Aug. 4, 1953 S. M. FORD 2,647,330

EDUCATIONAL PUZZLE

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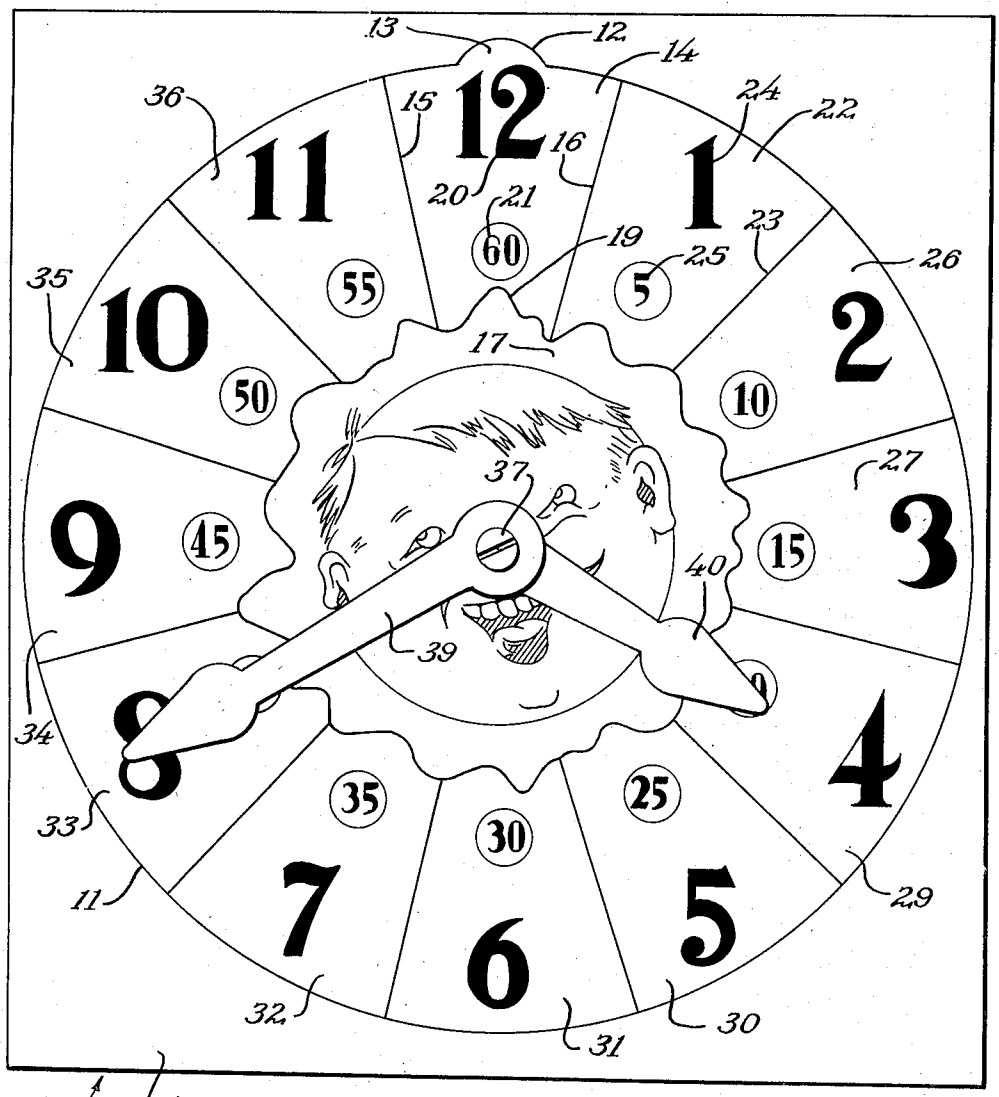


Fig. 1

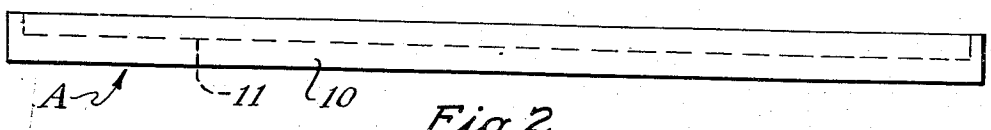


Fig. 2

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EDUCATIONAL PUZZLE

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2 Claims. (Cl. 35—39)

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My invention relates to an improvement in educational puzzles wherein it is desired to provide a simple toy device useful in the education of children.

Toy puzzles have sometimes been found useful for educational purposes. For example puzzles have been produced which bear a clock face and which may be put together to produce a complete clock. However, in the past these puzzles have either been completely separable so that the entire area of the puzzle is cut into small pieces or else the device has been produced in the manner of a clock with a fixed central island about which the parts of the puzzle may be placed.

An object of the present invention lies in the provision of a clock type puzzle having an outer frame having a generally circular aperture therein. This aperture is designed to accommodate a series of puzzle pieces which fit together to form the face of a clock. All of the parts within the circular aperture are removable, but in order to locate the center of the clock and the numerals thereof in proper location, one of the puzzle pieces includes a projection which extends beyond the periphery of the remainder of the aperture. Thus one of the puzzle pieces is definitely related to the outer frame of the puzzle. As the center part of the puzzle which supports the pivoted hands is mountable only in a predetermined relation to the located puzzle part and as the remaining puzzle pieces fit only in certain predetermined sequence with the center part of the puzzle, the parts of the puzzle must fit in certain definite relation when the puzzle is assembled.

