Oct. 22, 1963 B. F. EDWARDS 3,107,436

MAGNETIC QUIZ GAME

Filed May 22, 1962

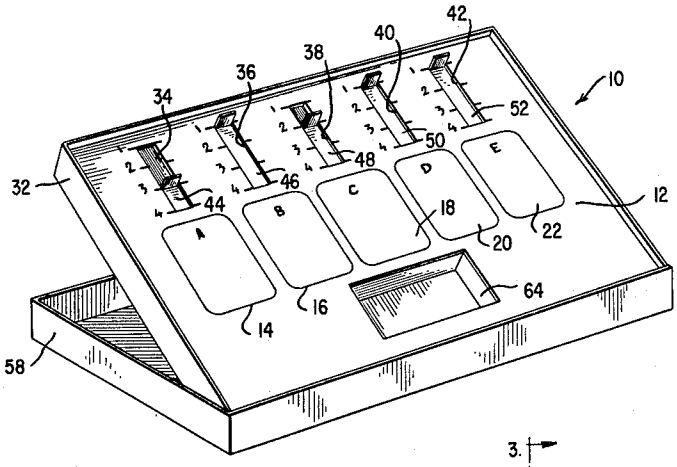


FIG. 1

FIG. 2

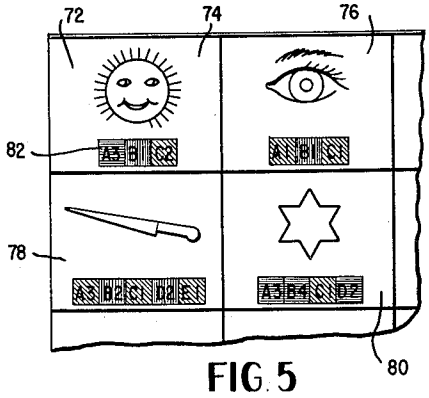
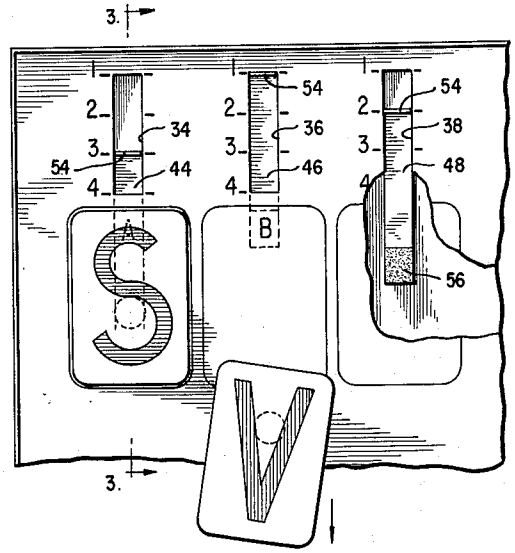


FIG. 5



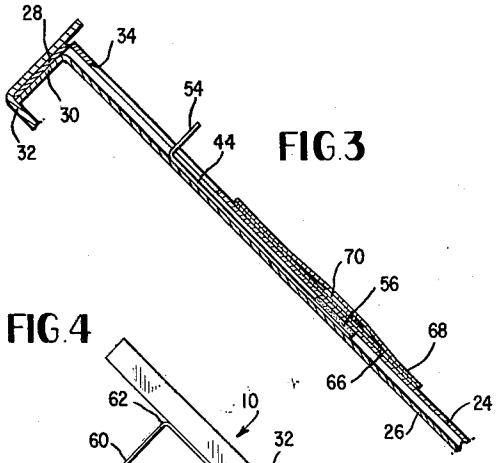


FIG. 3

FIG. 4

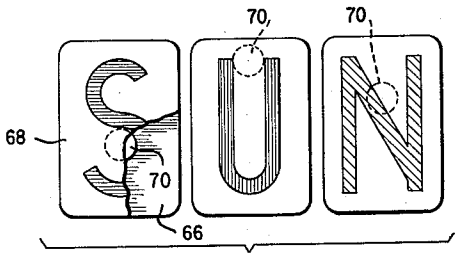


FIG. 6

INVENTOR.

BENJAMIN F. EDWARDS

BY Hall & Houghton

ATTORNEY

United States Patent Office 3,107,436 Patented Oct. 22, 1963

3,107,436

MAGNETIC QUIZ GAME

Benjamin F. Edwards, 681 Amalfi Drive, Pacific Palisades, Calif.

Filed May 22, 1962, Ser. No. 196,745
9 Claims. (Cl. 35—9)

The present invention relates generally to games, and, more particularly, to quiz games of the magnetic type for use in teaching children to spell, to add, and the like.

Many games are known in the prior art which use magnetic or some similar cooperable means for the performance of the game. In some of these, the magnetic arrangement is exposed and in others there is an attempt to conceal the magnetic arrangement from view. In certain of these games, there is the requirement that a player possess a certain amount of manipulative skill in order to successfully play the game.

