Nov. 3, 1970 N. J. CARR 3,537,708

ELECTRICAL POSITION MATCHING GAME APPARATUS

Filed Dec. 16, 1968

FIG. 1

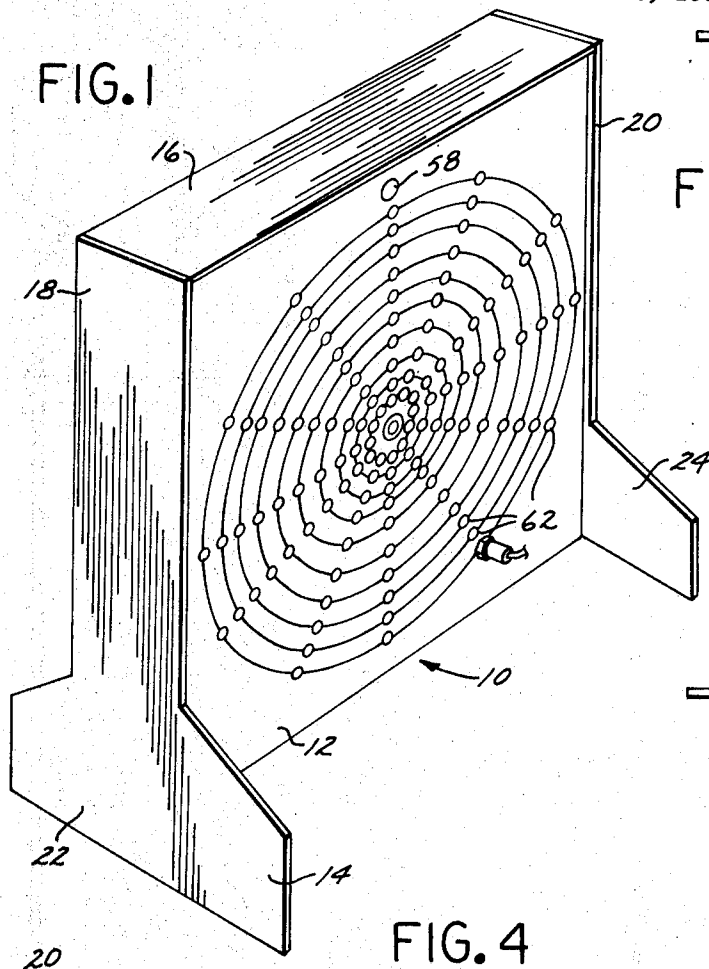


FIG. 2

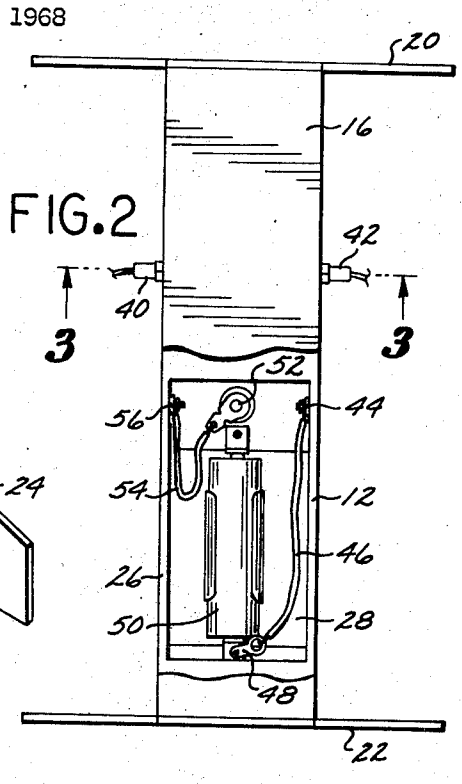


FIG. 4

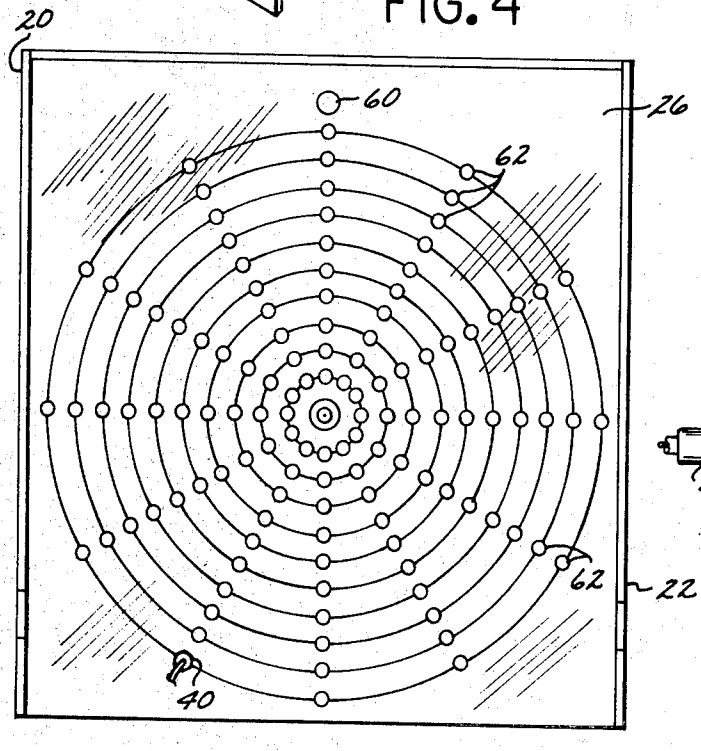
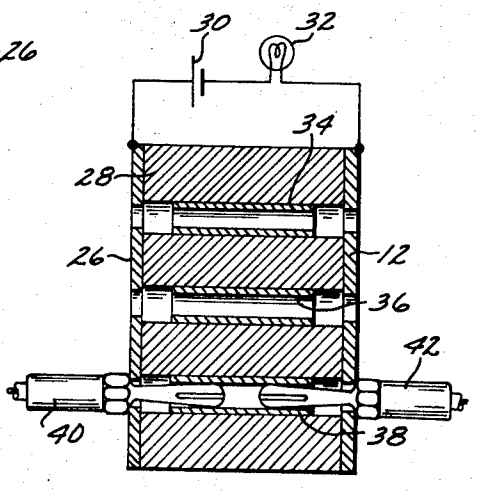


FIG. 3



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United States Patent Office 3,537,708 Patented Nov. 3, 1970

3,537,708

ELECTRICAL POSITION MATCHING GAME APPARATUS

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Filed Dec. 16, 1968, Ser. No. 784,150
Int. Cl. A63f 3/00
U.S. Cl. 273—130 10 Claims

ABSTRACT OF THE DISCLOSURE

Position matching game apparatus comprising two game boards made of electrically conductive material mounted back to back over an insulating member which separates them. Corresponding positions of the two boards are marked by through openings formed axially each with the corresponding opening of the other board. Connectors imbedded in the insulating member, and insulated from the boards, are aligned with the board openings to receive conductive playing pieces which connect the connector with the board in which the piece is inserted. Connection of both boards to the same connector completes an indicating circuit.

This invention relates to improvements in position matching games of the type in which one player attempts to determine a position on a playing board corresponding to a position selected by another player on that other's gameboard. While the game may be arranged so that only chance is involved in finding a matching position, the several areas of the gameboard may represent things or places or events whereby reason and logic may aid in matching. Thus the game may involve skill as well as chance. It is an object of the invention to provide improved apparatus for games of this kind.

It is an object to provide a matching game set having an improved playing position arrangement, an apparatus which may be relatively easily and inexpensively manufactured in attractive but rugged form, an apparatus which is mechanically arranged to facilitate playing and to facilitate storage when not in use, and, moreover, an