PLURAL ROTATABLE DISC INFORMATION DISPLAY DEVICE

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ABSTRACT

A novel device for displaying selected information comprising two partially superimposed rotatable discs mounted on independent axes between two apertured cover panels. Information indicia are disposed on the discs and are visible through the apertures in the cover panels and through selected apertures in the discs. Movable closure means are provided to conceal portions of the indicia beneath the cover panel apertures until the player shifts the position of the closure means simultaneously revealing first a portion of the information, and then the remaining information.

4 Claims, 10 Drawing Figures
PLURAL ROTATABLE DISC INFORMATION DISPLAY DEVICE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to an information display device and, more particularly, to an information display device comprising two rotatable discs mounted in partially superimposed adjacent juxtaposition. Information on the discs is visibly displayed through apertured cover panels, and closure means are provided to selectively display a portion or all of the information.

2. Description of the Prior Art

Information display devices are known in the prior art, as for example those used for simulating card games or hands of card games which devices include rotating discs comprising indicia which are visible through apertures in a cover panel. These devices usually consist of a rotating disc and a stationary disc, or two rotating discs, concentrically and co-axially mounted whereby the relative position of the two discs determines the cards in a players hand. Normally, the players hand, or hands, are instantly revealed when the movable disc or discs are positioned. In some instances, individually operable closure means conceal the playing card indicia beneath apertures in the cover panel until the closure means are moved aside. In the latter described devices, several steps involving movement of closure means are necessary to reveal a portion of a player's hand or entire hand.

SUMMARY OF THE INVENTION

A novel construction is provided for displaying information comprising, as its major components, a pair of partially superimposed rotatable discs independently mounted between two cover panels, indicia representing information printed on both sides of each disc, apertures in each of said cover panels and said discs to selectively reveal the information appearing beneath the apertures, and slidable closure means located between each cover panel beneath the apertures therein and the adjacent disc, whereby the closure means are movable to selectively and alternately conceal and reveal the information indicia beneath the apertures. Two integral closure means are provided in the preferred embodiment of the present invention, which is illustrated as a gameboard for simulating a two handed card game such as poker. One closure means is movable to simultaneously reveal the opening two cards in both player's hands, and the second closure means is movable to simultaneously reveal the remaining cards in both hands. It will be apparent from the foregoing that a primary object of the present invention is to provide a novel information display device which enables the storage and display of larger quantities of information than heretofore known because of the partially superimposed adjacent juxtaposition of two rotatable discs imprinted with information. It is a further object of the present invention to provide an information display device comprising partially superimposed independently rotatable discs containing information indicia thereon which indicia are visible through apertures in cover panels supporting the rotatable discs and through apertures in each disc.

A more specific object of the present invention is to provide an information display device wherein a single movement of a first closure means simultaneously reveals only a portion of selected information, and a single movement of a second closure means simultaneously reveals the remaining information.

Another specific object of the present invention is to provide a novel information display device of compact size which is suitable for travel use.

A further specific object of the present invention is to provide an information display device which is self-contained, portable, fully assembled, and ready for immediate use.

Other objects of the invention will become apparent from the specification which follows and from the drawings to which reference is now made.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of a preferred embodiment of the present invention, which is illustrated as a gameboard, disclosing the "1st Play" portion of the device.

FIG. 2 is a bottom plan view of the illustrated embodiment disclosed in FIG. 1, disclosing the reverse side or "2nd Play" portion of the device.

FIG. 3 is a top plan view of the present invention with the front or "1st Play" cover panel removed to reveal the independently mounted rotatable discs and rotatable closure means.

FIG. 4 is a bottom plan view of the invention with the rear or "2nd Play" panel removed.

FIG. 5 is a bottom plan view of the present invention with the rear or "2nd Play" cover panel and the adjacent rotatable disc removed, illustrating the inside portion of the remaining rotatable disc.

FIG. 6 is a top plan view of the information display device with the front or "1st Play" cover panel and the adjacent rotatable disc removed, revealing the inside portion of the remaining rotatable disc.

FIG. 7 is a side cutaway view of the present invention taken along lines 7—7 in FIG. 1.

FIG. 8 is a view taken along line 8—8 of FIG. 1.