With these features of the prior art in mind, it is a main object of the present invention to provide a game for aiding children in learning to spell and/or to learn mathematics.

Another object of this invention is to provide a game for children wherein magnetic or other cooperable means are used in order to assure that correctly spelled words will remain in place whereas incorrectly spelled words will not, so that a child may learn the difference between the correct and the incorrect spelling of certain words, and similarly for mathematical problems.

A further object of this invention is to provide magnetic means which are so arranged with a playing board that incorrect letters which are put into place will slide down the board and thus dramatically demonstrate to children that the incorrect letter has been placed in the word, to thereby aid in the learning of correct spelling.

Still a further object is to provide a game of the character described which is simple and inexpensive in construction and which provides an educational, interesting, and amusing pastime.

These objects and others ancillary thereto are accomplished according to preferred embodiments of the invention wherein a tiltable game board and a deck of cards are provided, and the game board and the cards each contain one element of a cooperable attaching assembly in order to hold certain of the cards upon the game board. The board is provided with a target area which includes a plurality of sections which are substantially the size of a card. Associated with each of these sections is one of the cooperating elements which may be adjusted to one of several preselected positions. Also, the other cooperable elements are fixedly mounted one in each of the cards and each is mounted in one of several pre-selected positions which correspond to those positions of the cooperating element of the board.

Thus, when the correct card is placed in the correct target section on the board, the card will be held in place by the attraction between the two cooperating elements. On the other hand, if the incorrect card is placed on the board it will slide down to the bottom of the board. In this game the movement of a selected element may be provided in order to choose one of a multiplicity of positions within the target section so that one of a group of letter or number cards may be checked on the target area to find the correct one. The letter and/or number cards are provided in groups in dependent relationship to matter printed upon the cards. A control sheet designates the position which the movable element of the board should take and the group from which to make the multiple choice of the cards.

In this game, the sliding component of gravity coupled with the inertia of movement is sufficient to cause a locally paramagnetic card to slide past a locally positioned magnetic element, but is insufficient to overcome inertia to initiate into motion a card whose paramagnetic area has been superimposed to the local magnetic area.

Additional objects and advantages of the present invention will become apparent upon consideration of the following description when taken in conjunction with the accompanying drawings in which:

FIGURE 1 is a perspective view of the playing board set up in its inclined position.

FIGURE 2 is an elevational view of the front of the board with parts broken away for purposes of clarity.

FIGURE 3 is a vertical sectional view taken substantially along the plane defined by reference line 3—3 of FIGURE 2 and indicating the details of construction of the playing board.

FIGURE 4 is an end elevational view of the board in its assembled position.

FIGURE 5 is an elevational view of the control sheet which is used with the game.

FIGURE 6 illustrates three of the cards arranged in accordance with the control sheet and indicating the position of the magnetic element in each of the cards.

With more particular reference to the drawings, a game board 10 is provided which includes a target area 12 provided with a plurality of card-shaped sections 14, 16, 18, 20, and 22, and which are labelled A, B, C, D, and E, respectively on the board. Each of these sections comprising the target area 12 is substantially the size of one of the cards and the sections are horizontally spaced from one another.

With more particular reference now to FIGURE 3, it will be noted that the board proper is constructed to provide a multiply arrangement and includes an upper playing board layer 24 and a lower supporting layer 26, with any suitable filler layer provided in those areas which need not be hollow. These layers are substantially flat, but are bent down at the edges on all four sides whereby the playing board layer 24 is provided with a peripheral flange 28 and the inner layer 26 is provided with a peripheral flange 30. The two flanges are connected together in any suitable manner, such as by adhesive means. A box bottom 32 is provided, in which the playing board may be mounted, and, if desired, be secured. The playing board layer 24 has the target area 12 formed thereon as mentioned above.

A plurality of elongated vertical slots 34, 36, 38, 40, and 42 are provided in the upper or playing board layer 24 and each slot respectively is disposed above the one of the sections 14 through 22 comprising the target area 12. A plurality of sliding plates 44, 46, 48, 50, and 52 are provided in the respective slots and each has an upstanding tab or flange 54 at the upper end for use as a handle or the like whereby the plates may be slid up and down in their respective slots. It will be noted that certain areas between the layers 24 and 26 should be hollow and this is true of the portions immediately surrounding the various slots to provide sufficient room for the sliding plates to be moved up and down in their respective slots. A filler material may be used as desired between the remainder of these layers for purposes of rigidity.

Four positions are indicated by numerals and with guidelines on the sides of each of the slots and indicates the four positions which the slide plates may assume during use of this game. On the lower end of each of the plates and on the upper surface thereof, is a thin and preferably flexible magnetic element 56.

