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(54) **MATCHING GAME WITH
INTERCONNECTABLE GAMEPIECES**

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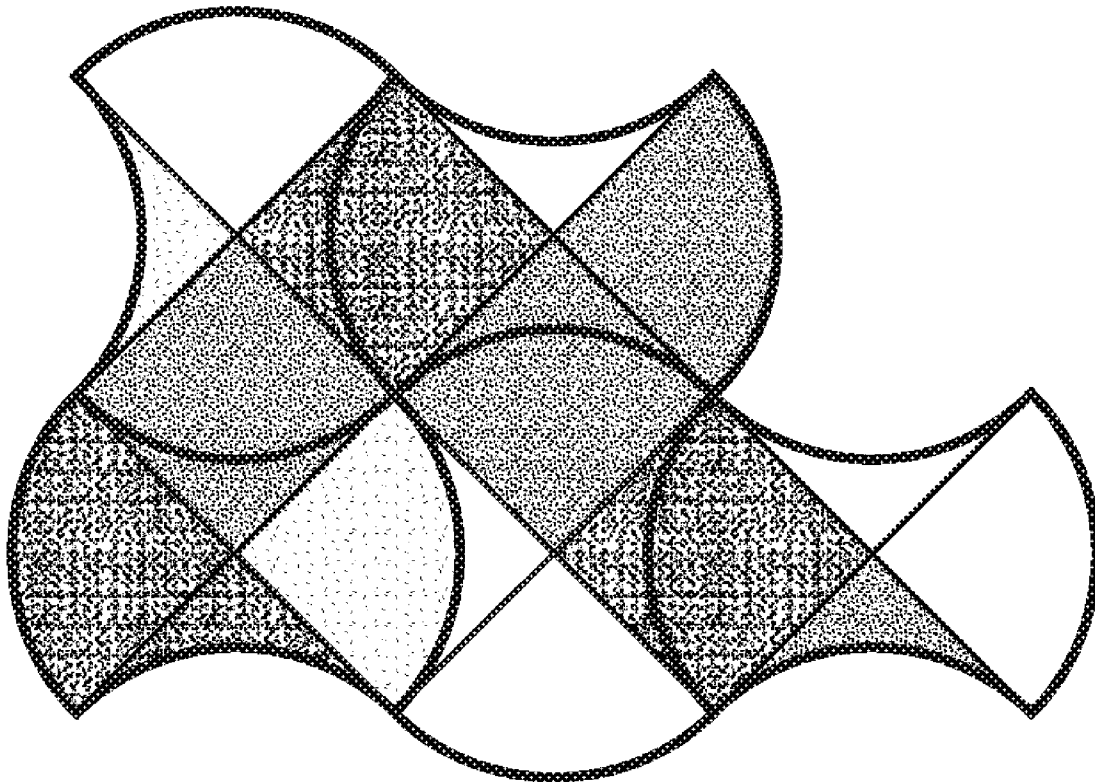
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(57)

ABSTRACT

A four sided game piece and a method of playing one or more games utilizing the four sided game piece are disclosed. The four sided game piece includes one or more sides having a concave shaped edge and one or more sides having a convex shaped edge. The convex shaped edge of a first game piece is configured for completely and exactly mating with a concave shaped edge of a second game piece. The four sided game piece includes a top surface that is divided into four segments, each of the four segments including visual indicia that may be the same or different in various combinations.



