

Oct. 6, 1942.

J. J. FLEMING

2,298,048

PUZZLE

Filed April 15, 1942

FIG. 1.

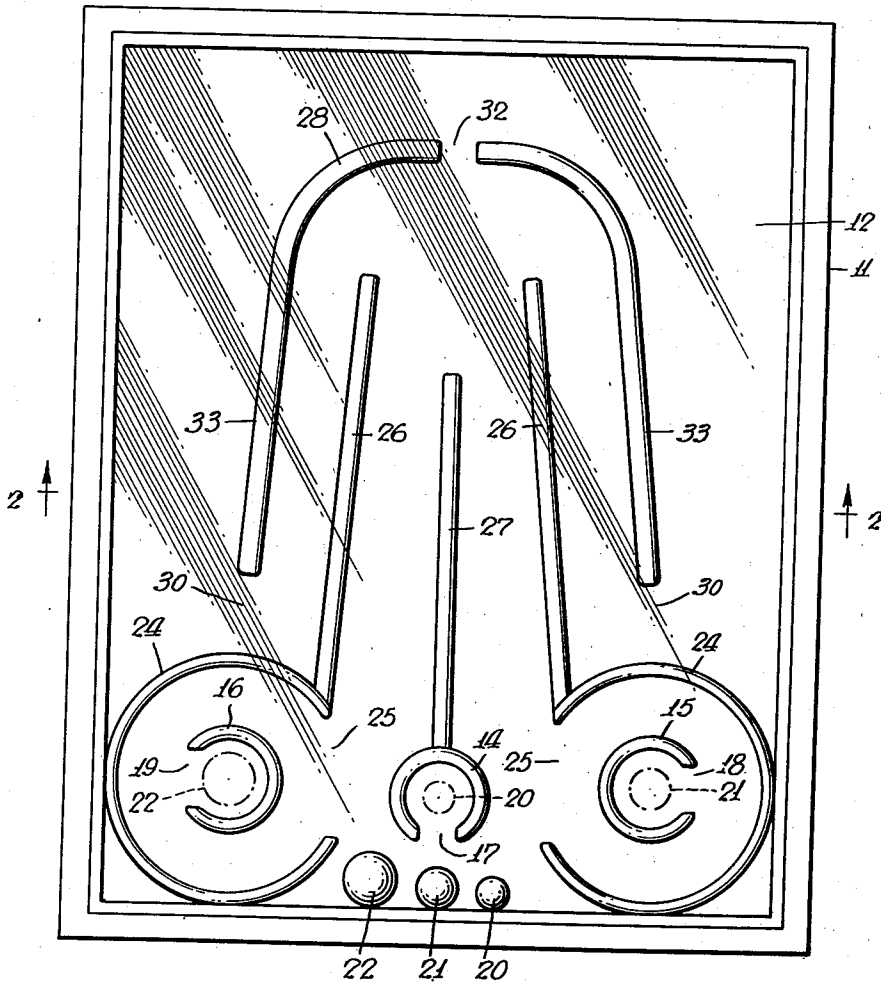
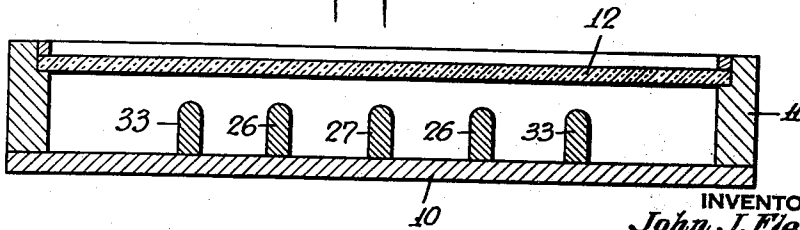


FIG. 2.



INVENTOR
John J. Fleming
BY
Dean T. Ambrose & Hirsch
ATTORNEYS

UNITED STATES PATENT OFFICE

2,298,048

PUZZLE

John J. Fleming, Pelham, N. Y.

Application April 15, 1942, Serial No. 439,022

6 Claims. (Cl. 273—113)

The present invention relates to puzzles, especially of the ball and pocket type.

One object of the present invention is to provide a new and improved puzzle of the general type referred to, which is so constructed as to require time, patience and ingenuity for its solution, and which at the same time affords a great deal of amusement.

As a feature of the present invention, the puzzle is provided with a plurality of pockets having respective entrance openings of different widths, and a corresponding number of balls varying in diameters, so that the largest ball will only fit through the largest opening, the next largest ball will only fit through the two largest openings, etc. The object of the puzzle is to put all the balls in their corresponding pockets. The passageway to each of the pockets is barred by a labyrinth, which renders the solution of the puzzle difficult but nevertheless interesting and fascinating.

