

(No Model.)

C. P. HARRIS.
GAME PUZZLE.

No. 452,642.

Patented May 19, 1891.

Fig. 1.

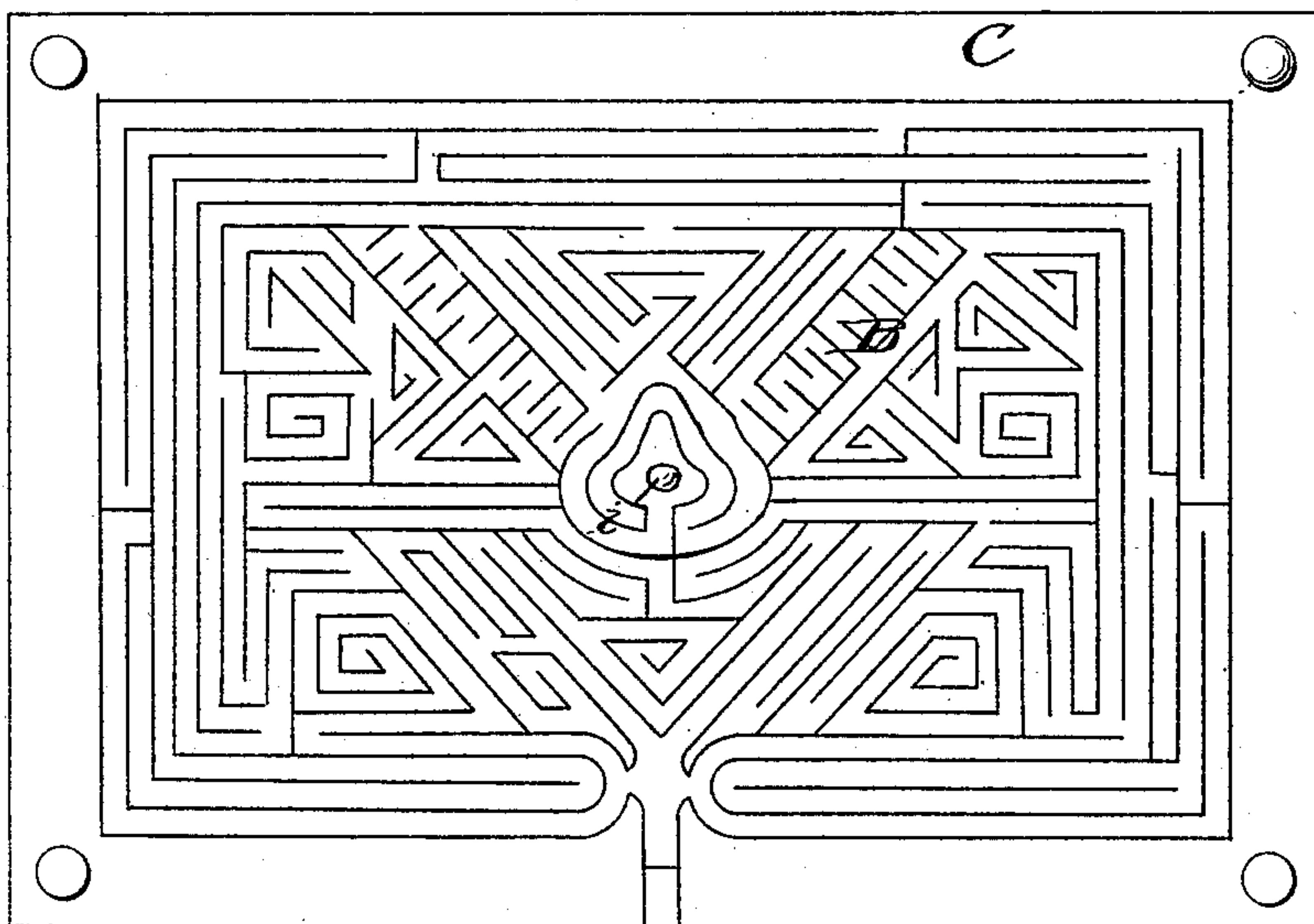


Fig. 2.

