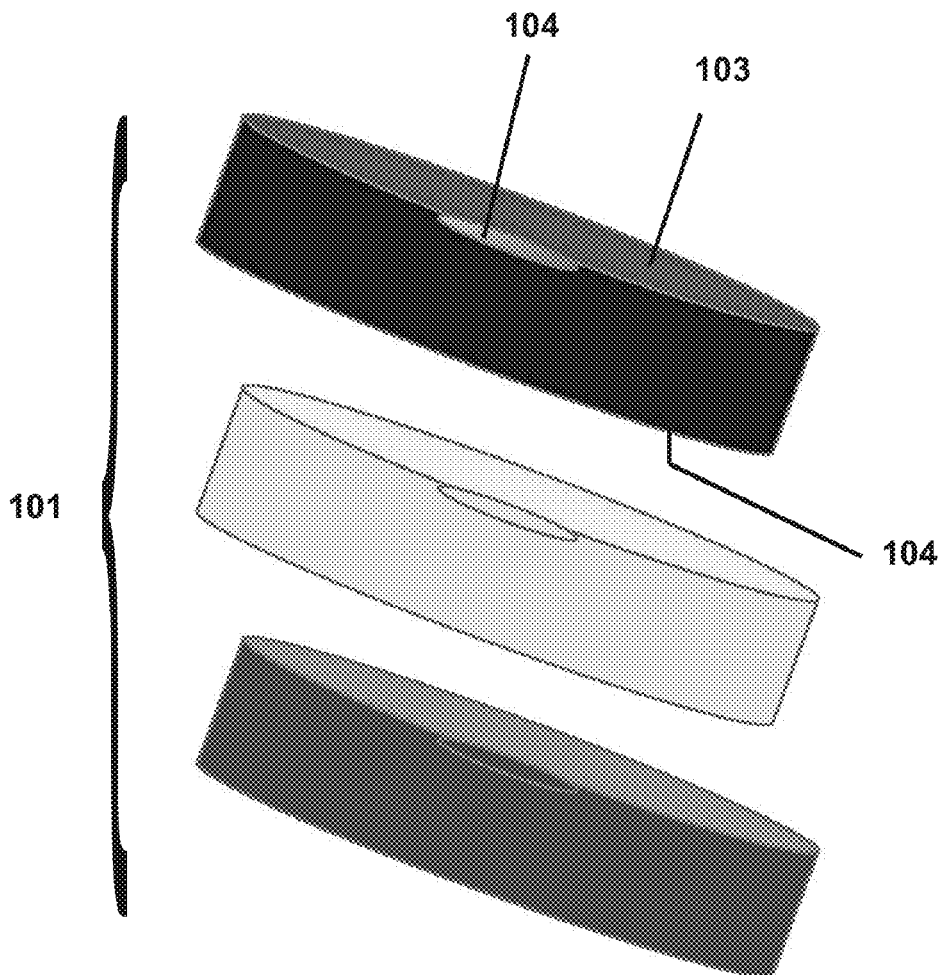
(57) **ABSTRACT**

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**Related U.S. Application Data**

(60) Provisional application No. 61/751,316, filed on Jan. 11, 2013.

The present invention relates to a multi-player magnetic element stacking game played on one or more shafts attached to a base and exploiting the phenomena of magnetic attraction or repulsion.