FIGS. 9 and 10 are layout views of the closure means in their unfolded position.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The disclosed embodiment of the present invention comprises a gameboard 10 as shown in FIGS. 1 and 2, including first or front cover panel 12 and a second or rear cover panel 14. The cover panels 12 and 14 may be two separate substantially flat pieces, or may comprise one piece of material folded in two. The cover panel members 12, 14 are joined along the edges thereof, except at suitably located cutaway segments forming openings 16 and 20, as best shown in FIG. 3. If desired, the cover panels 12, 14 may comprise two separate pieces, joined together by rivets. Rotatably mounted to the underside of cover panel 12, as for example, by means of rivet 24, is a first circular disc 26. As seen in FIG. 1, the rivet 24 is located away from the vertical center line of cover panel 12, thereby causing the periphery of disc 26 to extend through opening 20, but not through opening 16, since the disc 26 is mounted off-center relative to cover panel 12. The portion of disc 26 protruding through opening 20 comprises slots 28 located at spaced intervals on the
periphery of disc 26. These slots enable a player to grip the periphery of disc 26 for rotation about rivet 24. Apertures 30, 32, 34, 36 and 38 are located in aligned juxtaposition in cover panel 12 for purposes to be hereinafter set forth. A larger aperture 40 is provided in cover panel 12, beneath which is visible a portion of the closure means, to be described later.

The reverse or "flip" side of the gameboard 10 is illustrated in FIG. 2, and comprises a second disc 44 suitably rotatably affixed to the underside of cover panel 14, as, for example, by means of rivet 46, which is located away from the center line of cover panel 14. Disc 44 is mounted off-center relative to cover panel 14, thereby causing the periphery of disc 44 to extend through opening 16, and not through opening 20. The portion of disc 44 protruding through opening 16 comprises slots 48 suitably located on the periphery of disc 44. These slots enable a player to grip the periphery of disc 44 for rotation about rivet 46. Apertures 50, 52, 54, 56, and 58 are located in aligned juxtaposition in cover panel 14 for purposes to be hereinafter set forth. A larger aperture 60 is provided in cover panel 14, beneath which a portion of the closure means is visible, as will be explained.

Each of the discs 26 and 44 includes a plurality of information indicia which in the present embodiment comprises playing card indicia 62 printed or otherwise suitably displayed in spaced relation on both surfaces thereof (FIGS. 3-6). The indicia 62 represent the value and suit of particular cards, and are disposed in linear radial alignment along the periphery of each side of each disc. The gameboard 10 set forth as the preferred embodiment of the present invention simulates a two-handed five-card poker game. It will be appreciated that information indicia of various descriptions may be disposed on discs 26 and 44. For example, the information device may comprise indicia related to the play of another game, or sport, or may display information of a purely factual nature.

Each line of indicia 62 disposed on discs 26 and 44 comprises four indicia, except where an aperture or apertures 64 are interposed in the line of indicia. The location of apertures 64 in discs 26 and 44 is important to the successful operation of the present invention, as will be explained. The fifth card in each hand is displayed on the bottom or innermost surface of the two discs, the perimeter of which extends beyond the perimeter of the top disc, as shown, for example, at the middle left hand portions of FIGS. 1 and 3.

On the front and rear faces or surfaces of each disc, the indicia 62 are disposed in an alternately superimposed relationship. In other words, the indicia on the opposite side of any disc surface are positioned directly beneath the space between adjacent aligned indicia on the first side of the disc surface. As a result, an aperture 64 positioned in a line of indicia 62 when viewed from one surface of a disc, will appear between two lines of indicia on the opposite surface of the same disc.

Cover panel 12, which represents the starting position or "1st Play" of the game simulated by gameboard 10, comprises a location marker 66 adjacent the central portion of opening 16, and a similar location marker 68 adjacent the central portion of opening 20. As will be explained, the simulated game is commenced by rotating each of the discs 26 and 44 by means of applying thumb or finger pressure to the discs at openings 16 and 20, until the slots 28 and 48 are aligned opposite respective location markers 66 and 68. When discs 26 and 44 have been so positioned, a line of indicia 62 will be visible beneath apertures 30, 32, 34, 36 and 38 in cover panel 12, and beneath apertures 50, 52, 54, 56 and 58 in cover panel 14. The five indicia 62 appearing through the apertures in each cover panel designate each player's hand in the simulated game.

On the "1st Play" side of gameboard 10, which is that side comprising cover panel 12, the indicia 62 appearing beneath aperture 30 are disposed on the outer periphery of one surface of disc 44 (FIG. 1). The remaining indicia appearing beneath apertures 32, 34, 36 and 38 are disposed in aligned relationship on one surface of disc 26, except in selected instances where apertures 64 in disc 26 fall into position beneath one or more of apertures 32, 34, 36 and/or 38. In this latter described position, the indicia 62 disposed on disc 44 will be visible through both the corresponding aperture in cover panel 12 and the aperture 64. This construction permits a wider variety of possible combinations of hands, since the relative position of both discs determines the quality of a player's hand, and not merely the indicia disposed on a single disc.