A top 58 for the box is provided for covering the bottom 32 for purposes of storage. However, when the game is to be assembled into playing condition, the top 58 is removed and placed in a horizontal position upon a

supporting surface. Then, an easel **60** of cardboard or the like which is folded along a crease **62**, is placed within the top **58** and is used to support the bottom of the box **32** which contains the playing board, so that in the assembled position the board is inclined as indicated in FIGURES 1 and 4. The inclination may be anywhere between 30 and 60 degrees and preferably is 45 degrees. The inclination used is dependent upon several factors as will be explained in more detail below.

As has been mentioned above, a deck of cards is used with the board, and these cards may be retained in a well **64** which is formed at the lower portion of the playing board in any suitable manner.

The playing cards are constructed of a backing layer **66** and a face layer **68**, between which a paramagnetic element **70** is provided. It should be noted from the cards illustrated in FIGURE 6 that these elements **70** are located in different positions between the layers of different cards in a relationship which will be explained later. The cards are substantially the same size as the target sections or portions **14** to **22**, and, as indicated in FIGURE 3, when a proper card is situated upon a suitably positioned slide plate, the card will be positioned with its paramagnetic element **70** opposite the magnetic element **56** and the card will thus be held in place upon the board.

The physical construction of the game has now been explained and in order to illustrate the utility of this particular game structure, the method of playing the game and the construction of the control sheet will now be explained in detail.

Before the game may be played, reference must first be made to the control sheet **72** illustrated in FIGURE 5. On the section of the control sheet which is shown, four squares **74**, **76**, **78**, and **80** are provided which illustrate the sun, an eye, a knife, and a star, respectively. Below each of these illustrations is a row of letters in alphabetical order, each of which is followed by a number and each of which is provided with a colored background. Now, assume that the box **74** is to be used to teach a child to spell the word "sun." An illustration of the "sun" is shown in this box. Furthermore, three colored boxes are indicated below the illustration. The first box **82** contains the designation A3. The "A" designates that it is section **14** of the target area **12** to which reference is being made. The number "3" following the "A" indicates that the slide plate **44** associated with the target section labelled "A" should be moved to the number 3 position as indicated in FIGURES 1 and 2. It should be noted that the box **82** is provided with a blue background. This gives a general designation to the child of which group of a small group of letters should be used to determine the correct spelling.

The reason for this is that all of the cards contain letters of the alphabet and are divided into groups of about four cards, with the groups being indicated by the coloring which is used to indicate the letter on the card. For example, the letters Q, R, S, and T belong to a single group and each letter is printed in the color blue on its card. Thus, in the example considered, the child knows from the background of box **82** that one of these four letters should be used on the "A" target section to indicate the first letter of the symbol (sun) shown in box **74** of control sheet **72**.

Furthermore, of the letters Q, R, S, and T the paramagnetic element **70** in each of these cards is located in a different section. For example, assuming that each card is broken up into four imaginary sections with the number one location being at the top and the number four location being at the bottom, then the letter Q card has the element **70** disposed in the number one location, the letter R card has the element disposed in the number two location, the S card has the element **70** located in the number three location, and the T card has the element located in the number four location.

Thus, for the A target section, the corresponding slide plate has been moved to position three and when the S card is placed over the A section, the element **70** of the S card is in the third section of the card which corresponds to position three of magnetic element **56**. Thus, the paramagnetic element **70** and the magnetic element **56** are positioned adjacent one another as indicated in FIGURE 3, and the card will be held in position against the force of gravity because of the greater magnetic attraction due to the close positioning of the two elements with respect to one another. On the other hand, should the Q card, for example, be placed on the A target section, the element **70** of the card will be disposed above the magnetic element **56** and thus the Q card will begin to slide down the board. The inertia of this sliding movement is stronger than the magnetic attraction between the element **70** and magnet **56** as they pass in juxtaposed relation to one another and the Q card will slide down to the bottom of the board indicating to the child in a dramatic manner that this is not the correct letter to be used.

It should be noted that the inclination of the board must take into account the inertia of an incorrect card which slides past the target section, which in turn depends somewhat upon the coefficient of friction between the cards and the playing board. The inclination and the magnetic attraction must be such that the correct letter will be held in position against the force of gravity due to the magnetic attraction between the magnetic element and the paramagnetic element. On the other hand, the inclination must be sufficiently great that the inertia of an incorrect card as it slides over the target area, is greater than the magnetic attraction between the magnetic element and the paramagnetic element.

The slide plate of the B section is set at position one, and the C section has its slide plate set at position two, as indicated in box **74**. Then, for the B section the child knows that only the red letters need be considered and, if the V letter is used, as indicated in FIGURE 2, it will slide down the board since it is the incorrect letter. It should be noted that the element **70** on the V card is in the second position whereas the slide bar **46** for the B target section is in the one position and thus the V card will not be held properly in position. However, the element **70** of the U card is in a number one position and, therefore, the U will be held properly on the board.