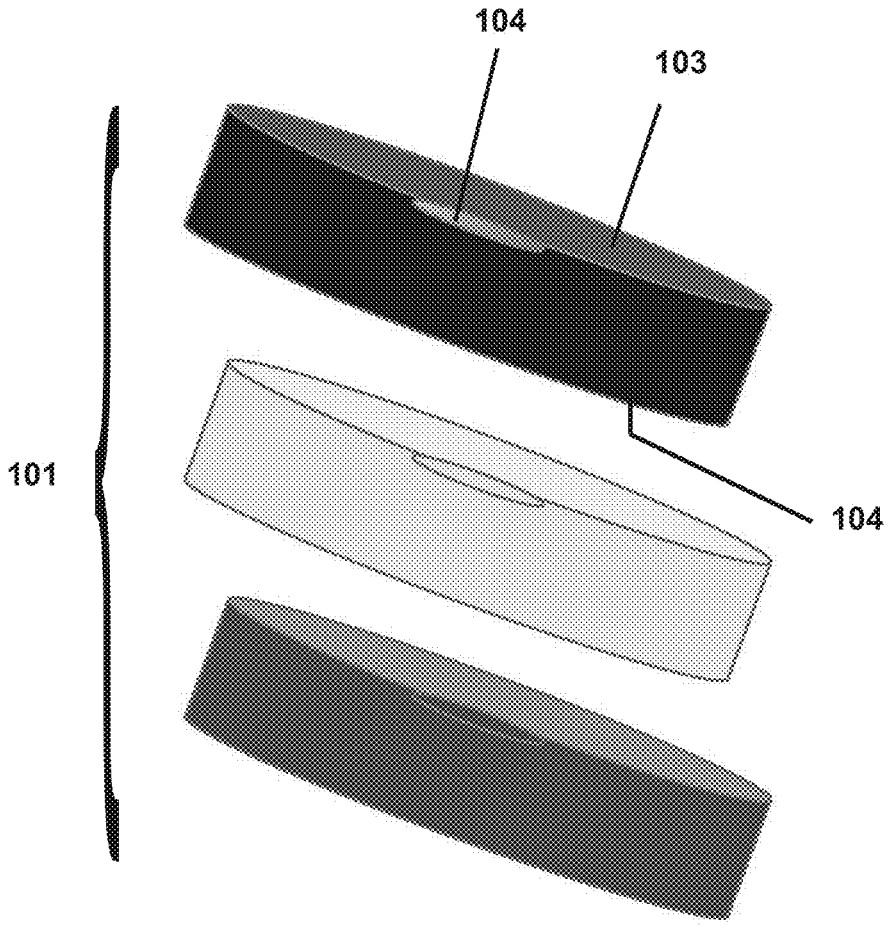


Figure 1

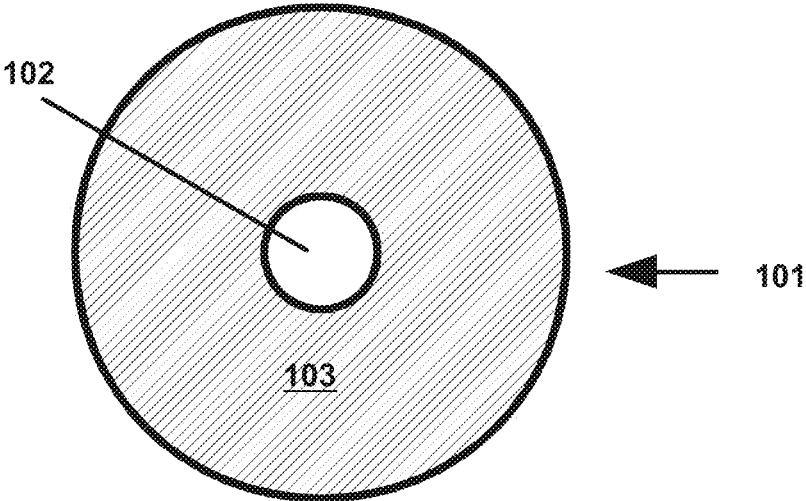


Figure 2A

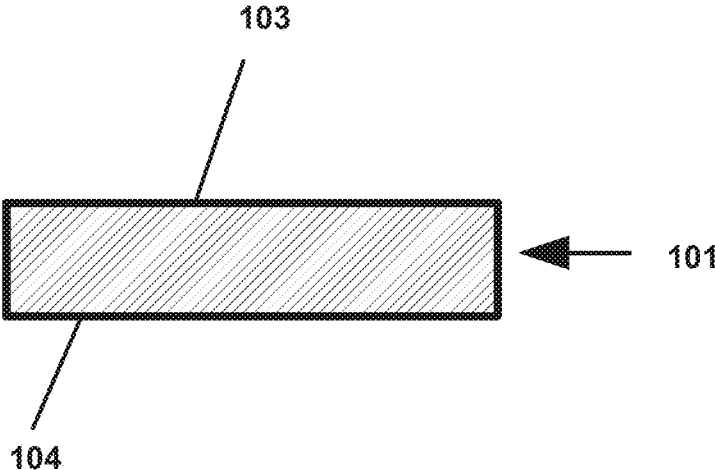


Figure 2B

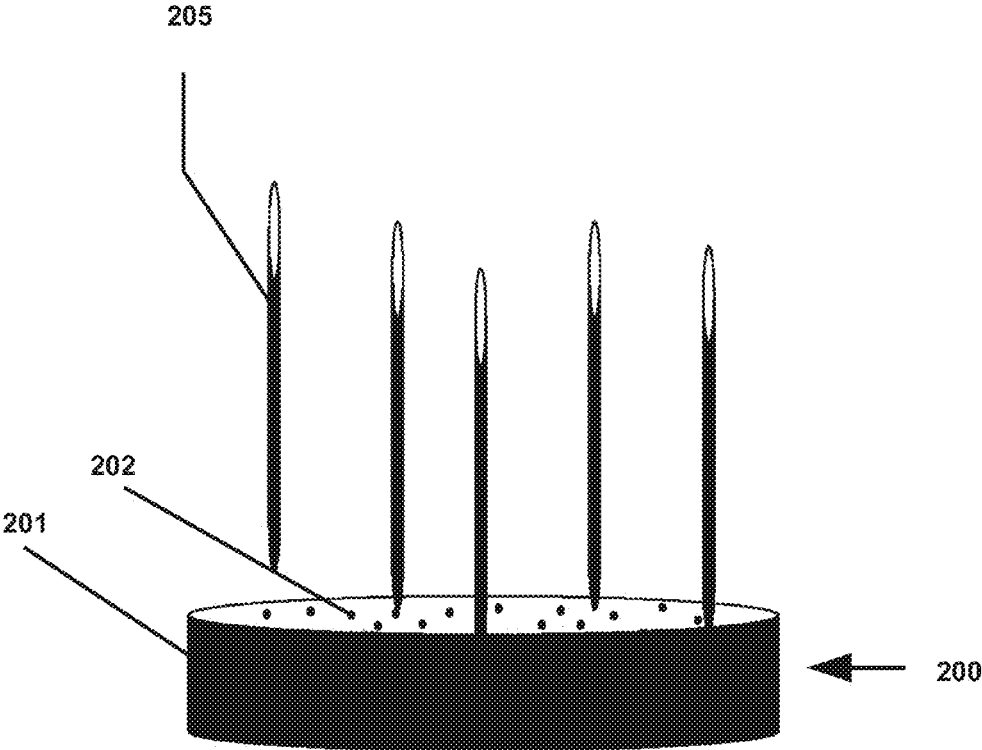


Figure 3

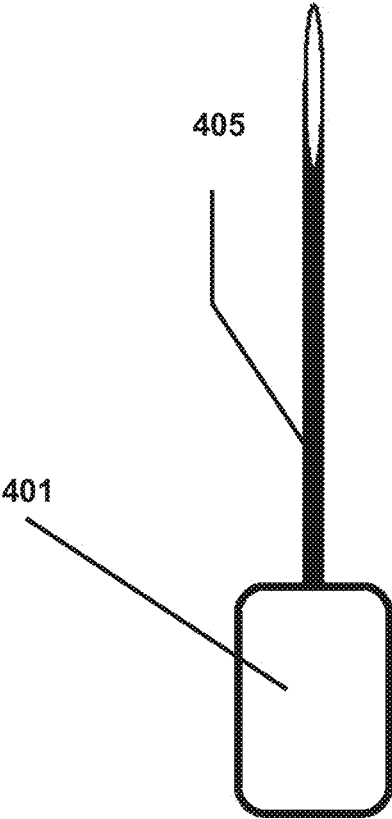


Figure 4

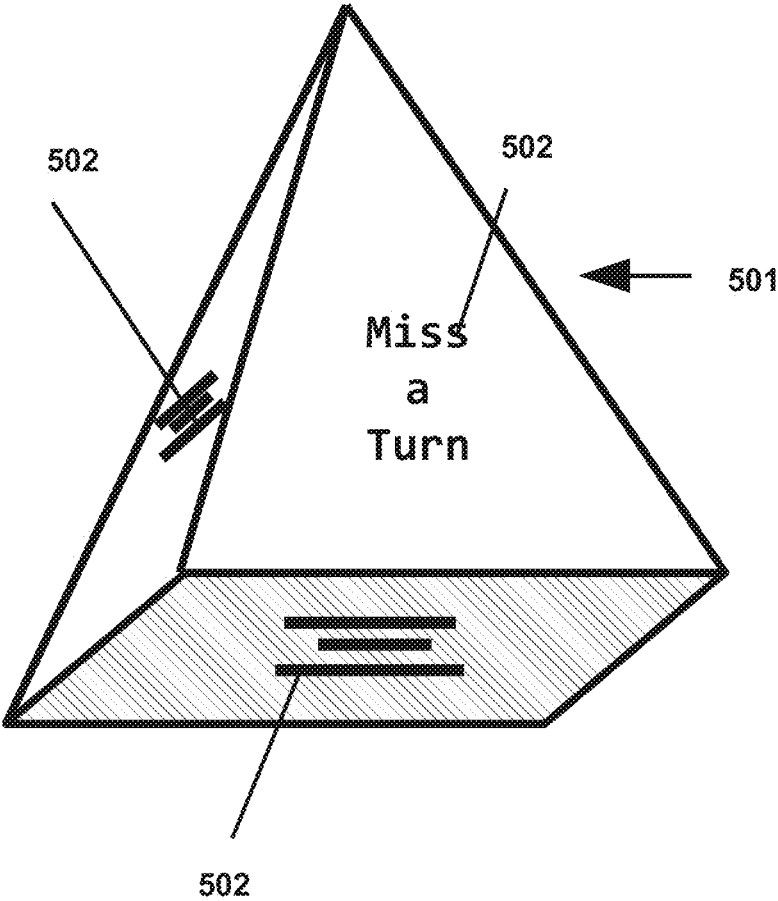


Figure 5

## DEVICE AND METHOD FOR MAGNETIC ELEMENT STACKING GAME

### CROSS REFERENCE TO RELATED APPLICATIONS

**[0001]** The present application claims the benefit of U.S. Provisional Application 61/751,316, filed Jan. 11, 2013, incorporated herein by reference.

### BACKGROUND OF THE INVENTION

**[0002]** 1. Field of the Invention

**[0003]** The present invention generally relates to a magnetic element stacking game, and more specifically to a magnetic element stacking game played on one or more shafts attached to a base and exploiting the phenomena of magnetic attraction or repulsion.

**[0004]** 2. Description of the Related Art

**[0005]** There are many science kits that aim to demonstrate properties of magnets and magnetism using either passive magnetized items or items that are temporarily magnetized by an electrified coil.

