

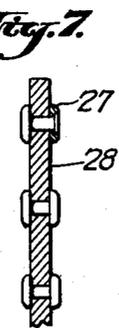
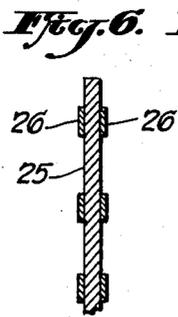
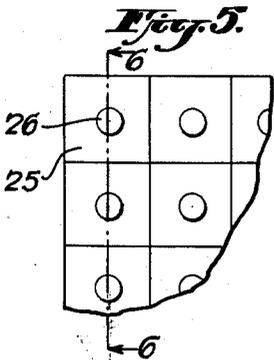
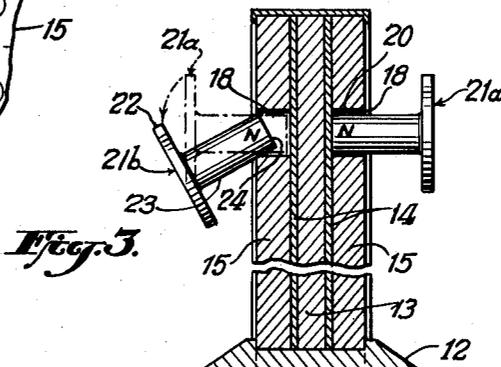
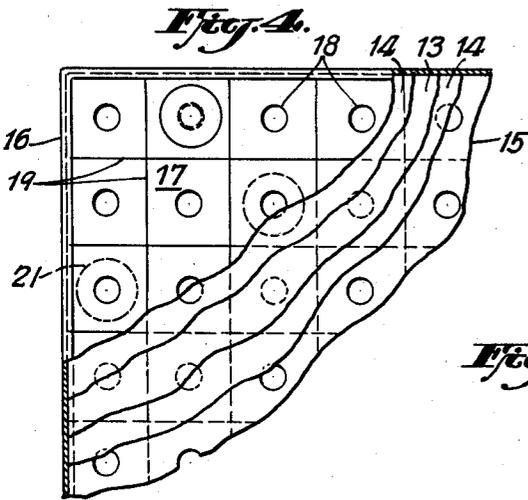
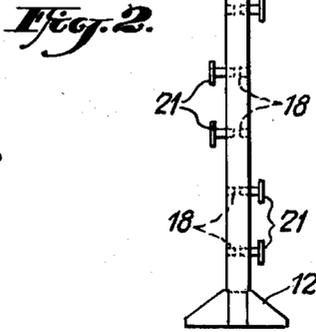
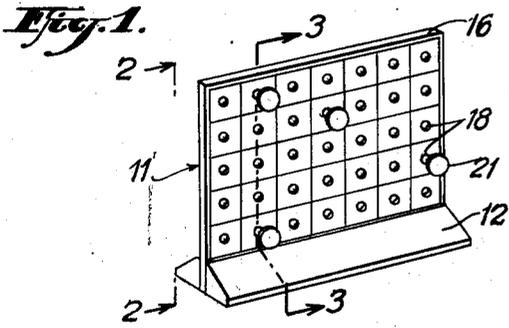
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3,082,004

MAGNETIC GAME APPARATUS

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MAGNETIC GAME APPARATUS

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6 Claims. (Cl. 273-130)

This invention relates to a magnetic game apparatus and, more particularly, to such apparatus employing magnetic playing pieces and a game board.

It is among the objects of the invention to provide a magnetic game apparatus which is simple and inexpensive to manufacture and is useful in playing a game or games.

Other objects and advantages of the invention will be apparent from the following detailed description thereof.

According to the invention, a magnetic game apparatus is provided comprising an upright game board, a plurality of magnetically conductive areas on opposite sides of the game board and a number of playing pieces, which may represent warships, airplanes, soldiers, or other objects, and each of which has a magnet at its end to be placed on the board. The magnetic ends of the playing pieces have the same polarity, so that a playing piece placed on one of the conductive areas on one side of the game board, opposite a second playing piece disposed on the corresponding conductive area on the opposite side of the game board, repels the second playing piece and dislodges or aids in dislodging such piece from the game board.

In the accompanying drawing which shows, for purposes of illustration, several embodiments of the magnetic game apparatus of the invention to which, however, the claimed invention is not limited:

FIGURE 1 is a perspective view of a preferred embodiment of the invention, showing one side of the game board having a number of playing pieces thereon;

FIGURE 2 is an end elevation, partially in section, of the game board, viewed in the direction of line 2-2 in FIGURE 1;

FIGURE 3 is a fragmentary vertical section, enlarged relative to FIGURE 2, taken along line 3-3 in FIGURE 1, showing the dislodging of a playing piece from one side of the game board;

FIGURE 4 is a fragmentary elevation, partially in section, showing one playing surface of the game board of FIGURE 1;

FIGURE 5 is a fragmentary elevation of a playing surface of an additional embodiment of the game board;

FIGURE 6 is a vertical section taken along the line 6-6 in FIGURE 5; and

FIGURE 7 is a vertical section similar to FIGURE 6, taken through a further embodiment of the game board of the invention.