A feature of the present invention lies in the provision of a puzzle having a series of pieces of generally similar shape and in providing a means of determining the sequence in which these pieces must be placed. As a result the proper location of the numerals and their relationship with other numerals and with the remainder of the clock may be definitely fixed.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of my specification:

Figure 1 is a top plan view of the puzzle.

Figure 2 is a side elevational view of the same.

The puzzle A illustrated in the drawings comprises a frame portion 10 having a central aperture or pocket 11 therein which extends partially through the frame. In usual practice the game board is made up of two laminations of material

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with the aperture 11 extending through one of these laminations.

The aperture 11 is circular in plan with the exception of a notch 12 at one peripheral position of the aperture. This notch 12 is designed to accommodate a similarly shaped projection 13 on a puzzle piece 14. The puzzle piece 14 is shown as being located at the top of the aperture 11, but can be at any point about the periphery of the aperture.

The game piece 14 is bounded on two sides by radial lines 15 and 16 which extend from the circular periphery of the game piece inwardly toward the center of the aperture. A central game piece 17 is separated from the game piece 14 along an irregular saw cut 19 which definitely locates the game pieces 14 and 17 relative to one another. In other words when the game piece 14 is in place with the projection 13, extending into the notch 12, the game piece 17 may only fit in one specific relationship thereto.

The game piece 14 is provided with clock indicia such as the numeral twelve illustrated at 20. The game piece 14 may also be provided with indicia 21, indicating the numeral sixty to indicate sixty minutes in a complete hour.

A game piece 22 is formed of wedge shaped construction having a curved line at its outer edge to fit the contour of the aperture 11 and being bounded on opposite sides by radial cut lines 16 and 23. The game piece 22 bears the numeral one indicated at 24 and also indicates the numeral five at 25 which indicates five minutes after the hour.

The successive game pieces 26, 27, 29, 30, 31, 32, 33, 34, 35, and 36, each bear indicia indicating successive hours of the day from two to eleven inclusive. These game pieces also bear indicia indicating corresponding minutes of an hour, each successive game piece indicating a numeral five minutes in advance of the preceding game piece. All of the game pieces are provided with irregularly shaped inner outlines so that each game piece may fit in only one predetermined relation to the center game piece 17.

When the clock is assembled, it is thus provided with thirteen removable game pieces, twelve of which are arranged about the periphery of the aperture and the thirteenth of which fills the center part of the aperture and fits the peripheral game pieces only when the peripheral game pieces are correctly arranged. Thus the center piece 17 may be inserted into place only if all of the other game pieces are in their proper location as the peripheral piece are first inserted.

It will be noted that all of the peripheral game pieces with the exception of the piece 14 are similar in shape having a similarly curved outer edge and radially extending sides. All of the peripheral game pieces are of equal width so that these pieces may be inserted in any relationship as long as the center part 17 is not inserted or is not in place. However, to completely form the puzzle all of the pieces must be in proper relationship.

The center game piece 17 is provided with a central pivot 37 upon which are mounted clock hands 39 and 40. The hand 39 is longer than the hand 40 and similates the minute hand of a clock while the hand 40 similates the hour hand. By rotating the hands 39 and 40 the clock may be moved from one position to another to assist the child in learning to tell time. In the use of the puzzle the child learns to associate the various numbers in specific relationship to one another and thereby learns to determine the individual numerals and the appearance of the numerals. The child also learns to associate the numerals indicating the minutes of the hour with the hours of the day and is thus assisted in learning to tell time. The numerals also are of assistance in teaching the child to add. The individual puzzle pieces encircling the center piece 17 are colored in various colors so that the proper sequence of colors in the color wheel may be noted. For example, in the puzzle produced the puzzle pieces 32 and 33 are colored red, the puzzle pieces 34 and 35 are colored orange and the puzzle pieces 36 and 14 are colored yellow. The puzzle pieces 22 and 26 are colored green, the pieces 27 and 29 are colored blue, and the puzzle pieces 25 and 26 are colored purple. It will be noted that with this arrangement a color wheel is formed in which complementary colors are in opposed relation. It may also be seen how orange, green and violet may be produced by mixing the three primary colors.

In accordance with the patent statutes, I have described the principles of construction and operation of my educational puzzle construction,

and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A puzzle game including a game piece having a generally circular aperture therein, a removable irregularly shaped center piece located in the center of said aperture, a pair of hands pivotally connected to said center piece, a series of twelve puzzle pieces encircling said center piece and interfitting therewith along an irregular line, a numeral on each of said twelve puzzle pieces, these numerals corresponding in value and location to the numerals of a clock dial, each of said puzzle pieces having a generally curved outer edge and similar radially extending sides, and interfitting means between one of said twelve game pieces and the periphery of the aperture to definitely locate one game piece relative to the aperture.

2. A puzzle game including a frame piece having a generally circular aperture therein and a notch communicating with said aperture, a removable irregularly shaped center piece located in the center of said aperture, a pair of hands pivotally connected to said center piece, and a series of twelve puzzle pieces encircling said center piece and interfitting therewith along an irregular line, a numeral on each of said twelve puzzle pieces, these numerals corresponding in value and location to the numerals of a clock dial, each of said puzzle pieces having a generally curved outer edge and similar radially extending sides, and one of said twelve pieces carrying a projection engageable with said notch.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
802,807	Fitch	Oct. 24, 1905
1,276,344	Gilman	Aug. 20, 1918
2,443,468	Madden	June 15, 1948