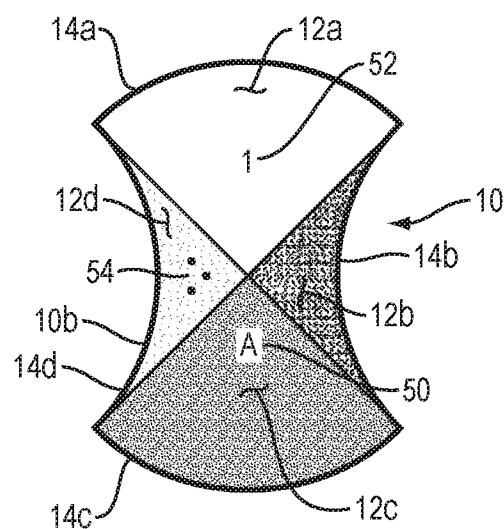


FIG. 1

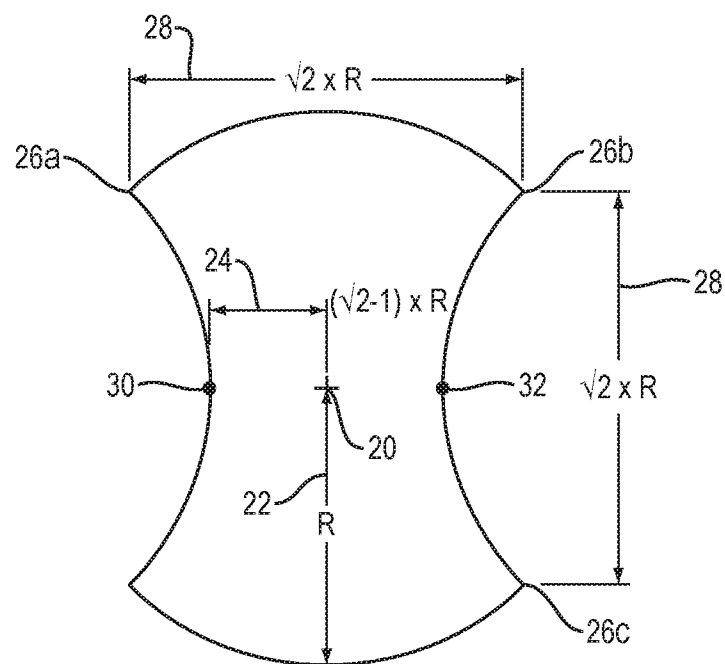


FIG. 2

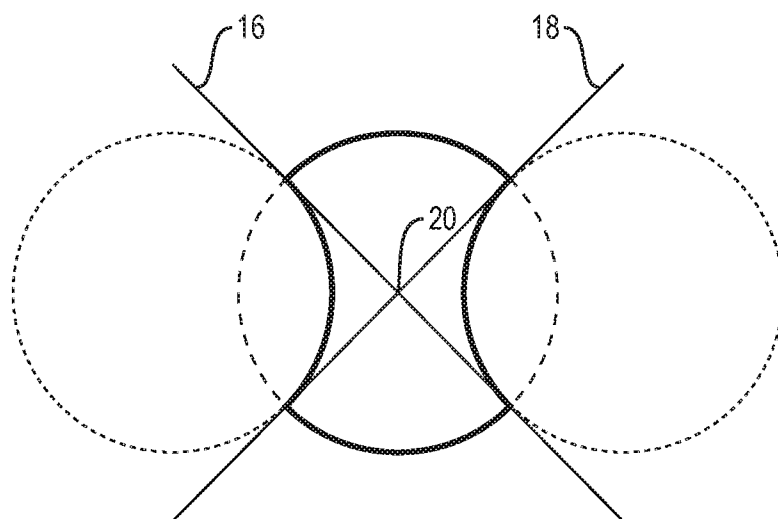


FIG. 3

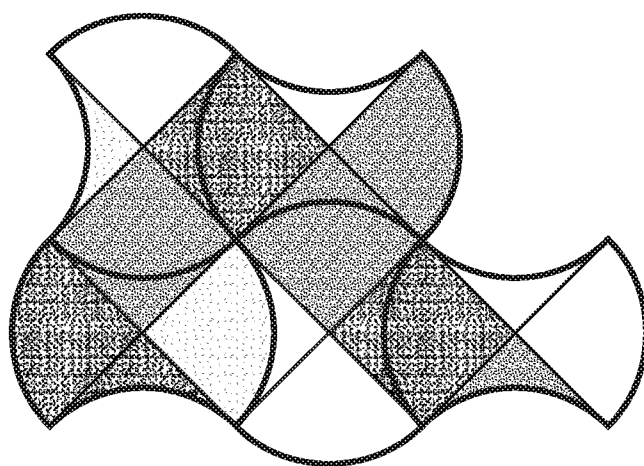


FIG. 4

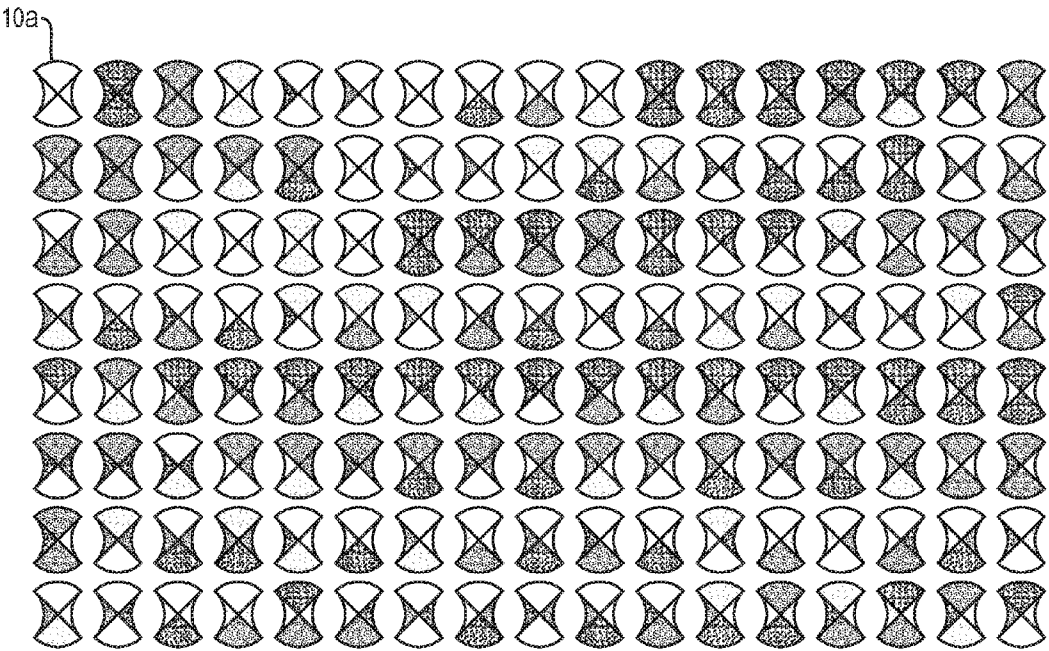


FIG. 5

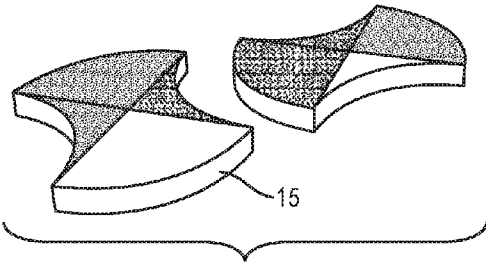


FIG. 6A

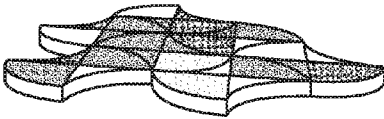


FIG. 6B

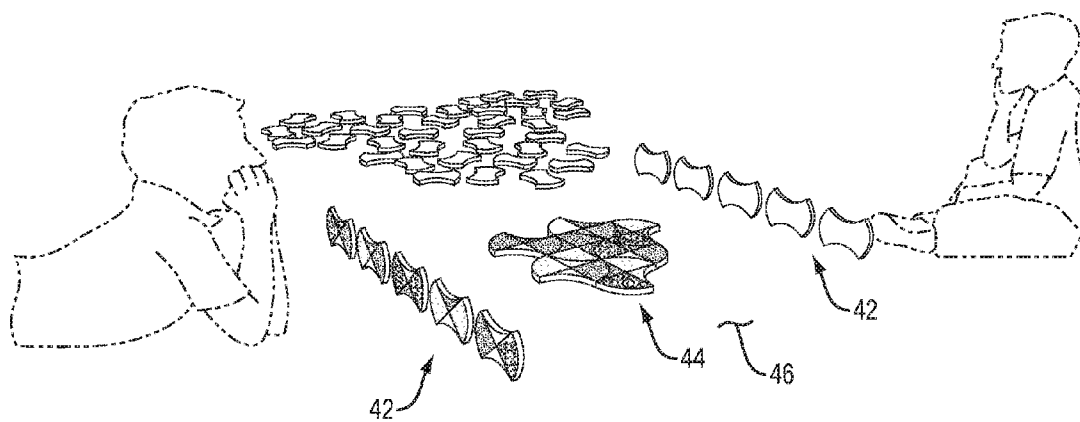


FIG. 7

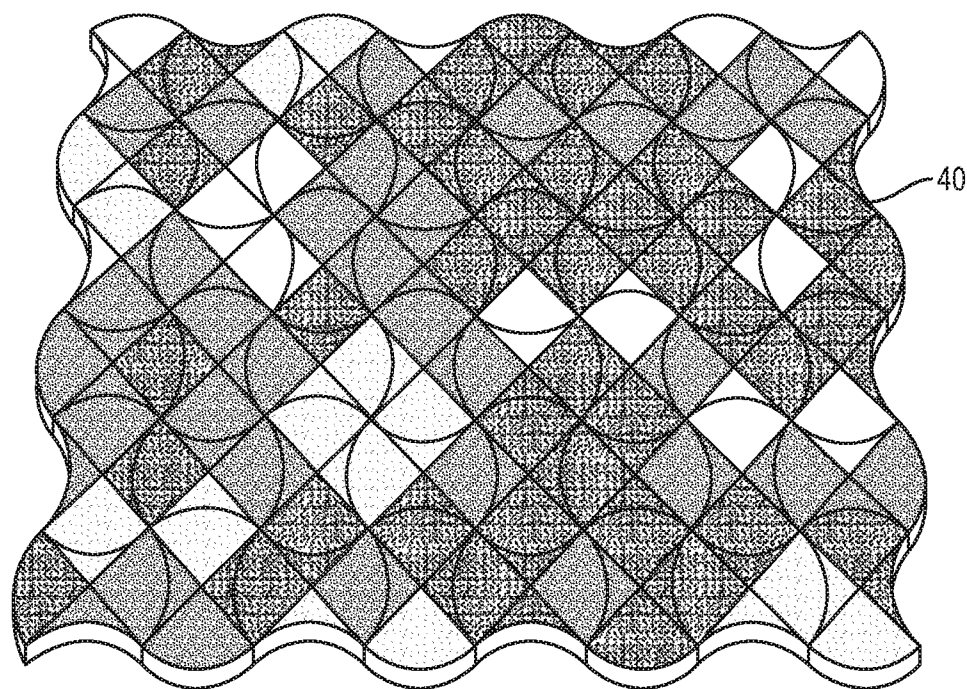


FIG. 8

MATCHING GAME WITH INTERCONNECTABLE GAMEPIECES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority from U.S. Provisional Patent Application No. 62/182,780 entitled “Matching Game with Interconnected Quasi-Circular Tile Pieces” filed on Jun. 22, 2015 and which is incorporated fully herein by reference.

TECHNICAL FIELD

[0002] The present invention relates to games and game pieces and more particularly, to games utilizing a plurality of game pieces having curved edges including concave and convex edges which allow for multiple game playing options utilizing the game pieces.

BACKGROUND

[0003] Individuals have long had a fascination with and enthusiasm for playing games. Family game time has long been and in many respects continues to be part of our culture. Some games are complex and require a special skill or even age level to play while other games are designed only for a younger audience.

