

No. 649,481.

Patented May 15, 1900.

R. ROSCHER.  
PUZZLE.

(Application filed Nov. 16, 1899.)

(No Model.)

FIG. 1.

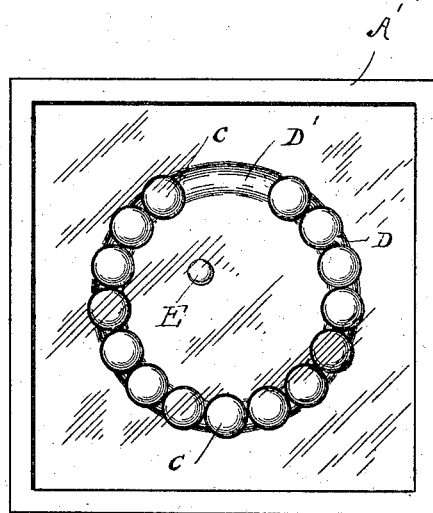
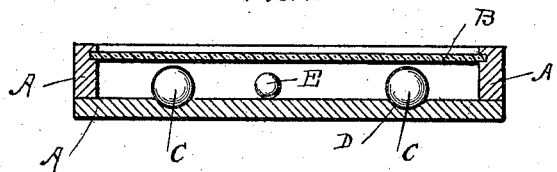


FIG. 2



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# UNITED STATES PATENT OFFICE.

RUDOLPH ROSCHER, OF AUBURN, NEW YORK.

## PUZZLE.

SPECIFICATION forming part of Letters Patent No. 649,481, dated May 15, 1900.

Application filed November 16, 1899. Serial No. 737,152. (No model.)

*To all whom it may concern:*

Be it known that I, RUDOLPH ROSCHER, a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Puzzles, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

10 This invention relates to puzzles, and the object thereof is to provide a novel and simple device of that class which embodies a box or casing, a transparent retaining-lid, and a plurality of movable bodies rolling in said box, and which will present a new problem or mode of operation in devices of this character capable of being accomplished and yet peculiarly interesting.

To this end my invention consists in the novel construction and relative arrangement of parts hereinafter fully described.

In the accompanying drawings, which form a part of this specification, in which like letters of reference denote corresponding parts in both views, Figure 1 is a plan view of a puzzle embodying my invention. Fig. 2 is a central vertical section of the same.

In the practice of my invention I construct the puzzle-box A of any preferred form, preferably rectangular, with upwardly-projecting walls A', the inner edges of which are grooved to receive and retain in fixed position therein a glass lid B. Ranging centrally in the upper face of the floor or base of the box A is an annular groove D, segmental in cross-section, the remainder of the inner or upper face of the base of the box A being preferably plane. Mounted in this groove D are a plurality of balls C of a size greater than the distance between the plane upper surface of the base and the under surface of the glass lid B, whereby these balls when once seated in the groove cannot be dislodged therefrom and are movable only in said groove. The number of the balls and the length of the groove D relative to the dimensions of these balls are such that they will almost, but not wholly, fill the annular groove D, but a space or spaces will always be left between certain of the balls, as shown at D' in Fig. 1.

Freely movable across the whole area of the puzzle-box is a ball E of greatly less dimen-

sions than the balls C and similarly of less weight. In practice the balls are preferably solid and formed of metal, though this is optional.

Referring to the operation of my puzzle, the object or mode of solution thereof is so to manipulate the puzzle-box in the hand of the operator that the small ball E will be lodged in the groove D. This may appear from Fig. 1 to be a very simple procedure; but it will readily be understood that the moment the puzzle-box is tilted to cause the small ball E to move toward the open space shown at D' the larger balls C will also move and will quickly fill up this space, which action will be repeated when it is attempted to move the ball E in the direction of any space which may be formed by the movement of the balls C, it being of course understood that these balls C cannot leave the groove D and that they almost, but not wholly, fill the same. It is only possible to lodge the small ball E in the groove by means of careful and skilful manipulation, for apparently the greater weight of the balls C causes them to move more quickly than the smaller ball E, and the device to be successfully worked must be held in such position that the separated balls C are retained sufficiently apart to permit the ball E to enter between them.

It will thus be seen that I provide a new and simple puzzle, presenting novel features in a device of this class and interesting in its attempted operation.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A puzzle, comprising a base having an annular groove in the upper surface thereof, a plurality of balls adapted to rotate in said groove, and partially but not wholly occupying the same, means for retaining said balls in said groove against dislodgment therefrom, and a ball freely movable upon said base, and adapted, when the puzzle is manipulated, to be rolled to enter the groove.

2. A puzzle, comprising a box having an annular groove formed in the upper surface of the base thereof, the remainder of said surface being plane; a transparent lid firmly mounted in said box to close the same, a plurality of balls mounted in said annular groove,

and of greater dimensions than the distance  
between the plane upper surface of the base  
and the under surface of the transparent lid,  
said balls nearly but not wholly filling the  
5 said groove, and a smaller ball movable over  
the whole area of the box and adapted, when  
the puzzle is manipulated, to be rolled into  
said groove.

In testimony that I claim the foregoing as  
my invention I have signed my name, in pres- 10  
ence of the subscribing witnesses, this 10th  
day of November, 1899.

RUDOLPH ROSCHER.

Witnesses:

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WM. ANDERSON.