apparatus which incorporates all of these advantages. Certain of these objects and advantages of the invention, and others which will hereinafter appear, are realized by the provision of a position matching game comprising a pair of electrically conductive gameboards each comprising a plurality of playing positions marked by openings formed through the boards and shaped to accommodate an electrically conductive playing piece with each position on one board corresponding to a position on the other; by the provision of a plurality of circuit terminal conductors each electrically insulated from the boards so that one terminal connector underlies each opening of both playing boards; by the provision of means electrically interconnecting those circuit terminal connectors associated with each opening of one playing board with the circuit terminal connectors associated with the corresponding openings of the other circuit board whereby to form terminal pairs; by the provision of means insulating the terminal pairs from one another; and by the provision of a means responsive to the electrical interconnection of the two playing boards by two playing pieces inserted in corresponding openings of the two boards and each connecting one of the boards to one terminal of a terminal pair for providing signals indicating that the corresponding areas have been matched by those playing pieces.

In the drawings:

FIG. 1 is an isometric view of an apparatus embodying the invention and in which the game board at one side of the apparatus is visible;

FIG. 2 is a top plan view of the apparatus depicted in FIG. 1, a portion of the upper part of the casing having been broken away to make visible the upper edges of the two game boards, the insulating material between them and the electrical apparatus that interconnects them;

FIG. 3 is a view in cross section of a fragment of the apparatus taken on line 3—3 of FIG. 2 except that the casing elements have been omitted and except that the electric circuitry connecting the game boards is shown schematically; and

FIG. 4 is a view in rear elevation of the apparatus of FIG. 1 showing that game board which is not visible in FIG. 1.