The "2nd Play" side of gameboard 10, comprising cover panel 14, is similarly constructed as the "1st Play" side described above. Having previously positioned discs 26 and 44 by means of slots 28, 48 and location means 66, 68 appearing on the "1st Play" side of the gameboard, the discs are properly aligned such that indicia 62 appearing on the surfaces of both discs facing cover panel 14 are visible beneath apertures 50, 52, 54, the alternately and 58, thereby forming a second player's hand. The indicia appearing beneath aperture 50 are disposed on the outer periphery of one surface of disc 26 (FIG. 2). The remaining indicia appearing beneath apertures 52, 54, 56 and 58 are disposed in aligned relationship on one surface of disc 44, except in selected instances where apertures 64 in disc 44 fall into position beneath one or more of apertures 52, 54, 56 and/or 58. In this latter described position, the indicia disposed on disc 26 will be visible through both the corresponding aperture in cover panel 14 and the aperture 64 in disc 44.

FIGS. 5 and 6 illustrate the inside surfaces of discs 26 and 44 respectively. These are the surfaces which face each other in the assembly of the present invention, and which comprise the partly hidden or bottom line of playing indicia 62 as the game is played and each hand becomes revealed. Each line of indicia 62 on these two inner surfaces of discs 26 and 44 comprises four indicia, with no apertures 64 positioned therein. The apertures 64 appear between lines of indicia as the discs 26 and 44 are viewed from these surfaces due to the alternately superimposed relationship between the lines of indicia disposed on opposite sides of a single disc.

FIGS. 3 and 4 illustrate the outer surfaces of discs 26 and 44, which face away from each other in the assembled construction of the preferred embodiment of the present invention. These surfaces of each disc comprise the upper line of indicia 62 as the game is played and each hand becomes revealed through the apertures in cover panels 12 and 14. As seen in FIGS. 3 and 4, aper-
tures 64 are located at selected positions in several of the lines of indicia appearing on the surfaces of discs 26 and 44. During play of the game, if an aperture 64 is aligned beneath one of the apertures of the cover panels 12 or 14, the indicia appearing on the upper surface of the lowermost disc will be visible through both apertures.

A novel construction embodied in the present invention consists of closure means which conceal the indicia normally visible beneath apertures in each cover panel until the player chooses to reveal the contents of each hand. The novel closure means are further constructed to permit the player to simultaneously reveal the opening two indicia, or cards, in both hands, and then to simultaneously reveal the remaining indicia, or cards, in both hands. The aforesaid closure means comprise two pre-cut members 70 and 72 formed of flat cardboard or other suitable material. The structure of closure members 70 and 72 are best illustrated in FIG. 3, and are disclosed in layout form in FIGS. 9 and 10.

Closure member 70 is pivotally mounted to gameboard 10 between cover panel 12 and disc 26 by means of rivet 24 at approximately the midpoint of member 70. The closure member extends transversely across the face of disc 26 and terminates in two extendable portions 74 and 76. Portion 74 comprises a rectangular-shaped extension of closure member 70 which extends in a first position of member 70 to a location beneath apertures 30 and 32 in cover panel 12. In this first position extendable portion 74 conceals from the player's view the playing card indicia 62 on discs 26 and/or 44 which would otherwise be visible through apertures 30 and 32. By rotating member 70 counterclockwise about rivet 24, as will be explained, portion 74 moves to a second position away from apertures 30 and 32 to reveal the playing card indicia appearing beneath these apertures.

The opposite end of closure member 70 comprises a portion 76 which is folded angularly along line 78 beyond the perimeter of disc 26 to extend laterally across a peripheral portion of discs 26 and 44 facing cover panel 14. Portion 76 of closure member 70 is located between the faces of discs 26 and 44, and cover panel 14. As best seen in FIG. 3, portion 76 is rectangularly shaped and, in a first position of member 70, extends between apertures 50 and 52 and cover panel 14 to conceal from the player's view those playing card indicia 62 on discs 44 and/or 26 which would otherwise be visible through apertures 50 and 52. By rotating member 70 about rivet 24, portion 76 moves to a second position away from apertures 50 and 52, thereby revealing the playing card indicia appearing beneath these apertures.

