

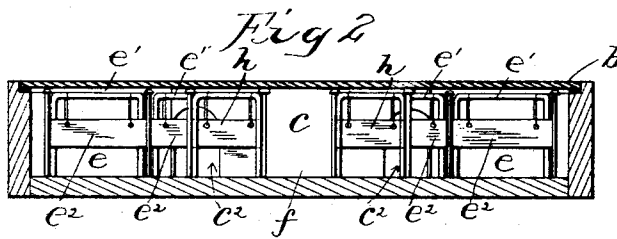
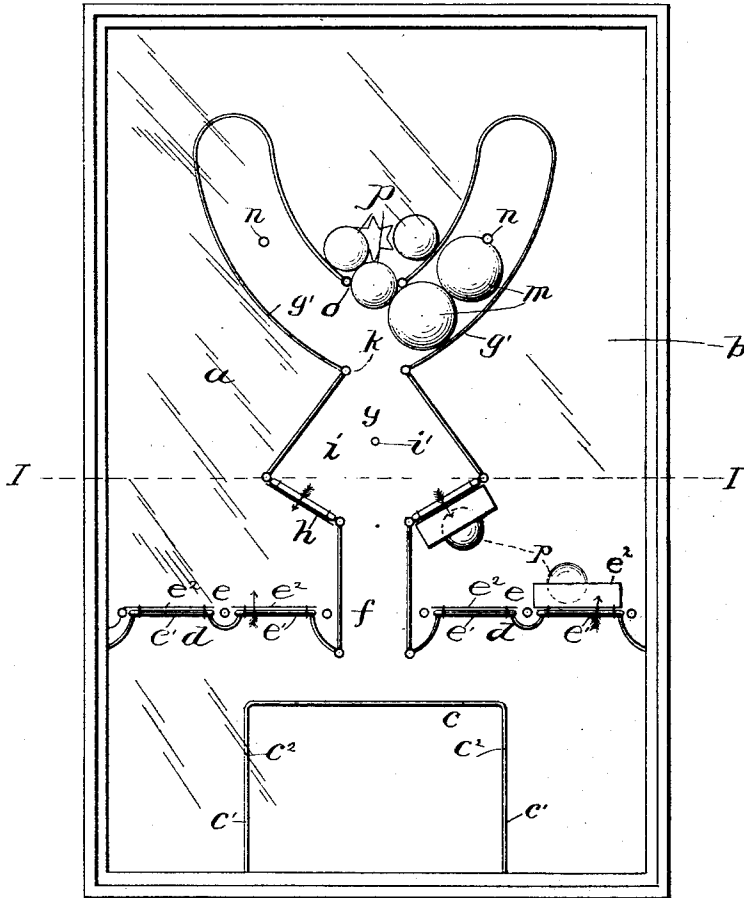
(No Model.)

T. P. BRIODY.
PUZZLE.

No. 520,155.

Patented May 22, 1894.

Fig 1



WITNESSES:

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THOMAS P. BRIODY, OF SOUTH BETHLEHEM, PENNSYLVANIA, ASSIGNOR OF
ONE-FOURTH TO WILLIAM D. SPILLAN, OF SAME PLACE.

PUZZLE.

SPECIFICATION forming part of Letters Patent No. 520,155, dated May 22, 1894.

Application filed June 5, 1893. Serial No. 476,630. (No model.)

To all whom it may concern:

Be it known that I, THOMAS P. BRIODY, a citizen of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Puzzles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in that general class of puzzles in which one or more rolling objects, usually balls, are employed in connection with a home or pen and various retarding devices, the object being to place the balls in the pen notwithstanding the adverse influence of the retarding devices; and my object is to produce a device of this general character wherein the accomplishment of the object will be rendered as difficult as will be consistent with the possibility of success, thereby making the game more interesting and desirable.

To this end my invention consists in the peculiar features of construction and combination and arrangement of parts which will be fully described in detail and finally embodied in the claim.

Referring to the accompanying drawings which illustrate my invention, Figure 1 represents a plan view thereof; Fig. 2 a cross section on the line I—I of Fig. 1.

The reference letter *a* indicates the body of the game which is a rectangular shallow box provided with a glass face *b* and formed preferably of wood, although this has no reference to the invention. Arranged within this box at the front end is the home or pen *c* into which, according to the game, the balls are to be placed. This device is formed of a sheet of tin bent in the shape of the letter *U*, and having the ends of its arms *c'* projecting close up against the front end of the box *a*, the whole forming a square inclosure which shall hereinafter be known as the "pen." Formed at each bend in the sheet of tin of which the pen is composed, is an opening *c²*

extending from the bottom of the box nearly up to the upper edge of the pen, enough of the metal being left to retain the unity of the tin. Through these openings the balls with which the puzzle is operated, are adapted to pass.