Referring to FIG. 1 of the drawing, the apparatus there shown, and generally designated by the reference numeral **10**, comprises a pair of game boards one of which is designated by the reference numeral **12** and is visible in FIG. 1. Means are provided for maintaining the two game boards in predetermined spacial relation. In this embodiment that means comprises a frame **14** which bounds the two gameboards at their periphery. The frame consists of an upper member **16**, a left side member **18** and a right side member **20**, in FIG. 1. Means are also provided by which the two game boards may be maintained in a selected position. In this case that means comprises a pair of feet arranged at the lower ends of frame members **18** and **20** by which the frame and the game boards are held in a vertical position relative to a flat, horizontal surface on which the apparatus is placed. Foot **22** is formed at the lower end of the side member **18** and the foot **24** is formed at the lower end of the frame side **20**.

The apparatus is useful in the playing of a type of game which is sometimes designated the "battleship game." Two playing boards are required and the surface areas of those gameboards are divided into positions, the positions of one corresponding to the positions of the other. Each player selects certain of these positions in the course of playing the game and some means is provided for recording his selection. One player attempts to determine which positions his opponent has selected. Accordingly the gameboard of each player is advantageously hidden from the other's view and some means is provided so that the opposing players can mentally visualize each other's board. The gameboards in this invention are divided into corresponding areas so that a given area of the surface of one gameboard corresponds to a particular area of the other gameboard. In terms of these area designations, the two boards are mirror images one of the other. They are arranged so that the surfaces of the playing boards are exposed in different directions whereby a player viewing one board face cannot see the other. The two boards are held back to back in a predetermined orientation so that each player can know with certainty which areas of the opponent's board correspond to the areas of his own.

The apparatus of FIG. 1 is designed to hold the two boards back to back in overlying parallel relation to one another in a frame that will hold them vertically when the frame is placed upon a table or other horizontal surface. The frame shown, with feet **22** and **24**, is advantageously employed but, of course, other frame shapes and frame board orientations are possible.

Means are provided for designating the several areas of the gameboard which the players might elect to designate and for recording that election. Advantageously the gameboard is provided with openings which are placed within, and accordingly designate, the several areas of the gameboard. Election of an area is recorded by placing a playing piece in the opening which designates that area. In attempting to find the matching area on his board, the opponent elects an area which he believes to

match that elected by his opponent and records his election by inserting a playing piece in the appropriate opening. Means are provided in the invention for indicating when the areas elected are matched and when they are not matched. It is a feature of the invention to record a player's election electrically and this is facilitated in the invention by the back to back, overlying relationship of the two gameboards. Structure is incorporated by which the two playing pieces, one in one board and one in the other, complete an electrical circuit when they have been inserted into openings which designate matching areas of their respective boards. Advantageously, this means comprises a circuit terminal underlying each opening of both boards. The two circuit terminals which underlie corresponding openings are electrically interconnected. Advantageously the two circuit terminals are integrally formed and are disposed in the space between the two boards. In the embodiment shown, the surface of the playing board, or at least the margins of the openings in the board, are electrically conductive and the electrically conductive areas of all of the holes of each board are connected to a common point on that board. This is readily accomplished by forming the gameboard of an electrically conductive material so that the whole board is a conductor. Alternatively, only the region of the openings is conductive and circuit runs are provided from those regions to the common point. One form of circuit construction would comprise a plastic gameboard having a conductive material deposited in the areas of the openings and connected by circuit runs to a common point in the manner of printed circuitry.