[0004] Accordingly, what is needed is a simple and unique game piece that allows for the playing of multiple games/game types with the same or similar game piece by those of multiple age groups. Games for single and multiple players should be possible.

SUMMARY OF THE INVENTION

[0005] The invention features a four sided game piece including one or more sides having a concave shaped edge and one or more sides each having a convex shaped edge. The concave shaped edge of the one or more sides is defined by an arc having a length and a radius which corresponds to an arc having a length and the radius of the one or more sides having a convex shaped edge. The convex edge of one of the one or more sides of the four sided game piece is configured for generally exactly and fully or completely mating with a concave edge of one or more sides of another of the four sided game piece.

[0006] In a preferred embodiment of the present invention, the four sided game piece includes two pairs of opposite sides, the first pair of opposite sides each having the concave edge while the second pair of opposite sides each having the convex edge. The four sided game piece may also include a top surface, wherein the top surface is divided into four segments, each of the four segments including visual indicia. Each of the four segments may include different visual indicia selected from the group of visual indicia including color, letters, numbers and symbols.

[0007] Also disclosed is a game utilizing a plurality of the four sided game pieces according to the invention, wherein the game includes nesting a concave edge of a first four sided game piece with a convex edge of a second four sided game piece. The matching is based on one of the group of visual indicia provided on the four sided game pieces. The game play may also include nesting a concave edge of a first four sided game piece with a convex edge of a second four

sided game piece based on predefined games instructions and criteria. The game, in one embodiment, includes a dominos type game.

[0008] The dominos type game is played by providing two or more game players with a predetermined quantity of the four sided game pieces, and wherein each of the two or more game players take sequential turns at nesting the concave edge of a first four sided game piece with a convex edge of the second four sided game piece based on a match of the one of the group of visual indicia provided on the four sided game pieces. The game is won by a game play condition selected from the group of game play conditions consisting of: a first of the two or more game players to nest all of the game player's provided predetermined quantity of four sided game pieces; and by a first of the two or more game players achieving the highest point score among the two or more players, wherein points are scored according to matching visual indicia, and unplayed game pieces remaining to opposing players.