**[0006]** In a game called Jishaku, each player tries to place all of his magnetic “stones” on a board with other stones. The players determine where to place a particular stone by judging the magnetic attraction or repulsion between the playing piece and those already on the board. The game, made by RSV productions, is suitable for players 14 and older.

**[0007]** In a game called Yikerz, players also attempt to move their magnetic playing pieces around the board by repelling or attracting other magnetic pieces, and even using magnetism to push competitors’ pieces off the board. The winner is the first player who has no pieces left. Players can alter the board layout and the initial placement of the pieces to change the skill level of the game. AB Games produces Yikerz, and the game is suitable for players 14 and older.

**[0008]** There are not however any games that use passively magnetized elements placed on a shaft that attract or repulse each other to make them apparently “hover”.

### SUMMARY OF THE INVENTION

**[0009]** According to one aspect of certain embodiments of the invention, a multi-player magnetic element stacking game is disclosed which may be played on one or more shafts attached to a base and exploiting the phenomena of magnetic attraction or repulsion.

**[0010]** The foregoing Summary of the Invention is not intended to limit the scope of the disclosure contained herein nor limit the scope of the appended claims. To the contrary, as will be appreciated by those persons skilled in the art, variations of the foregoing described embodiments may be implemented without departing from the claimed invention.

**[0011]** The method and apparatus of the present invention will be better understood by reference to the following detailed discussion of specific embodiments and the attached figures which illustrate and exemplify such embodiments.

### DESCRIPTION OF THE DRAWINGS

**[0012]** The objects and features of the invention may be understood with reference to the following detailed description of an illustrative embodiment of the present invention taken together in conjunction with the accompanying drawings in which:

**[0013]** FIG. 1 is an isometric view of three playing pieces in accordance with a preferred embodiment of the present invention.

**[0014]** FIG. 2A is a top plan view of a playing piece in accordance with a preferred embodiment of the present invention.