Closure member 70 further includes a wide area 80 located adjacent extendable portion 74, which extends and is visible beneath large aperture 40 in cover panel 12. In the preferred embodiment illustrated in FIGS. 1 and 3, the notation "Slide" and an arrow pointing downward are imprinted on area 80, such that the printing is visible through aperture 40. A player is able to rotate closure member 70 about rivet 24 by placing his thumb or other finger on the wide portion 80 beneath aperture 40, and moving the thumb or finger downward while applying pressure to the closure member. As viewed in FIGS. 1 and 3, this will rotate closure member 70 in a counter-clockwise direction, and simultaneously move extendable portions 74 and 76 away from their position beneath apertures 30, 32 and 50, 52, respectively, thereby revealing the playing card indicia 62 beneath these apertures. To again conceal the indicia appearing beneath apertures 30, 32 and 50, 52 the closure member 70 is similarly rotated in a clockwise direction by the player. It is readily apparent that the construction of the closure member 70 of the preferred embodiment of the present invention enables a player to simultaneously reveal, or conceal, the playing card indicia 62 appearing beneath two of the five apertures in each hand. Therefore, it is possible to reveal only the opening position of each hand by rotation of closure member 70.

Second closure member 72 is pivotally mounted to gameboard 10 between cover panel 14 and disc 44 by means of rivet 46 at approximately the midpoint of closure means 72. Closure member 72, as best seen in FIG. 4, extends transversely across the face of disc 44 and terminates in two extendable portions 82 and 84. Portion 82 is partially arcuate-shaped and extends in a first position of closure member 72 to a location beneath apertures 54, 56 and 58 in cover panel 14. The outer periphery of extendable portion 82 is curved inwardly to prevent the extendable portion from falling beneath apertures 50 and 52 when closure member 72 is in the above-described first position. When in this first position, portion 82 conceals from the player's view the playing card indicia 62 on discs 26 and/or 44 which would otherwise be visible through apertures 54, 56 and 58. By rotating member 72 about rivet 46, portion 82 moves to a second position away from apertures 54, 56 and 58 to reveal the playing card indicia appearing beneath these apertures.

The opposite end of closure member 72 comprises an extendable portion 84, which is formed by folding member 72 along fold line 86 (FIG. 10) beyond the perimeter of disc 44 to extend laterally across portions of the faces of discs 26 and 44. Portion 84 is also located between disc 26 and cover panel 12. As best disclosed in FIG. 3, fold line 86 is placed at an angle which permits portion 84 to extend inwardly from the periphery of discs 26 and 44 so that the terminal area of the extendable portion lies only beneath apertures 34, 36 and 38 of cover panel 12 in the above described first position of closure member 72. In this first position, the portion 84 conceals from the player's view the playing card indicia 62 which would otherwise be visible through apertures 34, 36 and 38. By rotating member 72 about pivot 46, portion 84 is moved to a second position away from apertures 34, 36 and 38, thereby revealing the playing card indicia appearing beneath the apertures.

Closure member 72 further includes a wide portion 88 located adjacent portion 82, which extends and is visible beneath large aperture 60 in cover panel 14. In the preferred embodiment disclosed in FIGS. 2 and 4, the notation "Slide" and an arrow pointing downward are imprinted on wide portion 88, such that the printing appears through aperture 60. Closure member 72 is rotated about rivet 46 by a player in the same manner that closure member 70 is rotated about pivot 24 to alternately reveal or conceal playing card indicia beneath apertures 34, 36, and 38 in cover panel 12, and aper-
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The player is now holding the gameboard 10 with cover panel 14 facing upward since the opening cards in the "2nd Play" hand were last observed. By applying thumb or finger pressure to area 88 appearing through aperture 60, closure member 72 is rotated counterclockwise (FIG. 2) until extendable portion 82 has moved from beneath apertures 54, 56 and 58. This reveals to the player the remaining cards in the "2nd Play" hand. Simultaneously, extendable portion 84 has been moved from beneath apertures 34, 36 and 38, revealing the remaining cards in the "1st Play" hand. At this point the player is able to view all the cards in each hand and determined the winning combination.

To begin a new game, closure means 70 and 72 are rotated to their respective first positions to conceal the apertures in cover panels 12 and 14. Discs 26 and 44 are rotated to different positions until the slots 28 and 48 are adjacent location markers 66 and 68. The game is then commenced as described above.

It will be appreciated that a novel information display device has been disclosed which is self-contained, portable, fully assembled and ready for immediate use. The gameboard which is disclosed as an embodiment of the present invention enables a single player to enjoy the pleasure and excitement of a two-handed card game, although he is alone. The embodiment also possesses an educational value in that one can learn the nuances of games such as five-card poker from the disclosed device experiencing the skill required to select possible winning hands when only two opening cards in each hand are known.

The foregoing embodiment is exemplary of the invention and may be used as a model for constructing the invention, however, many variations of the invention may be made without departing from the spirit and scope of the invention as defined in the following claims.