[0009] The game may also be played as a puzzle or a card game.

BRIEF DESCRIPTIONS OF THE DRAWINGS

[0010] These and other features and advantages of the present invention will be better understood by reading the following detailed description, taken together with the drawings wherein:

[0011] FIG. 1 is a representation of a sample game piece according to the present invention;

[0012] FIG. 2 is a representation of a sample game piece illustrating one method of computing game piece size and dimensions according to one embodiment of the invention;

[0013] FIG. 3 illustrates how the game piece according to the present invention is formed by arcs and how the 4 segments are defined;

[0014] FIG. 4 is a representation of several game pieces nested together as in game play;

[0015] FIG. 5 is a schematic representation of 136 tiles in a set with all possible combinations of 4 colors used to mark the separate sectors of the game pieces;

[0016] FIGS. 6A and 6B are perspective views of several game pieces nesting together;

[0017] FIG. 7 is a representation of 2 players playing one type of game according to the invention; and

[0018] FIG. 8 is a representation of a puzzle game utilizing the game pieces of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] A game piece 10, FIG. 1, according to the present invention, serves as a part of a strategic game, similar in one embodiment in some aspects to a matching game such as dominos, using a number of curved tile game pieces 10 such that multiple pieces can nest or butt together (see FIG. 4 for example) in a manner where players can strategically add pieces in single or multiple moves or seek to block opponents by placing pieces intended to limit opponents' options. Matching in the context of this invention includes matching concave-to-convex edges of the game pieces 10 as well as or in addition to indicia “matching” of tile game piece sectors 12.

[0020] The individual tile or game piece 10 may have a blank face 10a, FIG. 5 and/or a marked face 10b, FIG. 1. The

marked face **10b** is, in the preferred embodiment, divided into four curved sectors **12a-12d**, with each sector **12** marked with an identifying color, number, pattern or symbol such as pips (dots) or by other means or indicia to uniquely differentiate each of the four sectors. Although 4 sectors are used for illustrative purposes describing the preferred embodiment, this is not a limitation of the present invention as two or more sectors may be utilized. Though similar to dominoes, the curved shape of the piece and the four sectors allow for matching on multiple lateral sides of adjoining pieces which is unique and allows for more thoughtful and strategic gameplay.

[0021] The game piece **10** has lateral sides, or edges, defined, in the preferred embodiment by two opposing convex sides **14a** and **14c**, and two opposing concave arc sides **14b** and **14d**, such that a convex arc side (**14a/14c**) on one game piece **10** can nest perfectly and fully with the concave arc (**14b, 14d**) of another game piece and vice versa. In one embodiment, the four sectors **12a-12d** are defined by two straight lines **16, 18** between two opposite intersection points of adjacent convex and concave arcs, resulting in two perpendicular lines intersecting at the center **20** of the piece.

[0022] Geometrically, the shape of the game piece **10** is formed by dividing a circle into four equal quadrants via two perpendicular diameters; two opposite quadrants form the convex sectors of the tile, while the concave sectors between them are formed by the arcs of two outside circles of the same radius as the original. Another aspect of the invention reveals that the game piece **10** is defined such that the four lateral sides **14** are designed so that pieces can nest together perfectly, matching the four marked segments as defined by the following: where the length of the piece along the longest axis between two opposing convex arcs= $2R$ (R indicated by arrow **22**, FIG. 2), the center of the piece **20** to the outer most point on one of the convex arcs= R indicated by arrow **24**, the linear distance between points formed by the intersection between the convex and concave segments (**26a-26b** or **26b-26c**)= $R\sqrt{2}$ as shown by arrow **28**, the distance between the two narrowest points **30-32** on opposing concave arcs **12b/12d**= $2R(\sqrt{2}-1)$, the distance between the center of the piece **20** and the narrowest point on one of the concave arcs (**30** or **32**)= $R(\sqrt{2}-1)$.

[0023] According to one embodiment of the present invention, the invention therefore provides a game piece for a domino-type game which presents four separate connecting lateral sides, or edges, designed to assemble with the connecting lateral sides or edges, of other similar pieces, one pair of opposite connecting sides having a convex arc, and the other pair of opposite sides having a concave arc. The top surface of each game piece preferably includes some form of specific visual indicia such as color, letters **50**, numbers **52** and symbols **54** on the top surface of the game pieces such that the visual indicia relate to one another in a novel way, such relationship allowing a series of game plays which enable the game players to accumulate point scores in a novel way by the relationship between the playing pieces.