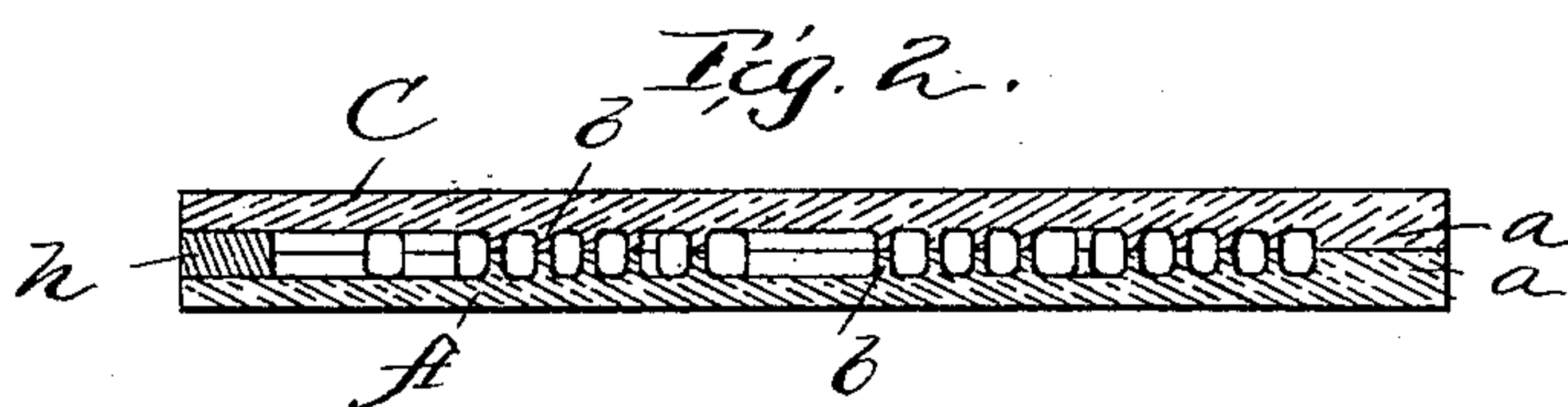


Fig. 3.