Various other objects, features and advantages of the invention will be apparent from the following particular description, and from an inspection of the accompanying drawing, in which—

Fig. 1 is a top plan view of a puzzle embodying the features of the present invention, but shown on an enlarged scale; and

Fig. 2 is a section taken on line 2—2 of Fig. 1. Referring to the drawing, the puzzle comprises a shallow tray, for instance of rectangular shape, and formed with a bottom wall 10 and an upstanding peripheral wall 11. This tray is small enough to permit its easy manipulation, and may be molded into one piece from a suitable plastic, or may be built up of wood, metal or other material. A transparent top wall 12 retains the rolling elements of the puzzle in said tray.

Secured to the bottom tray wall 10 near one end thereof are three barriers, ridges or partitions circularly shaped to form three pockets 14, 15 and 16 desirably arranged with their centers substantially on a common line parallel to the end edge of the tray. The middle pocket 14 is formed with an entrance opening 17 on the side thereof nearest the adjoining end of the tray, while the pockets 15 and 16 are formed with respective entrance openings 18 and 19 on the opposite sides of said pockets desirably on the outer sides of said latter pockets.

Three balls 20, 21 and 22 of graduated diameters in the tray may be rolled into corresponding pockets 14, 15 and 16 for the solution of the puzzle. In order to render the puzzle more dif-

ficult and at the same time more fascinating, the entrance opening 17 of the pocket 14 is just large enough to permit the smallest ball 20 to pass freely therethrough while barring passage of the other two larger balls 21 and 22. The entrance opening 18 of the pocket 15 is just large enough to permit either one of the two smallest balls 20 or 21 to pass freely therethrough, and is small enough to bar the passage of the largest ball 22, while the entrance opening 19 of the pocket 16 is large enough to permit any one of the three balls to pass therethrough.

The passage of the balls 20, 21 and 22 to their respective pockets is barred by a labyrinth shown comprising a pair of circular barriers, ridges or partitions 24 concentric with respective pockets 15 and 16, and formed with openings 25 facing each other. These circular partitions 24 desirably contact the side and end walls of the tray, so that the balls 20, 21 and 22 cannot roll along said walls past said partitions. Integral with or otherwise connected to one end of each of the partitions 24 is a straight barrier or partition 26 extending substantially lengthwise of the tray. These straight barriers 26 are symmetrically arranged with respect to the longitudinal medial line of the tray, and desirably converge towards one end of said tray as shown. Centrally arranged between the two converging barriers 26 is a straight barrier or partition 27 integral with or otherwise connected at one end to the pocket barrier 14, and longitudinally spaced at its other end from the corresponding ends of said partitions 26. Inverted over the three partitions 26 and 27 to partially enclose said partitions is a U-shaped barrier, ridge or partition 28 spaced at each end from a corresponding barrier 24 by an opening 30, and formed at the center of its curved base section with an opening 32 just large enough to permit the smallest ball 20 to pass therethrough but prevent the passage of the other two balls. The side arms 33 of the U-shaped partition are desirably straight and substantially parallel to the partitions 26.

The various partitions, ridges or barriers may be separate from the tray bottom 10 and secured thereto by any suitable means, as for instance by cementing or gluing, or if the tray is made of plastic or other moldable material, these partitions and barriers may be also of the same material and formed integral with the bottom of said tray.

The top surface of the tray bottom 10 is smooth and the balls 20, 21 and 22 are also smooth and are desirably metal bearing balls, so that they

will roll very easily and freely over said surface, thereby adding to the difficulty of working the puzzle, but they may be of any other suitable material.

The U-shaped barrier 28 desirably simulates a mountain or hill, the opening 32 a crater in said mountain, the various pockets 14, 15 and 16 caves at the base of said mountain, and the passages formed by the partitions 26, 27 and 28 hollows in said mountain. This terrestrial simulation adds to the fascination of the game.

The solution of the puzzle should be started by having all of the balls 20, 21 and 22 outside the U-shaped barrier 28. In working the puzzle, the tray is so tilted in various directions that the balls 20, 21 and 22 are rolled through the various tortuous passageways until they reach their respective pockets 14, 15 and 16 as shown in dot and dash lines in Fig. 1. By having the pockets 15 and 16 with their entrance openings 18 and 19 facing in opposite directions, any tilting of the puzzle in one direction to effect the rolling of the ball in one of said pockets may cause the ball in the other of said pockets to roll out, thereby adding to the difficulty of the puzzle. The opening 32 in the U-shaped barrier 28 permits escape of the smallest ball 20 therethrough, thereby adding to the elusiveness of solution.

In some designs embodying my invention, two or even all three of the balls and the entrance openings may be of the same size, but preferably at least one is of a different size from the rest. It is also permissible within the scope of my invention to make the balls of different colors and the pockets marked with corresponding colors instead of making them of different sizes.

As many changes can be made in the above device, and many apparently widely different embodiments of this invention can be made without departing from the scope of the claims, 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 puzzle comprising a tray, partitions in said tray forming three circular substantially aligned pockets with respective openings and with flat imperforate base surfaces, three balls of different sizes in said tray, said openings varying in width according to the varying sizes of the balls to permit any one of said balls to pass freely through the opening of a corresponding pocket while the other balls of larger size are barred from passage through said opening, whereby upon solution of the puzzle the balls will be in corresponding pockets, two of said openings being disposed on opposite sides of their respective pockets whereby tilting of the tray in one direction tends to roll a ball into one of said last-mentioned pockets and at the same time roll a ball out from the other of said last-mentioned pockets, and a labyrinth partially barring passage of the balls to their respective pockets and defining predetermined lanes from the outside of said labyrinth up to said pockets.