[0024] Each of the playing pieces, in the preferred embodiment, is manufactured of a substance such as plastic or wood. The game pieces **10** are, in one embodiment, preferably constructed of sufficient thickness **15**, FIG. 6, to allow them to “stand” on their own (as in the game dominoes), or may be placed on a tile holder so as to shield the

game pieces of one player from another player, or may be constructed thinner as playing cards or puzzle pieces for such applications/use.

[0025] The number of different identifying colors, symbols, or numbers may be varied, and tiles may be provided representing every possible combination of these identifiers or some subset or superset thereof (by omitting or repeating tiles, respectively). Several combinations of color and/or indicia are possible. For example, all four segments **12** may be of the same color or contain the same indicia; 3 segments may be of one color or indicia with the fourth segment on a given game piece a different color or indicia; two segments may be of the same color or indicia with a one segment of one different color or indicia and the fourth segment of yet a different color or indicia; two segments may be of the same color or indicia with the remaining two segments of a different but same color or indicia; or lastly, each segment **12** may have a different color or indicia. Not all of the game tiles **10** need be of the same configuration or format but rather, a game “set” may include game tiles **10** having different color or indicia combinations. In this manner, the total number of game tile combinations can be adjusted and a predetermined number of game pieces **10** can be provided.

[0026] The purpose of this invention is to provide, in one embodiment, a domino-type game piece **10** as previously described with a geometrical shape allowing it to be assembled or “nested” with up to four other pieces on the four shaped sides. Other games such as card games and puzzles **40** as shown in FIG. 8 are considered to be within the scope of the present invention. The games may be played for entertainment, promotional, therapeutic or educational purposes.

[0027] The number of players in the game can be 1 or more. The upper limit of players may be dictated by the type of game being played and its particular rules or requirement or the number of tiles in a particular set. In the dominoes type game, each player plays in turn to score points by being the first player to play all of his or her tiles. Each player can stand the pieces on edge positioned such that they may see the marked side while not allowing opposing players to see the marked side **42**, FIG. 7, or on a rack (not shown but well known in the art) for holding his or her playing game pieces **10**.

[0028] Each rack may be an elongated structure having flanges projecting upwardly and positioned to support a plurality of playing pieces in orientation to be viewed by the player who has drawn the pieces during play, but not by the other players.

[0029] It is an object of the present invention to teach the playing of a game which allows a player to reduce the number of pieces in their control by matching edges (with or without color/indicia matching) of game pieces **10** with game pieces **44** already in-play on the playing surface **46** before the opposing player(s), in order to achieve a higher score. One goal of the present invention is, in one embodiment, to provide a domino-type game with a more tactical method of play, allowing, for instance, the placement of tiles that nest with other tiles on multiple sides, in order to score points, to be awarded extra moves or other benefits based on, for example, color/indicia matching, and/or to limit an opponent's options during a game.

[0030] In one embodiment of the invention, a game is played with the game pieces **10** of the present invention that is similar to the game of dominoes. A number of players play

with a number of tile pieces removed from a bag, box or the like. Points are scored by a player who places his or her last tile or game piece on the board and wherein subsequently scoring points is based on the number of tiles remaining in the opponent's hands. Play may begin by someone drawing one or two "starter" game pieces at random from among the stored pieces and placing them in the center of the table nested along an edge with matching colors/indicia. If it is not possible to nest the 2 chosen starter game pieces, one may be returned to the bag or box and another picked at random. Subsequently, each player chooses a number of game pieces at random (such as 7) and stands them on edge so they cannot be seen by other players.

[0031] For the first hand, any player may go first. Thereafter for subsequent games, the player with the highest score goes first. In general, the game pieces may be played to any position on the game pieces on the board with a match along all touching edges. This means that shaped matching and indicia matching is required in order to place a game piece on the game board against previously played game pieces. If a game piece matches along only one edge or a player cannot play a matching game piece anywhere, the player's turn is over and play goes to the next player in a clockwise or counterclockwise manner, as previously determined. If a player can place a game piece which matches along more than one edge, that player may have another turn. Other game play rules are contemplated.

[0032] By means of one example only, to score points, after one player plays his or her last game piece, the number of tiles remaining in each of the other player's hands are counted. If the player's last game piece matched only on one edge, the number of points received by that player is equal to the number of tiles or game pieces remaining in the hands of all of the other players. If the player's last game piece matched on more than one edge, the player scores twice this number of points. The remaining players continue play. When only one player has game pieces remaining, the hand is over. Games may be played to any agreed-upon number of points. For example, two players may agree on 10 points game limit; four players 35 points, etc. if no player can play a game piece anywhere, the hand ends and no further scores for that hand are awarded and game pieces are returned to the bag or box and the players draw new tiles or game pieces to begin a new hand.