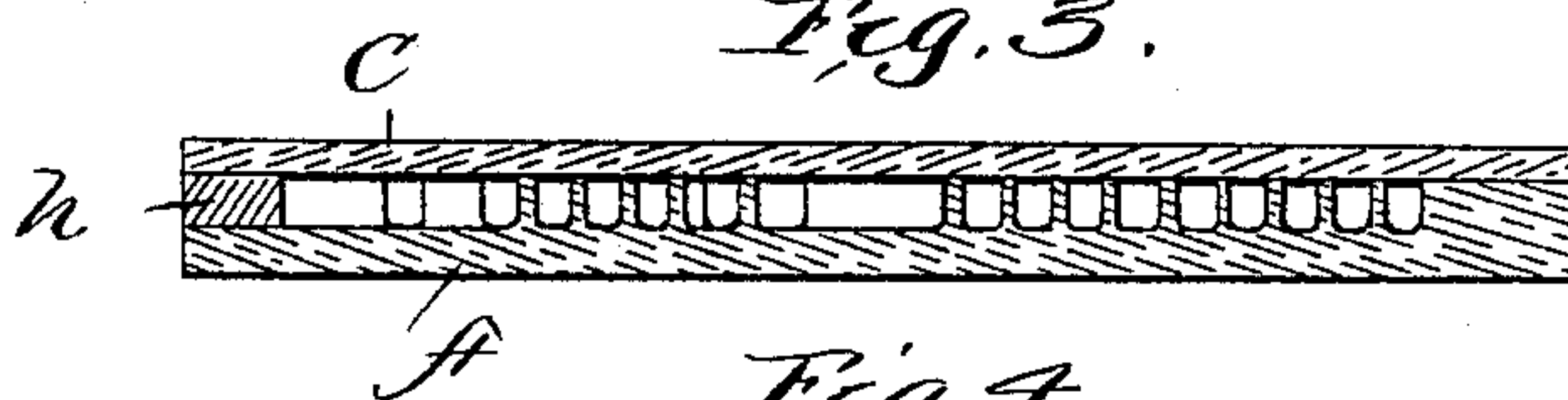
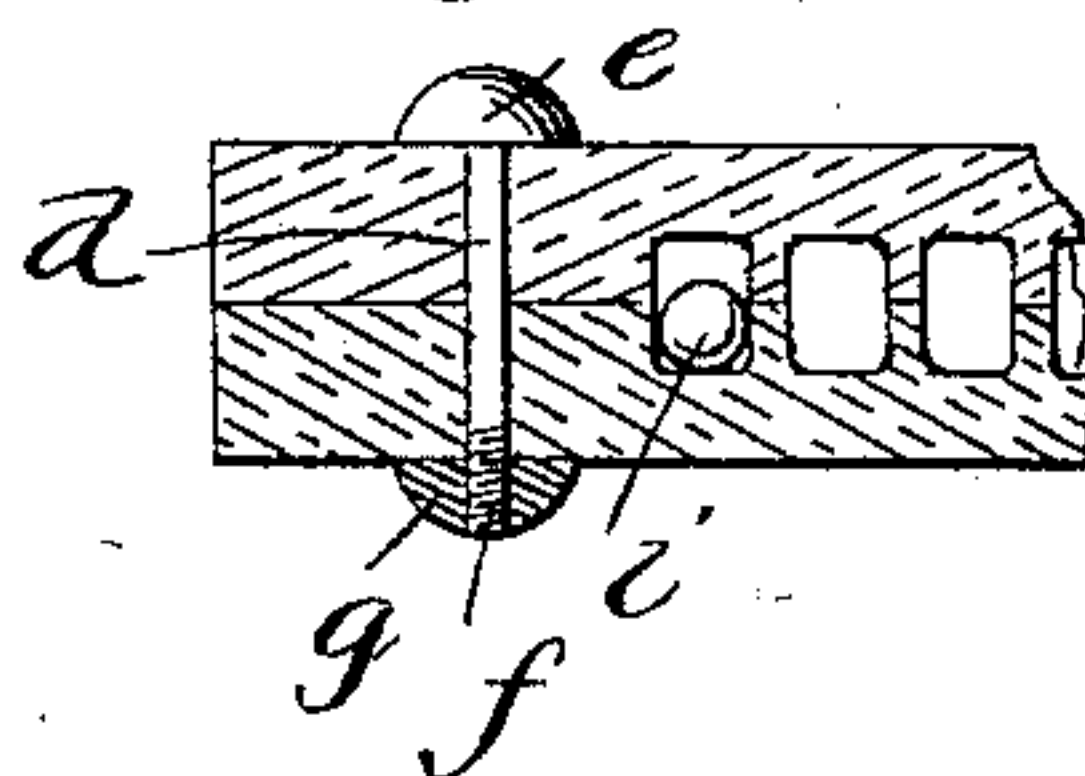


Fig. 4.



Witnesses
W. P. Keene,
J. L. Middleton

Inventor
Chas. P. Harris
by Spear & Seely
Attys.

UNITED STATES PATENT OFFICE.

CHARLES P. HARRIS, OF SAN FRANCISCO, CALIFORNIA.

GAME PUZZLE.

SPECIFICATION forming part of Letters Patent No. 452,642, dated May 19, 1891.

Application filed May 21, 1890. Serial No. 352,601. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. HARRIS, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Game Puzzles; and I do hereby declare that the following is a full, clear, and exact description of said invention.