The magnetic game apparatus illustrated in FIGURES 1 to 4 comprises a vertically disposed game board 11 suitably mounted on a base or stand 12, as best shown in FIGURES 3 and 4. The game board 11 includes a relatively thin magnetically conductive layer 13, preferably a ferrous metal in the form of a metal screen, but which also may be in the form of a foil, for example, interposed between a pair of thin non-magnetic sheets 14 composed of paper or plastic such as a vinyl sheet material.

A pair of non-magnetic face plates 15, desirably of cardboard, but which can be a plastic, are mounted in juxtaposition with the sheets 14, and the resulting assembly is secured together as by mounting within a frame 16, as shown in the drawing, or by laminating, for example. The outer playing surface 17 of each face plate 15 has a number of apertures 18 therein which extend through the face plate opposite the apertures 18 in the face plate 15 on the opposite side of the game board and contact the adjacent non-magnetic sheets 14. The play-

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ing surfaces 17 are desirably decorated, as by the insertion of grid lines 19 and the addition of geographical indicia to simulate land masses, oceans or similar geographic regions.

5 Playing pieces 21 are provided, each having a face 22 attached to a permanent magnet 23, which magnet is dimensioned to fit within each aperture 18 in the face plate 15 of the game board. It will be understood that, while rod magnets 23 are shown in the drawing, bar magnets or magnets of any shape may be utilized which fit within mating apertures 18 in the face plates of the game board.

10 An important feature of the present invention is that each end 24 of each magnet 23 remote from the end attached to the face 22 is of the same polarity; hence, as shown in FIGURE 3, the ends 24 may each be the north pole of the magnets 23. Alternatively, each of the ends 24 may possess the reverse polarity, i.e., they may each be the south pole of a magnet 23. In any case, the end of each magnet received in the apertures 18 of the face plates 15 has the same polarity in order that placement of a playing piece 21 in such an aperture 18 opposite a playing piece previously disposed in an aperture 18 on the opposite side of the game board will, by magnetic repulsion, dislodge the second playing piece from the game board.

15 The magnetically conductive layer 13 is relatively thin, in order that the lines of force from each magnet 23 of a playing piece placed in an aperture 18 on one side of the board penetrate sufficiently to repel and dislodge a playing piece previously disposed in the corresponding aperture on the opposite side of the board therefrom. Similarly, the non-magnetic sheets 14, which serve to conceal the conductive layer 13 and the playing pieces positioned on one side of the game board from view from the opposite side of the game board, are relatively thin such that each magnet 23 positioned in an aperture is attracted to the conductive layer 13 and maintained on the game board, despite the intervening thickness of each non-magnetic sheet 14 between the magnet and the conductive layer. The specific thickness of each conductive layer 13 and non-magnetic sheet 14, depends, of course, on the field strength of the particular magnets 23 employed for the playing pieces 21, the use of more powerful magnets permitting greater strata thicknesses. As a general rule, a conductive layer thickness of from about 20 25 1 to 125 mils and a non-magnetic sheet thickness of less than about 70 mils gives good results.

30 The thickness of each face plate 15 is sufficient to provide interior walls 20 surrounding the apertures 18 in the face plates having a depth such that the magnetic repulsive force exerted upon a playing piece positioned in each such aperture by the magnets of a playing piece subsequently placed in a corresponding aperture on the opposite side of the game board is sufficient to dislodge or eject the playing piece from the aperture, and not merely cause it to slide along the face of the playing surface 17. In general, a face plate thickness of at least about 15 mils has been found to give good results.

35 In one game which may be practiced by the magnetic game apparatus of this invention, a number of playing pieces 21 are provided for each player representing different objects, such as soldiers, war ships and airplanes. In use, the players mount their playing pieces in apertures 18 on the opposite ends of the playing surfaces 17 on the opposite sides of the game board. Each player then takes his turn in moving his playing pieces from their initial positions to seek, for example, to reach a target position, e.g., his opponent's capital. Whenever a player chances to position one of his playing pieces 21 in an aperture 18 40 45 50 55 60 65 70 corresponding to an aperture on the opposite side of the game board in which an opponent's piece 21 is already

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disposed, such as indicated by dotted line at 21a in FIGURE 3, the magnetic lines of force produced by magnet 23 extending through the non-magnetic sheets 14 and magnetic conductive layer 13 repel the magnet 23 of the opponent's playing piece, causing the playing piece to fall off or be dislodged from the board, as shown at 21b in FIGURE 3. The player's turn terminates whenever he dislodges an opponent's playing piece 21, the player having reduced the number of playing pieces of his opponent but his opponent thereby knowing the location of one of the player's playing pieces. The play continues with each player attempting to defend his own capital by moving his playing pieces into the apertures 18 intermediate those apertures at which he surmises his opponent's forces are located and his capital, and seeking to counter-attack by dislodging and thus destroying his opponent's forces when they are moved into strategic positions and dislodge his defending pieces. The player who first reaches his opponent's capital is the victor.