[0033] Another object of the invention is to teach a game which is exciting to play for players of many skill levels/ages and different age appropriate game types and/or instructions can be developed and provided. Another object is to teach a matching game that can employ increased strategy for advanced players while another object is to teach the playing of a novel matching game that is relatively easy to learn to play and can be played by persons of widely varying skills and abilities.

[0034] The games played utilizing the game piece according to the present invention can be played online, on the Internet, and additionally on a smart device via an app pre-programmed to move in turn against a human player, or alternatively allowing multiple human players to play against each other across the internet or a mobile game center using a virtual tile piece the same shape as the physical tile piece. Various types of games may be played including, for example, arranging tiles or game pieces 10 in

multiple ways and configurations which could describe finished shapes of game pieces; finished color combinations; and other arrangements.

[0035] Modifications and substitutions by one of ordinary skill in the art are considered to be within the scope of the present invention, which is not to be limited except by the allowed claims and their legal equivalents.

What is claimed is:

1. A game piece, comprising:

a four sided game piece, said four sided game piece including one or more sides having a concave edge and one or more sides each having a convex edge, said concave edge of said one or more sides defined by an arc having a length and a radius which corresponds to an arc having a length and the radius of said one or more sides having a convex edge, wherein said convex edge of one of said one or more sides of said four sided game piece is configured for exactly and completely mating with a concave edge of one or more sides of another of said four sided game piece.

2. The game piece of claim 1, wherein said four sided game piece includes two pairs of opposite sides, said first pair of opposite sides each having said concave edge while said second pair of opposite sides each having said convex edge.

3. The game piece according to claim 1, wherein said four sided game piece includes a top surface, wherein said top surface is divided into four segments, each of said four segments including visual indicia.

4. The game piece according to claim 3, wherein said four segments include visual indicia configurations selected from the group of visual indicia configurations consisting of: all 4 of said segments including the same visual indicia; 3 of said 4 segments including the same visual indicia and a fourth segment including a visual indicia different from that on said 3 of said 4 segments; a first 2 of said 4 segments including the same visual indicia and the remaining 2 of said 4 segments including visual indicia which is the same but different than the visual indicia on said first 2 of said 4 segments; 2 of said 4 segments including the same visual indicia while a third segment includes a visual indicia which is different than said 2 of said 4 segments, while a fourth segment includes a visual indicia which is the different than both said 2 of said 4 segments and said third segment; and each of said 4 segments including visual indicia which is different than any other of said 4 segments on a given game piece.

5. The game piece according to claim 3, wherein said visual indicia is selected from the group of visual indicia including color, letters, numbers and symbols.

6. A game utilizing a plurality of said four sided game pieces according to claim 5, wherein said game includes nesting a concave edge of a first four sided game piece with a convex edge of a second four sided game piece based on a match of one of said group of visual indicia provided on said four sided game pieces.

7. A game utilizing a plurality of said four sided game pieces according to claim 5, wherein said game includes nesting a concave edge of a first four sided game piece with a convex edge of a second four sided game piece based on predefined games instructions and criteria.

8. The game according to claim 6, wherein said game includes a dominos type game.

9. The game according to claim 8, wherein said dominoes type game is played by providing two or more game players with a predetermined quantity of said four sided game pieces, and wherein each of said two or more game players take sequential turns at nesting said concave edge of a first four sided game piece with a convex edge of said second four sided game piece based on a match of said one of said group of visual indicia provided on said four sided game pieces

10. The game according to claim 9, wherein said game is won by a game play condition selected from the group of game play conditions consisting of: a first of said two or more game players to nest all of said game player's provided predetermined quantity of four sided game pieces; and by a first of said two or more game players achieving the highest point score among said two or more players, wherein points are scored according to matching visual indicia, and unplayed game pieces remaining to opposing players.