I claim:

1. An information display device comprising:
   a. a first cover panel;
   b. first disc means rotatably affixed to said first cover panel about a first axis;
   c. a second cover panel attached to said first cover panel;
   d. second disc means rotatably affixed to said second cover panel on a second axis independent and offset of said first axis;
   e. said first and second disc means rotatably affixed to said respective cover panels whereby they lie beneath said cover panels and adjacent one another;
   f. a plurality of information indicia disposed on each surface of each disc;
   g. aperture means disposed in each of said first and second cover panels whereby several of said information indicia on each side of each disc are simultaneously visible through adjacent aperture means when said discs are indexed with respect to said adjacent aperture means; and
   h. closure means suitably disposed between each of said cover panels and the respective adjacent one of said disc means to selectively open and close each of said aperture thereby alternately concealing and revealing a portion of said plurality of said indicia when said indicia are aligned with said aperture means;

2. A second cover panel attached to said first cover panel;

3. Second disc means rotatably affixed to said second cover panel on a second axis independent and offset of said first axis;

4. Said first and second disc means rotatably affixed to said respective cover panels whereby they lie beneath said cover panels and adjacent one another;

5. A plurality of information indicia disposed on each surface of each disc;

6. Aperture means disposed in each of said first and second cover panels whereby several of said information indicia on each side of each disc are simultaneously visible through adjacent aperture means when said discs are indexed with respect to said adjacent aperture means; and

7. Closure means suitably disposed between each of said cover panels and the respective adjacent one of said disc means to selectively open and close each of said aperture thereby alternately concealing and revealing a portion of said plurality of said indicia when said indicia are aligned with said aperture means;
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i. further aperture means spacially located in said disc means whereby in certain relative positions of said disc means, indicia disposed on either of said discs are visibly displayed through said further aperture means in the other of said disc means when said further aperture means are aligned with the aperture means in the respective adjacent cover panel.

2. A gameboard for simulating a two-handed card game for solitaire play comprising:

a. a first cover panel;

b. first disc means rotatably affixed to said first cover panel about a first axis;

c. a second cover panel attached to said first cover panel;

d. second disc means rotatably affixed to said second cover panel on a second axis independent and offset of said first axis;

e. said first and second disc means being rotatably affixed to said cover panels whereby they lie beneath said cover panels and adjacent one another;

f. a plurality of playing card indicia disposed on each surface of each said disc;

g. aperture means disposed in said first and second cover panels whereby a number of said playing card indicia on each side of each disc are visible through said aperture means in each cover panel when said discs are indexed with respect to said aperture means;

h. closure means suitably disposed between said cover panels and said disc means to selectively open and close said aperture means, thereby alternately concealing and revealing said playing card indicia when said indicia are aligned with said aperture means;

i. said first and second disc means partially superimposed over each other in adjacent juxtaposition; and

j. each of said first and second disc means includes further aperture means spatially located therein whereby in certain relative positions of said disc means, playing card indicia disposed on either of said discs are visibly displayed through said further aperture means in the other of said disc means when said further aperture means in the other of said disc means are aligned with the aperture means in the respective adjacent cover panel.

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3. The device of claim 2 wherein:

a. said aperture means includes five apertures in aligned relation in said first cover panel and five apertures in aligned relation in said second cover panel;

b. said playing card indicia are visibly displayed in linear groups of five when aligned with said aperture means to form a hand of the game simulated beneath the apertures in said first and second cover panels;

c. said closure means comprising a first closure member rotatably mounted on said first cover panel co-axially with said first disc means for rotation independent of said first disc means, and a second closure member rotatably mounted on said second cover panel co-axially with said second disc means for rotation independent of said second disc means;

d. said first closure member movable to a first position whereby indicia beneath two of said apertures in said first cover panel and indicia beneath two of said apertures in said second cover panel are concealed, and movable to a second position whereby said indicia beneath said two apertures in each of said first and second cover panels are simultaneously visibly displayed by a single movement of said first closure member to said second position; and

e. said second closure member movable to a first position whereby indicia beneath the remaining three apertures in said first cover panel and indicia beneath the remaining three of said apertures in said second cover panel are concealed, and movable to a second position whereby said indicia beneath said three apertures in each of said first and second cover panels are simultaneously visibly displayed by a single movement of said second closure member to said second position.

4. The device of claim 3 wherein:

a. said first and second disc means are partially superimposed over each other in adjacent juxtaposition; and

b. said hands of the game simulated which are visibly displayed through said apertures in said cover panels comprise a combination of indicia disposed partly on said first disc means and partly on said second disc means.

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