**[0015]** FIG. 2B is a side elevation view of a playing piece in accordance with a preferred embodiment of the present invention.

**[0016]** FIG. 3 is a side elevation view of shafts and base of a preferred embodiment the present invention.

**[0017]** FIG. 4 is a side elevation view of a shaft with an individual base of a preferred embodiment of the present invention.

**[0018]** FIG. 5 is an isometric view of a polyhedral die in accordance with a preferred embodiment of the present invention.

### DESCRIPTION OF THE PREFERRED EMBODIMENT

**[0019]** The following preferred embodiment as exemplified by the drawings is illustrative of the invention and is not intended to limit the invention as encompassed by the claims of this application.

**[0020]** Referring first to FIG. 1, a plurality of playing pieces **101** are shown. While playing pieces in the form of annular rings are shown, any shape may be utilized provided that the selected shape allows the playing pieces to be utilized as further described herein.

**[0021]** The playing pieces **101** of FIG. 1 are magnetized such that they have magnetically positive face **103** and a magnetically negative face **104**. Playing pieces **101** further include opening **102** which are adapted to receive therein shafts **205**, shown in FIG. 3. Playing pieces **101** may be chosen from various colors, for example, from the color palette shown in **103**. The color may be disposed on the entire surface of the playing piece or may be applied as a pattern in conjunction with other colors. The playing pieces are constructed such that there is no visual indication of the strength or polarity of the playing pieces’ magnetization.

**[0022]** FIGS. 2A and 2B show playing piece **101** having opening **102** therethrough.

**[0023]** FIG. 3 depicts a playing board **200** a preferred embodiment of the present invention. The playing board may be comprised of a baseboard (also called a base) **201** which is adapted to receive a multiplicity shafts **205**. The shafts may be received into radially configured openings **202**, or may be received into any suitably shaped and positioned opening. Alternatively, the shafts may be received on the baseboard by means of any suitable attachment mechanism such as hook-and-loop fasteners, snaps and the like.

**[0024]** As depicted in FIG. 4, in certain embodiments of the present invention, the baseboard may be omitted. In such instances, shaft **405** may be free-standing, with an associated individual base **401**.

**[0025]** Shafts **205** may be any spindle, tower, rod, pole, stem or other elongated member of any shape onto which a playing piece may be laced, spiked or threaded. Alternatively, instead of shafts, members may be employed to create a pathway, channel, chute, conduit, or like structure into which playing pieces may be placed, for example, by providing instead of each shaft multiple vertical members that define a channel between them into which playing pieces may be placed.

**[0026]** The baseboard may be manufactured from a variety of solid materials such as plastic, metal wood or glass or it may be a combination of materials.

**[0027]** The baseboard may be magnetized, for example, by incorporating magnets therein, such that a magnetic pole is present at the base of each shaft inserted into the baseboard. In this manner, each shaft has a starting polarity that will attract or repel the first playing pieces laced thereon. In embodiments lacking a baseboard (e.g., those with free-standing shafts), the shafts may have a magnetized base in the same manner as just described for the baseboard, with certain bases exhibiting positive polarity and others exhibiting negative polarity (i.e., as seen by a first playing piece slid down on the shaft). In either embodiment, there may be an absence of any indication of the polarity of the base at any particular shaft.

**[0028]** The shafts can be randomly moved before the game play to randomize the polarity of the board.

**[0029]** Certain embodiments of the present invention may include a game-play command generator, as described further herein, to generate directions for player action during players' turns. One such game-play command generator, depicted in FIG. 5, may be a polyhedral die 501 having a four-sided pyramidal shape with the example commands 502 such as "take a turn", "miss a turn", "steal a playing piece", and "remove your top playing piece", with each face containing a different game-play command. The commands may be in any language and may be embodied by words or logos. Alternatively, any other random or pseudo-random game-play command generator may be used such as playing cards, spinners, electronic devices, poppers and the like.

**[0030]** The die of the preferred embodiment depicted in FIG. 5 may be manufactured from solid material such as plastic, metal wood or glass or may be a combination of materials. The polyhedral die may be cubed, tetrahedron, octahedron or any other suitable shape, as is generally known.