The pen is separated from the greater portion of the box by means of a fence or partition *d*, which extends entirely across the box from one side to the other, and is provided with a series of gates *e* through which the balls are adapted to pass. These gates are arranged to allow the balls to pass from the pen side of the partition into the main portion of the box, but to prevent the balls from passing from the main portion directly into the pen, and they consist of the inverted *U*-shaped frames *e'* from the horizontal portion of which are pivotally hung the metallic plates *e²*, of a length greater than the distance from the two arms vertical of the frames *e'*. The plates *e²* are arranged at the side of the frames opposite the pen, and are therefore capable of swinging away from the pen to allow the balls to pass out under the frames, but will bind against the vertical arms thereof when the reverse movement is attempted beyond a vertical line.

Arranged in the middle of the partition *d* with two of the gates on each side, is a passage *f*, formed of two parallel strips of sheet metal having their lower edges fitted in grooves or slots formed in the bottom of the body. This passage opens at its forward end into the compartment containing the pen, and its rear end is in communication with or is extended into the passage *g*. This passage is formed of two duplicate strips of sheet metal *g'* secured in place by means similar to those employed in connection with the strips of passage *f*. The front ends of the metal strips *g'* diverge from each other when adjacent to the passage *f* and the said front ends and the rear ends of the strips of passage *f* are connected to each other by means of the gates *h* similar to the gates *e*, and arranged so that they will open outwardly only, thereby allowing the balls to escape from the passage *g* and yet making it impossible for them to return by way of the gates. By this method of arranging the passages, a diamond-shaped in-

closure, *i*, is formed. Rearward of this inclosure the strips *g* curve out from each other in the arc of a circle, and thence back parallel with the main partition to a point in longitudinal alignment with the passage *f*, where an opening *k* is left for the passage of the balls, the curved portion forming a flaring or funnel-shaped mouth through which the balls must pass to the opening *k* and passages beyond.

Located in the spaces or passages *l* between the curved rear ends of the metal strips *g'*, are the large balls *m*, one for each passage and of such a size that they will fit snugly therein, but be capable of movement along the passage. This movement is limited rearwardly by means of the studs or pins *n*, fixed about midway of the passage and operating to confine the balls in the forward portion thereof; the opening *k* and the opening *o* through which the balls pass to get into the inclosure *i* being smaller than the balls *m*, thus making it impossible for them to escape from the passages *o* and *k*.

Arranged in the center of the diamond-shaped inclosure, and in longitudinal alignment with the passage *f* and openings *o* and *k*, is a pin or stud *i'*, which is designed to act as a retarding device for the balls when they enter the inclosure, as will be fully described hereinafter.

The reference letter *p* indicates the balls with which the puzzle is operated. These are preferably five in number, although this may be varied if desired, and are of such a size that they will readily pass through the openings *k* and *o*, through the passage *f* and also through the gates *i* and *h*.

The object of the puzzle is to transfer all the small balls *p* from the large compartment of the body to the pen *c* by way of the openings *k* and *o*, inclosure *i* and passage *f*. The balls are moved by the usual method, viz: by holding the puzzle in the hand and tilting it so as to make them roll about its surface, no other method being admissible. The attainment of this result will prove very difficult owing to the numerous devices which operate to retard the passage of the smaller balls.

For example: the balls are first started at the star opposite the opening *k*, and to pass one of them through this opening and the opening *o*, will be rendered highly difficult because of the balls *m*, which will roll down much faster than the small balls, and thus block the passage. It is possible, however, to work the small balls past this point, and when this has been accomplished, they are apt to escape from the inclosure *i* by striking the stud *i'* and then rebounding out of the gates *h*. After a portion of the balls have been lodged in the pen it will be obvious that great care will have to be exercised to prevent them from rolling back, during the manipulation of the remaining balls.

The pen, passages and other devices in the body of the puzzle are described as being formed of tin or sheet metal, but it will be obvious that this can be changed to various other materials such as paste or card-board, which could be used with equal if not better results.

Having thus described my invention, what I claim is—

A puzzle comprising a body portion having a plane surface capable of being tilted at various angles, a partition or fence extending across said plane surface and having an opening therein, an inclosure on one side of the partition and having two openings therein, one of which is common to the opening in the partition and the other communicating with that part of the plane surface which is on the same side of the partition as the inclosure, a ball in the inclosure and capable of movement only within the inclosure and a second ball smaller than the first and capable of passing the openings in the inclosure and the opening in the partition, whereby upon tilting the body the second ball may be worked through the said openings and from one side of the partition to the other, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS P. BRIODY.

Witnesses:

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EDWARD J. MALLOY.