However, in this preferred embodiment, the gameboard **12** which is visible in FIG. 1, and the gameboard **26**, shown in FIG. 4, are both made of sheets of aluminum which are mounted back to back upon a plate **28** of insulating material. The two gameboards **12** and **26** are oriented so that the axes of the openings **62** through one gameboard are coincident each with the axis of the respectively associated opening of the other gameboard. The insulating plate **28** is bored on the same axis whereby communication is afforded through the insulating plate **28** from one gameboard to the other through every corresponding pair of gameboard openings. The circuit terminal connectors are disposed in those openings of the insulating plate so that they occupy a fixed position within the plate separated from the two playing boards and therefore insulated from them. Electrically conductive playing pieces are used which when inserted will complete an electrical connection from the gameboard in which it is inserted to the terminal connector pair of the opening in which it is inserted. When the two playing pieces are inserted in corresponding openings one will complete an electrical circuit from its gameboard to the terminal pair and the other playing piece will complete the connection from that terminal pair to its gameboard, thereby completing an electrical circuit between the two gameboards. Completion of that circuit completes a larger circuit which includes a connection from one gameboard to the other through the series combination of an electrical power source and an indicating lamp. The power source and the lamp are shown schematically in FIG. 3 where they are designated by the reference numerals **30** and **32**, respectively. This arrangement makes it possible to form the circuit terminal pairs by simply press fitting a metallic or other electrically conductive sleeve into the several openings through the insulating plate **28**. Such sleeves are visible in FIG. 3 where they are designated by the reference numerals **34**, **36** and **38**. Each of these sleeves comprises a connector pair and the manner of circuit completion is illustrated in the lower portion of FIG. 3 where the playing piece **40** and the playing piece **42** are shown to be inserted in matching openings of their respective boards **26** and **12**. Advantageously these playing pieces comprise conventional banana jacks. These male connectors are available in a variety of shapes. They have dimensions and resilience so that they can be forced into a female connector to insure good electrical contact.

The power source is advantageously a dry cell battery as indicated at **30** in FIG. 3. In FIG. 2 the electrical apparatus is seen to comprise an electrical connection **44** to the playing board **12** and a wire **46** leading from that connection to another connection **48** at one end of a battery holder **50** whose other end is connected to one terminal of a lamp socket **52**. The other terminal of the lamp socket is connected by a wire **54** to a connector terminal **56** at the other playing board **26**. It is the end of the lamp socket **52** that is visible in FIG. 2. The lamp extends downwardly from the socket (in FIG. 2) to a point between the lens **58** which is imbedded in the upper center portion of playing board **12**, and the lens **60** which is imbedded in the upper center portion of the playing board **26**. Each lens is formed by cementing a small plastic lens in an opening formed through its respectively associated gameboard.

Thus far described, the apparatus has utility in playing the "battleship game" in its many variations. Advantageously, however, the gameboards of the apparatus are considered to be divided into areas that can be described in terms of distance and angle from a central point, these positions being marked by openings arranged in radial lines radiating from the center of a circle. Advantageously these openings are arranged and spaced so that the corresponding openings of the radial lines lie on a circle, the several circles just described being concentric with each other about the central point of the pattern. The gameboard thus arranged presents a new dimension for variations of the "battleship game" such, for example, as various radar location games.

Although I have shown and described certain specific embodiment of my invention, I am fully aware that many modifications thereof are possible. My invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the appended claims.

I claim:

1. In a position matching game apparatus:

a pair of electrically conductive playing boards each comprising a plurality of playing positions marked by openings formed therethrough and shaped to accommodate an electrically conductive playing piece, each position on one board corresponding to a position on the other;

a plurality of circuit terminal connectors, one underlying each of said openings;

means electrically interconnecting the circuit terminal associated with each opening of one playing board with that circuit terminal associated with the corresponding opening of the other circuit board to form terminal pairs;

means insulating said terminal pairs from one another and from said playing boards; and

signal means responsive to electrical interconnection of the two playing boards by two playing pieces one inserted in each opening of a pair of corresponding openings of the two playing boards and each connecting one of said boards to one terminal of a terminal pair for providing a signal.

2. The invention defined in claim **1**, in which said playing boards are arranged back to back with each opening of one board overlying, in juxtaposed relation, the opening marking the position of the other board corresponding thereto.

3. The invention defined in claim **2**, in which said playing boards are arranged in parallel planes and which further comprises means for holding said boards on edge.

4. The invention defined in claim **3**, in which said openings are arranged to define concentric circles and further to define radial lines emanating from the center of those circles.

5. The invention defined in claim 4, in which the terminals comprising a terminal pair are integrally formed one with the other.

6. The invention defined in claim 1, in which the terminal connectors comprising a pair are integrally formed one with the other.

7. The invention defined in claim 6, in which said gameboards are made of a plastic material the surface area of which, in the regions surrounding said openings and in areas interconnecting said regions, are provided with an overlying layer of electrically conductive material.

8. The invention defined in claim 6, in which said integrally formed connector pairs comprise sleeves at least the inner surface of which is electrically conductive and which are arranged in axial alignment with respectively associated pairs of openings in said playing boards.

9. The invention defined in claim 8, which further comprises conductive playing pieces shaped for insertion in said openings of the board in engagement with conductive surfaces of the board and simultaneously for insertion within and in electrical engagement with said circuit terminal connectors.

10. The invention defined in claim 1, together with conductive playing pieces shaped for insertion within said openings and the circuit terminal connectors associated therewith respectively and for engagement with surfaces of said board and said circuit terminal connectors.

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