**[0031]** The foregoing embodiments may be utilized to implement one or more specific methods of game play of the present invention. Such methods of game play may provide varying levels of complexity and may include a multiplicity of players or may be played as a game of solitaire (i.e., for one player). The following discussion of game play considers certain embodiments of game play. It will be understood that the scope of the present invention is not limited to the following methods of game-play, other methods being within the scope of the instant invention.

**[0032]** At the simplest level, players first setup the game for play. To do this, each player secures a shaft to the baseboard (or selects a previously secured shaft), such shaft becoming that player's shaft for duration of the game (or until game-play dictates that one or more players change shafts, such as through a game-play command instructing players to swap shafts). The game then starts by deciding the first person to play and the direction of play (clockwise or counterclockwise), or by youngest to oldest, or any other method by mutual agreement.

**[0033]** The players then each take one playing piece and drop it to the base of their shaft.

**[0034]** The first player then selects any playing piece from the unplayed playing pieces (i.e., those not already disposed on any player's shaft) and drops it onto their shaft. The playing piece falls under the effect of gravity and then, depending on the orientation of the magnetic field of it and of the playing piece or pieces below it, will be repelled or attracted to the playing piece immediately below it. If the dropped playing

piece is attracted to the playing piece directly below it, the two will "click" together and the player must remove the recently-played playing piece and return it to the center of the base. If the dropped playing piece is repelled away from the playing piece directly below it, the dropped playing piece will "hover" above the base at a height determined by the strength of the pieces' magnetic fields. It will be understood that as used herein, including in the appended claims, references to "dropping" playing pieces or playing pieces which may "fall" encompasses playing pieces which are actively slid or otherwise positioned as if they had dropped or fallen (e.g., where a playing piece is actively slid down a shaft to a position it would have occupied had it been permitted to fall down the shaft under the force of gravity after having been dropped on the shaft).

**[0035]** Alternatively, the foregoing rules may be reversed such that play may be based on the playing pieces attracting and clicking together and the player removing the playing piece that is repelled and returning it to the center of the base.

**[0036]** The winner of the simplest method of the game play is the first player to achieve a predetermined number of hovering playing pieces or alternatively, number of attracted playing pieces, depending on what game method is chosen.

**[0037]** In another embodiment, a slightly more advanced level of the game, players only select playing pieces of a particular color chosen by them upon starting the game. For example, Player 1 could select only yellow playing pieces and must complete a predetermined number of yellow hovering playing pieces to win.

**[0038]** In a further embodiment, a yet more advanced method of play uses the polyhedral die wherein, upon each player's turn, he/she rolls the die and executes the game-play command revealed upon it. The commands may include "take a turn", "miss a turn", "steal a piece from another player's shaft", "remove a playing piece from your own shaft" or any other instruction designed to introduce an element of chance into the game. The number of faces of the polyhedral die may be determined by the number of game-play instructions available, although certain game-play commands may have a higher probability of occurring than others, for example, by appearing on multiple faces of the polyhedral die.

**[0039]** The object of the more-advanced game is to achieve either a predefined number of hovering playing pieces of the same color or a predefined height of hovering playing pieces of the same color. If preferred, an alternative game can be played by determining the number of game pieces that are attracted and "click" together as opposed to game pieces that are repelled.

**[0040]** As another embodiment, the game may also use cards or a spinner having various instructions. For example, the cards or spinner could include instructions such as "remove a playing piece from an opponent", "choose a new disk", "return a playing piece to base", "skip a turn", "remove a playing piece and add to an opponent's shaft", etc. The game may be played with just the cards, just the spinner or a combination of both or it may also include the use of a polyhedral die. A person of ordinary skill in the art would understand that the game can be played with various combinations of playing pieces, cards, die and spinners and would still remain within the scope of the present invention.

**[0041]** In another embodiment, the game is played using colored playing pieces and the players complete a shaft by adding playing pieces in a specific color sequence. This sequence can be based on instructions from cards, a spinner or



a polyhedral die. For example, the sequence could be yellow/red/blue/green or red/green/yellow/blue, or any other combination. The game could also use playing pieces with symbols, images or logos, and played in a similar manner where a player bases which logo, image or symbol to place on the shaft next, according to the instructions provided. As an alternative, the instruction provided may be used to add playing pieces to a neighboring opponent.