11. The game according to claim 6, wherein said game is played as a puzzle.

12. The game according to claim 6, wherein said game is played as a card game.

13. A game piece, comprising:

a four sided game piece, said four sided game piece including two pairs of opposite sides, said first pair of opposite sides each having said concave edge while said second pair of opposite sides each having said convex edge, said concave edges of said first pair of opposite sides defined by an arc having a length and a radius which corresponds to an arc having a length and the radius of said second pair of opposite sides having a convex edge, wherein said convex edge of said first pair of opposite sides of said four sided game piece is configured for exactly and completely mating with said concave edge of one or more sides of another of said four sided game piece, wherein said four sided game piece includes a top surface, wherein said top surface is divided into four segments, each of said four segments including visual indicia, wherein said four segments include visual indicia configurations selected from the group of visual indicia configurations consisting of: all 4 of said segments including the same visual indicia; 3 of said 4 segments including the same visual indicia and a fourth segment including a visual indicia different from that on said 3 of said 4 segments; a first 2 of said 4 segments including the same visual indicia and the remaining 2 of said 4 segments including visual indicia which is the same but different than the visual indicia on said first 2 of said 4 segments; 2 of said 4 segments including the same visual indicia while a third segment includes a visual indicia which is different than said 2 of said 4 segments, while a fourth segment includes a visual indicia which is the different than both said 2 of said 4 segments and said third segment; and each of said 4 segments including visual indicia which is different than any other of said 4 segments on a given game piece.

14. A method of playing a game, said method comprising the acts of:

providing a plurality of game pieces, each of said plurality of game pieces comprising a four sided game piece, said four sided game piece including two pairs of opposite sides, said first pair of opposite sides each having said concave edge while said second pair of

opposite sides each having said convex edge, said concave edges of said first pair of opposite sides defined by an arc having a length and a radius which corresponds to an arc having a length and the radius of said second pair of opposite sides having a convex edge, wherein said convex edge of said first pair of opposite sides of said four sided game piece is configured for exactly and completely mating with said concave edge of one or more sides of another of said four sided game piece, wherein said four sided game piece includes a top surface, wherein said top surface is divided into four segments, each of said four segments including visual indicia, wherein said four segments include visual indicia configurations selected from the group of visual indicia configurations consisting of: all 4 of said segments including the same visual indicia; 3 of said 4 segments including the same visual indicia and a fourth segment including a visual indicia different from that on said 3 of said 4 segments; a first 2 of said 4 segments including the same visual indicia and the remaining 2 of said 4 segments including visual indicia which is the same but different than the visual indicia on said first 2 of said 4 segments; 2 of said 4 segments including the same visual indicia while a third segment includes a visual indicia which is different than said 2 of said 4 segments, while a fourth segment includes a visual indicia which is the different than both said 2 of said 4 segments and said third segment; and each of said 4 segments including visual indicia which is different than any other of said 4 segments on a given game piece; and

providing written instructions for playing said game, said written instructions including:

directing the placement of at least one starter game piece on a game play area;

directing a plurality of players to each select a plurality of said game pieces from a game piece storage device;

directing a first player to determine if he or she has selected at least one game piece from said plurality of selected game pieces that can be nested along at least one edge with at least one edge of said at least one starter game piece, if it is possible to nest said selected at least one game piece from said plurality of selected game pieces along at least one edge with at least one edge of said at least one starter game piece, said first player continuing to select one game piece from said plurality of selected game pieces that can be nested along at least one edge with at least one edge of one or more game pieces on said game play area until said first player has no further selected game piece that can be nested with a game piece on said game play area, wherein play proceeds to a second and subsequent player;

directing a second and subsequent player to determine if he or she has selected at least one game piece from said plurality of selected game pieces that can be nested along at least one edge with one or more game pieces on said game play, if it is possible to nest said selected at least one game piece from said plurality of selected game pieces along at least one edge with one or more game pieces on said game play, said player continuing to select one game piece from said plurality of selected game pieces that can be nested along at least one edge with at least one edge of one or more game pieces on

said game play area until said second and subsequent player has no further selected game pieces that can be nested with a game piece on said game play area, wherein play proceeds to a subsequent player;

directing that after one player plays his or her last game piece, the number of tiles remaining in each of the other player's hands are counted and if the player's last game piece matched another game piece only on one edge, the number of points received by that player is equal to the number of game pieces remaining in the hands of all of the other players, whereas if the player's last game piece matched on more than one edge, the player scores twice this number of points;

directing that the remaining players continue play;

directing that when only one player has game pieces remaining, the hand is over;

directing that a second and subsequent game may be played to any agreed-upon number of points; and

directing that if no player can play a game piece anywhere, the hand ends and no further scores for that hand are awarded and game pieces are returned to the game piece storage device and all players draw new game pieces to begin a new hand.

* * * * *