

(No Model.)

E. E. DENLER.
PUZZLE.

No. 536,018.

Patented Mar. 19, 1895.

Fig. 1.

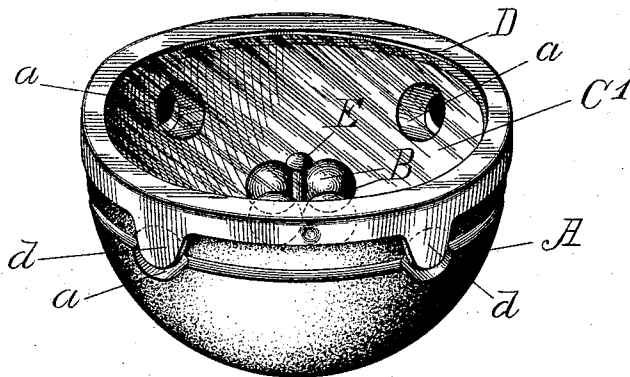
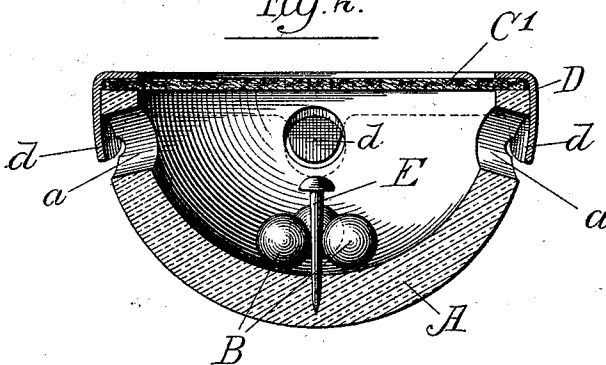


Fig. 2.



Witnesses:

Louis W. F. Whitehead.

Sammy H. Carter

Inventor:

Edward E. Denler.

by: Dayton Coole & Brown

his Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD E. DENLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO JOHN K. LEARY,
OF SAME PLACE.

PUZZLE.

SPECIFICATION forming part of Letters Patent No. 536,018, dated March 19, 1895.

Application filed September 1, 1893. Serial No. 484,538. (No model.)

To all whom it may concern:

Be it known that I, EDWARD E. DENLER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Puzzles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in puzzle devices of that class comprising a box or receptacle adapted to be held in the hand, and containing one or more rolling objects designed to be maneuvered according to some predetermined rule by the manipulation of the box.

The object of the invention is to provide a novel and entertaining toy of the character referred to, and it consists in the matters hereinafter set forth and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a puzzle embodying my invention, and Fig. 2 is a transverse section thereof.

A designates a box or receptacle of suitable size to be readily held in the hand and which may be made of any suitable material and of any desired exterior shape. The interior of the box is hollowed out to provide a smooth concave surface upon or within which a plurality (in this instance four) of relatively small balls B are adapted to roll. In the particular form illustrated the box is made substantially semispherical within and without and is provided with a transparent cover C' herein shown as secured in place by a flanged ring D.

Around the upper edge of the interior of the box are provided a plurality of shallow recesses or pockets *a* equal in number to the balls B and each of suitable size to loosely contain one of said balls, and slightly depressed at their outer parts to prevent the too ready dislodgment thereof. The pockets *a* are conveniently formed, as herein shown, by downwardly inclined holes bored into the wall of the box and, in this instance, such holes are extended entirely through said wall and are closed at their outer ends by depending

lips *d* of the flanged ring D. In the approved form illustrated the balls and pockets are each four in number and the latter are arranged symmetrically around the upper edge of the box at angles of ninety degrees with each other.

The puzzle thus constructed is solved by taking the box in the hand and so manipulating it as to cause all of the balls B to be seated in the recesses *a* at the same time. Commonly the first three balls are easily caused to enter the recesses, the difficulty arising in seating the remaining balls without dislodging those already placed. This, however, may be accomplished by giving a slight oscillatory movement to the box and thereby causing the fourth ball to roll back and forth with a constantly lengthening path of movement which by careful manipulation at last lands it safely in the fourth pocket. To increase the difficulty of solution the interior of the box is provided centrally with a projection or pin E which, by interfering with the movement of the balls transversely across the box, makes it necessary to give the balls an eccentric motion, and thereby renders them more difficult to control.

While the puzzle would be useful and entertaining when made of any exterior form, yet when made semispherical on its outer surface or of other form enabling it to be spun or rotated on a supporting surface, the advantage is gained that the balls may be certainly and positively deposited in their respective recesses. The puzzle when thus constructed is therefore made more interesting because to a person who is informed of the possibility of so placing the balls by spinning, this may be quickly done, while to others not so informed the placing of the balls requires long and careful manipulation, and it follows that a person knowing the secret can by concealing his movements quickly place the balls, while to others his success in doing so would remain a mystery. A semispherical or concave form is preferred for the receptacle because this form while permitting the spinning of the same in the manner described, gives no hint of the availability of this means of seating the balls.

I claim as my invention—

1. A puzzle comprising a receptacle provided with a concave interior surface of approximately semispherical shape, and a plurality of balls located in said receptacle, said
5 receptacle being provided with a plurality of recesses arranged around the upper edge of said interior surface end of suitable size to receive the balls, substantially as described.

2. A puzzle comprising a receptacle provided with a plurality of holes extending
10 through its side walls near its upper edge, a transparent plate covering the receptacle, a flanged ring applied to hold the plate in position and to close the outer ends of said
15 holes, and a plurality of balls located within the receptacle, substantially as described.

3. A puzzle, comprising a receptacle having an upwardly-flaring interior surface, a plurality of balls therein, and recesses located at
20 points remote from the center of the receptacle adapted to receive said balls; said interior surface of the receptacle being provided with a smooth annular surface adjacent to said recesses to permit the free travel of said balls
25 around the interior of the receptacle, substantially as set forth.

4. A puzzle, comprising a receptacle having a circular, upwardly-flaring interior surface, a plurality of balls therein, recesses located
30 at points remote from the center of the receptacle adapted to receive said balls, and a spin-

ning point on the exterior of the receptacle in axial alignment with the center thereof; said interior surface of the receptacle being provided with a smooth annular surface adjacent
35 to said recesses to permit free movement of said balls around the interior of the receptacle and outwardly away from the center thereof, substantially as set forth.

5. A puzzle, comprising a receptacle having
40 a circular, upwardly-flaring interior surface, a plurality of balls therein, a plurality of oppositely arranged recesses located at points remote from the center of the receptacle adapted to receive said balls, a transparent
45 cover for said receptacle, and a spinning point on the exterior of the receptacle in axial alignment with the center thereof; said interior of the receptacle being made smooth to permit free movement of the balls in circles
50 under the influence of spinning motion imparted to the receptacle and also outward movement under the influence of centrifugal action, substantially as set forth.

In testimony that I claim the foregoing as
55 my invention I affix my signature in presence of two witnesses.

EDWARD E. DENLER.

Witnesses:

C. CLARENCE POOLE,
TAYLOR E. BROWN.