**[0042]** As an alternative embodiment, the game may be implemented in software and played upon one or more electronic and/or electronic computing devices that have a display screen, including but not limited to computers, tablets, phones, smartphones, smartTV™, Xbox™, Playstation™ and Wii™. The electronic version of the game could use virtual playing piece playing pieces having virtual polarities that mimic the physical game pieces. The software could randomly decide the polarity of the playing pieces and the game would function in the same manner as the physical game described above. The game may be played by a single player playing against a virtual adversary or electronic and/or electronic computing devices may optionally be linked using a network interface to any network such as Internet, LAN, Bluetooth, WIFI, cellular networks, or similar so that game adversaries may compete against each other. The game may also be implemented in social media environments such as Facebook.

**[0043]** Although the particular embodiments shown and described above will prove to be useful in many applications in the gaming art to which the present invention pertains, further modifications of the present invention will occur to persons skilled in the art. All such modifications are deemed to be within the scope and spirit of the present invention as defined by the appended claims.

What is claimed is:

1. A game for one or more players comprising:
  - a plurality of shafts;
  - a plurality of magnetized playing pieces, wherein the playing pieces have faces of opposite magnetic polarity and a channel through the pieces dimensioned to receive one of the shafts;
  - wherein when two or more playing pieces are placed on a shaft by disposing the shaft in the channel and permitting the pieces to slide downwardly on the shaft, one or more of the pieces will attract or repel one or more of the other pieces in accordance with the magnetic polarity of the pieces.
2. The game of claim 1 wherein the playing pieces are discs and the channel of the playing pieces is annular.
3. The game of claim 1, further comprising a game-play command generator that generates a plurality of game-play directions for the players.
4. The game of claim 3 wherein the game-play command generator comprises a polyhedral die.
5. The game of claim 3 wherein the game-play command generator comprises cards.
6. The game of claim 3 wherein the game-play command generator comprises a spinner.
7. The game of claim 3 wherein the playing pieces are discs and the channel of the playing pieces is annular.

8. The playing pieces of claim 3 wherein said magnetic playing pieces each have one of a plurality of colors on at least one surface

9. The game of claim 3 wherein the playing pieces each have one of a plurality of logos printed on at least one surface.

10. The game of claim 3 wherein the playing pieces each have one of a plurality of images printed on at least one surface.

11. The game of claim 3 wherein the playing pieces each have one of a plurality of symbols printed on at least one surface

12. The game of claim 1 further comprising a base, the base adapted for receiving the shafts.

13. The game of claim 12, further comprising a game-play command generator that generates a plurality of game-play directions for the players.

14. The game of claim 12, wherein the base comprises regions of differing magnetic polarity, such regions being associated with one or more shafts.

15. The game of claim 14, further comprising a game-play command generator that generates a plurality of game-play directions for the players.

16. A method of game play for multiple players comprising the steps of

- (a) providing each player with a shaft;
- (b) providing a plurality of unplayed magnetized playing pieces, wherein the playing pieces have faces of opposite magnetic polarity and a channel through the pieces dimensioned to receive one of the shafts;
- (c) each player (i) selecting one unplayed playing piece; (ii) dropping it onto her shaft; and (iii) either removing the dropped playing piece from the shaft or leaving the dropped playing piece on the shaft depending on whether the dropped playing piece is magnetically attracted to or repelled from a previously dropped playing piece in accordance with a predefined rule.

17. The method of claim 16, further comprising the steps of repeating step (c) until a shaft of a player contains a particular number of pieces in accordance with a predefined rule.

18. The method of claim 16, wherein the unplayed magnetized pieces each have one of a plurality of colors on at least one surface, further comprising the steps of repeating step (c) until a shaft of a player contains a particular color pattern of pieces in accordance with a predefined rule.

19. The method of claim 16, further comprising the step of:

- (d) each player: (i) generating a game-play command from a predefined set of game-play commands using a game-play command generator; and (ii) effectuating the game-play command,

wherein the set of predefined game-play commands includes at least a command for selecting one unplayed playing piece and dropping it onto a player's shaft;

20. The method of claim 19, further comprising the steps of repeating step (d) until a shaft of a player contains a particular number of pieces in accordance with a predefined rule.

21. The method of claim 19, wherein the unplayed magnetized pieces each have one of a plurality of colors on at least one surface, further comprising the steps of repeating step (d) until a shaft of a player contains a particular color pattern of pieces in accordance with a predefined rule.

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