10 This invention relates to those forms of game puzzles in which the solution of the puzzle or attainment of its object depends upon the manual dexterity or sleight of hand of the operator. Generally speaking, it belongs to the class in which a rolling ball is caused to traverse a tortuous or interrupted passage or series of passages. In the best-known embodiment of this idea the interest of the puzzle lies in the difficulty of collecting a number of balls in the center of a series of concentric rings having oppositely-placed openings. The object of my puzzle, however, is to provide a maze composed of a continuous but exceedingly-tortuous passage 25 having blind passages branching from it in all directions, and to use a single ball, which is caused to traverse these passages by shifting the device in the hand so as to arrive at the center or other fixed terminal point.

30 The apparatus consists of a base, on the inside of which are formed grooves constituting the maze, a transparent cover, and a ball confined between the base and cover and traversing the grooves. In this general statement of construction is included the device which I prefer to use—viz., a pair of glass plates, each provided on the inner surface with coincident ribs, so as to form a maze of registering grooves. These plates when secured together will confine a ball of mercury or colored glass or a small shot, and may be held in any position—horizontal, vertical, or inclined—in manipulation.

45 For a clear understanding of my invention reference is made to the accompanying drawings, in which—

Figure 1 is a plan view of one of the plates composing the puzzle. Fig. 2 is a cross-section of two plates united. Fig. 3 shows in cross-section a modified form. Fig. 4 illustrates one means of securing the plates together.

Referring especially to Figs. 1 and 2, A represents a glass plate of, say, three-sixteenths of an inch in thickness and having an edge flange *a* extending entirely around it. This plate is formed in the mold or otherwise with the maze B composed of raised ribs *b* so disposed as to give a continuous passage from some point on the edge to the center and numerous blind passages extending in all directions, as shown. The exact configuration of the maze is of course immaterial. The ribs are of substantially the same height as the edge flange *a*.

C represents a plate of glass, which is a duplication of plate A, having coincident ribs and edge flange. These plates are secured together by cementing the flanges or in any other manner—for instance, as shown in Fig. 4, which is a detail view of the corner of the combined plates. Registering holes are formed in the glass, through which passes a pin *d*, having a round head *e* at one end and a thread *f* at the other, upon which is screwed up a nut *g*, similar in shape to the head *e*. This secures the plates together and at the same time forms a standard to support the corner of the plates and prevent the scratching of either glass by surface contact. Of course the plates would be secured in this way at each corner if rectangular, and if round at convenient points near the edges.

In making the plates coincident recesses *h* are formed at one edge to give a hole to admit the ball *i* to the interior. Where a ball of mercury (which I prefer) is used, it is advisable to tightly seal up this opening in any convenient way. Should a hard metallic or glass ball be used, a removable plug may be employed to close the opening. The ball thus runs freely in the passages produced by the abutting ribs, and in manipulating the device it may be held in any position, according to the direction of the passages and the position of the ball at any time. Every movement may be distinctly observed from either side.

In the modification illustrated in Fig. 3, the maze is formed upon the base-plate only, and the cover is a plane glass plate which fits closely to the face of the ribs and produces a series of closed passages similar to those before described.

Having thus described my invention, what I claim is—

1. A game puzzle consisting of two transparent plates, each having a maze of grooves
5 formed upon its interior surface and secured together so that said grooves coincide, and a ball confined between the two plates and adapted to traverse the grooves, substantially as described.

10 2. A game puzzle consisting of two transparent plates inclosing a maze and a ball

to traverse said maze, in combination with headed pins passing through the plates, and nuts upon said pins, substantially as and for the purposes set forth.

In testimony whereof I have hereunto affixed
my signature in the presence of two witnesses.

15

CHARLES P. HARRIS.

Witnesses:

H. D. HAWKS,
GEO. W. COOK, Jr.