2. A puzzle comprising a tray, partitions in said tray forming a plurality of spaced substantially aligned circular pockets with respective entrance openings, a corresponding number of balls in said tray which may be rolled through said openings into respective pockets, a U-shaped partition having its two ends spaced from the two outside pockets to form openings for the passage of the balls therethrough, and a plurality of partitions

within said U-shaped partition and defining with said latter partition a series of tortuous predetermined passageways for the balls extending from said last-mentioned openings to the entrance openings of said pockets.

3. A puzzle comprising a tray, partitions in said tray forming three substantially aligned circular pockets with respective entrance openings and with flat base surfaces free from any ball receiving depressions, three balls in said tray which may be rolled through said entrance openings into respective pockets, two circular partitions concentric with and enclosing the two outer pockets respectively and formed with respective openings to permit the rolling of the balls through said latter openings into said circular partitions, a U-shaped partition having substantially straight side arms and its ends spaced from said circular partitions respectively to form openings for the passage of the balls therethrough, a substantially straight partition extending in said U-shaped partition substantially centrally thereof from the middle pocket, and a pair of substantially straight partitions between said centrally located straight partition and the side arms of said U-shaped partition, said straight partitions forming therebetween and with said U-shaped partition a plurality of tortuous passageways for the balls extending from said last-mentioned openings up to the openings of said circular partitions.

4. A puzzle comprising a tray, partitions in said tray forming three circular substantially aligned pockets with respective openings, three balls of different sizes in said tray, said openings varying in width according to the varying sizes of the balls to permit any one of said balls to pass freely through the opening of a corresponding pocket while the other balls of larger size are barred from passage through said opening, whereby upon solution of the puzzle the balls will be in corresponding pockets, two of said openings being disposed on opposite sides of their respective pockets whereby tilting of the tray in one direction tends to roll a ball into one of said last-mentioned pockets and at the same time roll out a ball from the other of said last-mentioned pockets, a pair of circular partitions concentrically enclosing the two outer pockets respectively and formed with openings to permit the balls to roll therethrough into said circular partitions, a U-shaped partition having its ends spaced from said circular partitions to form openings for the passage of said balls therethrough, and a series of partitions in said U-shaped partition forming therebetween and with said U-shaped partition a series of tortuous passageways for the balls extending from said last-mentioned openings up to the openings of said circular partitions.

5. A puzzle comprising a tray, partitions in said tray forming a pair of circular pockets with respective openings on the opposite sides thereof away from each other, two balls in said tray which may be rolled through said openings into respective pockets, two circular partitions concentric with and enclosing said pockets respectively, and formed with respective openings on the sides thereof closest to each other to permit the rolling of the balls through said latter openings into said circular partitions, a U-shaped partition having substantially straight side arms and its ends spaced from said circular partitions respectively to form entrance openings for the passage of the balls therethrough, and a pair of

substantially straight partitions within said U-shaped partition and substantially parallel to the side arms of said U-shaped partition, said straight partitions being connected at one end to the ends of said circular partitions adjoining their respective openings, and forming with said U-shaped partition and with each other tortuous passageways for the balls extending from said entrance openings up to the openings of said circular partitions.

6. A puzzle comprising a tray having a substantially rectangular upstanding peripheral wall, partitions in said tray forming three circular substantially aligned pockets with respective openings, three balls of different sizes in said tray, said openings varying in width according to the varying sizes of the balls to permit any one of said balls to pass freely through the opening of a corresponding pocket while the other balls of larger size are barred from passage through said opening, whereby upon solution of the puzzle the balls will be in corresponding pockets, the two openings of the outside pockets being oppositely disposed on the outer sides of said latter pockets, whereby tilting of the tray in one direction tends

5 to roll a ball into one of said last-mentioned pockets and at the same time roll out a ball from the other of said last-mentioned pockets, a pair of circular partitions concentrically enclosing the two outer pockets respectively, and formed with openings on the sides thereof nearest each other to permit the balls to roll therethrough into said circular partitions, each of said circular partitions being contiguous with one side and one end of
10 said wall to prevent the balls from by-passing between said circular partitions and said peripheral wall, a U-shaped partition having substantially straight side arms and having its ends spaced from said circular partitions respectively to form entrance openings for the balls, and a pair of substantially straight partitions in said U-shaped partition extending substantially parallel to said side arms and up to one end of said circular partitions adjacent the openings thereof, said
15 straight partitions forming therebetween and with said U-shaped partition a plurality of tortuous passageways for the balls extending from said entrance openings up to the openings of said circular partitions.

20 JOHN J. FLEMING.