The embodiment of the game board of the invention shown in FIGURES 5 and 6 includes a non-magnetic body 25, which is constituted of a thin sheet, e.g., cardboard, to which are applied spaced areas 26 of magnetically conductive pigment on opposite sides of the game board aligned transversely of the game board. The playing pieces 21 adhere directly to the areas of conductive pigment 26 and are dislodged from the game board by the repulsion of playing pieces positioned on the corresponding conductive pigment areas 26 on the opposite side of the board.

In the embodiment of FIGURE 7, magnetically conductive elements, e.g., composed of a ferrous metal, such as rivets 27, extend through the body of a non-conductive sheet material 28 which can be of the same material as the face plates 15 of the embodiment of FIGURES 1 to 4. Playing pieces 21 are magnetically attracted to the ferrous metal elements 27 and are dislodged therefrom when a playing piece is positioned on the element 27 on the opposite side of the game board.

It will be understood that as a player positions his playing piece opposite a playing piece of his opponent on the other side of any of the game boards described hereinabove, the first mentioned player, holding his playing piece to position it on the board, prevents his playing piece from being dislodged by the playing piece of his opponent which, of course, is not manually held. Thus only the playing piece manually held while it is being positioned on the game board is placed and remains in place thereon. The playing piece on the opposite side, directly opposed to that being placed and which is not manually held, is dislodged as hereinabove described.

The game board, as indicated, is provided with playing surfaces of any desired character representative of geographical or topographical areas and including starting areas on the opposite sides, which starting areas are not directly opposed so that one player's playing pieces are positioned in one starting area and will not repel the other player's playing pieces in the starting area on the opposite side of the board. If desired, instead of having such starting areas, the playing pieces utilized on opposite sides of the board may be located at the beginning of the game in any convenient position where they are readily accessible to the players.

The dimensions of the game board may be varied as desired provided its height and length are adequate to prevent the player on one side from seeing where the player on the other side positions his playing pieces, when employing the board in the preferred manner with the respective opposing players moving playing pieces on opposite sides of the game board.

The magnetic game apparatus of this invention is simple and inexpensive to manufacture and may be readily employed to play a number of interesting games. It will be understood that use of the apparatus is not limited to the

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specific game described herein but may be utilized to play different games such, for example, as treasure games in which opposing players move playing pieces on the same side of the game board over a course, dislodging treasure pieces from the opposite side of the game board.

Since different embodiments of the game apparatus may be made without departing from the scope of this invention, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A magnetic game apparatus comprising an upright game board, a number of playing pieces, each of which has a magnet at its end, positionable on a side of the game board, each of the ends of said magnets placed on the game board having the same polarity whereby a playing piece placed on one side of the game board, opposite a second playing piece previously disposed on the opposite side of the game board, repels the second playing piece.

2. A magnetic game apparatus comprising an upright game board, a plurality of magnetically conductive areas on opposite sides of the game board, and a number of playing pieces, each of which has a magnet at its end positionable on each of the conductive areas on the game board, the magnet ends placed on the game board having the same polarity, whereby a playing piece placed on one of said conductive areas on one side of the game board, opposite a second playing piece previously disposed on the corresponding conductive area on the opposite side of the game board, repels the second playing piece and dislodges the second playing piece from the game board.

3. The apparatus as defined in claim 2, in which said game board includes a pair of non-magnetic face plates defining a pair of playing surfaces on opposite sides of the game board, and in which a magnetically conductive layer is positioned intermediate said face plates, each of the face plates having a plurality of apertures therein in alignment transversely of the game board defining said magnetically conductive areas.

4. The apparatus as defined in claim 2, in which said game board includes a thin non-magnetic body and in which said magnetically conductive areas comprise areas of magnetically conductive pigments positioned in alignment transversely of the game board on opposite sides of said body.

5. The apparatus as defined in claim 2, in which said game board includes a non-magnetic body, and in which said magnetically conductive areas comprise magnetically conductive elements extending through said body to the surfaces on the opposite sides thereof.

6. A magnetic game apparatus comprising a vertically disposed game board, said board comprising a magnetically conductive layer, a pair of thin non-magnetic sheets on opposite sides of said conductive layer, a pair of non-magnetic face plates in juxtaposition with said sheets and defining a plurality of apertures contacting the outer faces of said sheets; and a number of playing pieces, each of which has a magnet at its end dimensioned to fit through one of said apertures and, by magnetic attraction to said conductive layer, maintain the playing piece on the game board, each of the magnet ends placed on the game board having the same polarity whereby a playing piece placed in an aperture in a face plate on one side of the game board, opposite a second playing piece previously disposed in an aperture in the face plate on the opposite side of the game board, repels the second playing piece and dislodges the second playing piece from the game board.

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