In a similar manner, the element **70** for the third card is in the second position and will, therefore, be held properly upon target area C, the slide bar for which has previously been placed in the two position. Thus, when the child finds the S, the U and the N cards and places them upon the A, the B, and the C target sections, they will all be held in position and the child has learned in a pleasing and effective manner the correct spelling of the symbol located in the box of the control sheet.

If desired, these cards may be provided with numbers instead of or in addition to the letters, whereby the children may learn to add by following a control sheet having arithmetical problems and with the control sheet indicating in colored boxes the answers to the problems. For example, if the problem were 6+2, and the box immediately corresponding to this on the control sheet has a green background with the designation "A1" formed in it, then the A section of the target area would have its slide bar set to the one position and only the numbers printed in green would be used to determine whether the child's answer was the correct one.

It should be noted that the child may begin with simple two or three letter words and increase to five or even more complex words as desired. Thus, this game apparatus may be used to teach children within a wide range of ages, by simply using different control sheets for different age groups.

It will be understood that the above description of the present invention is susceptible to various modifications, changes, and adaptations, and the same are intended to

be comprehended within the meaning and range of equivalents of the appended claims.

What is claimed is:

1. A game apparatus, comprising:

(*a*) a playing board, said board having a target area thereon;

(*b*) selectable cards formed for superposition on said target area; and

(*c*) cooperable means superimposable to hold a selected card on said target area, said means comprising mutually attracting elements one carried by the card and the other slidably mounted in relation to said target area, said elements being considerably smaller than said target area, said card carried element lying at one of several predetermined positions in said card area, and said slidably mounted element being slidable relative to said board to selected positions corresponding to said predetermined positions, whereby a relatively larger attraction is exerted between the said elements when juxtaposed to corresponding predetermined positions, and a relatively small attraction is exerted between said elements when juxtaposed to non-corresponding areas of said predetermined positions.

2. Apparatus as defined in claim 1 wherein said cooperable means elements include one magnet element and one paramagnetic element.

3. Apparatus as defined in claim 2 comprising a slide plate mounted in said board for sliding movement below said target area, said movably mounted element being fixed to said plate.

4. A game apparatus, comprising, in combination:

(*a*) a playing board disposable at an angle with the horizontal, said board having a target area thereon;

(*b*) cards formed for selected superposition on said target area; and

(*c*) superimposable cooperable means for holding a selected card on said target area against the force of gravity, said means comprising mutally attracting elements, one carried by a card and the other slidably mounted in underlying relation to said target area, said elements being considerably smaller than said target area, said card carried element lying at one of several predetermined positions in said card, and said slidably mounted element being slidable relative to said board to selected positions corresponding to said predetermined positions, whereby a relatively larger attraction sufficient to overcome gravity is exerted between the said elements when juxtaposed to corresponding predetermined positions, and a relatively small attraction insufficient to overcome gravity is exerted between said elements when juxtaposed to non-corresponding areas of said predetermined positions.

5. Apparatus as defined in claim 4 comprising an easel for mounting said board at an angle with the horizontal.

6. A game apparatus, comprising, in combination:

(*a*) a tiltable playing board, said board having a target area including a plurality of target sections thereon;

(*b*) a plurality of indicia bearing cards for selected superposition on said target areas;

(*c*) a plurality of cooperable means superimposable to hold one selected card on each target area, each means comprising mutually attracting elements, one carried by a card and the other slidably mounted in underlying relation to a target area, said elements being considerably smaller than said target areas, said card carried element lying at one of several predetermined positions in said card, and said slidably mounted element being slidable relative to said board to selected positions corresponding to said predetermined positions, whereby a relatively larger attraction sufficient to overcome gravity is exerted between the said elements when juxtaposed to corresponding predetermined positions, and a relatively small attraction insufficient to overcome gravity is exerted between said elements when juxtaposed to non-corresponding areas of said predetermined positions; and

(*d*) a control sheet having indicia thereon indicating the proper position for each movably mounted element underlying each target area.

7. Apparatus as defined in claim 6 comprising a plate mounted in said board in alignment with each target section for sliding movement below said target section, each movably mounted element being mounted on a plate.

8. Apparatus as defined in claim 7 wherein each movably mounted element is a magnet element.

9. A game board for use with cards having paramagnetic elements disposed in predetermined positions therein; said board comprising a target area having a number of sections, each substantially the size of a card with which the board is intended to be used, a plate associated with each section and mounted for sliding movement in said board with the end thereof underlying the corresponding section, and a magnetic element on the end of each plate.

References Cited in the file of this patent

UNITED STATES PATENTS

3,010,228 Torre ---------- Nov. 28, 1961