

(No Model.)

2 Sheets—Sheet 1.

H. F. KEIL.
PUZZLE.

No. 488,819.

Patented Dec. 27, 1892.

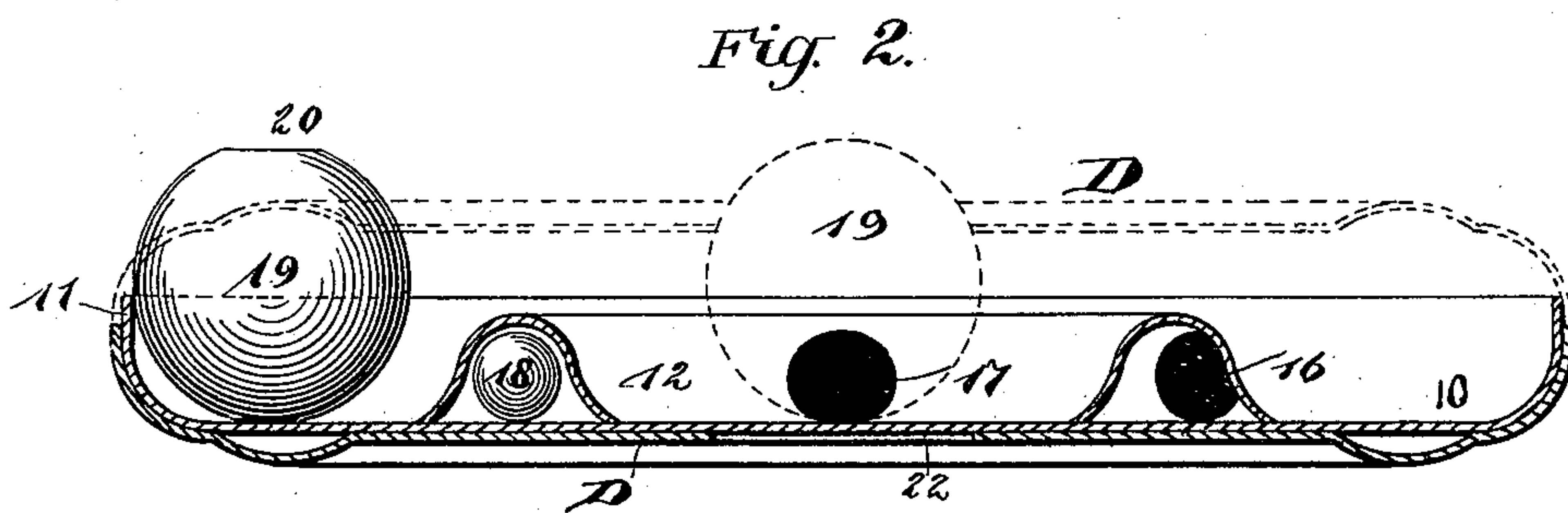
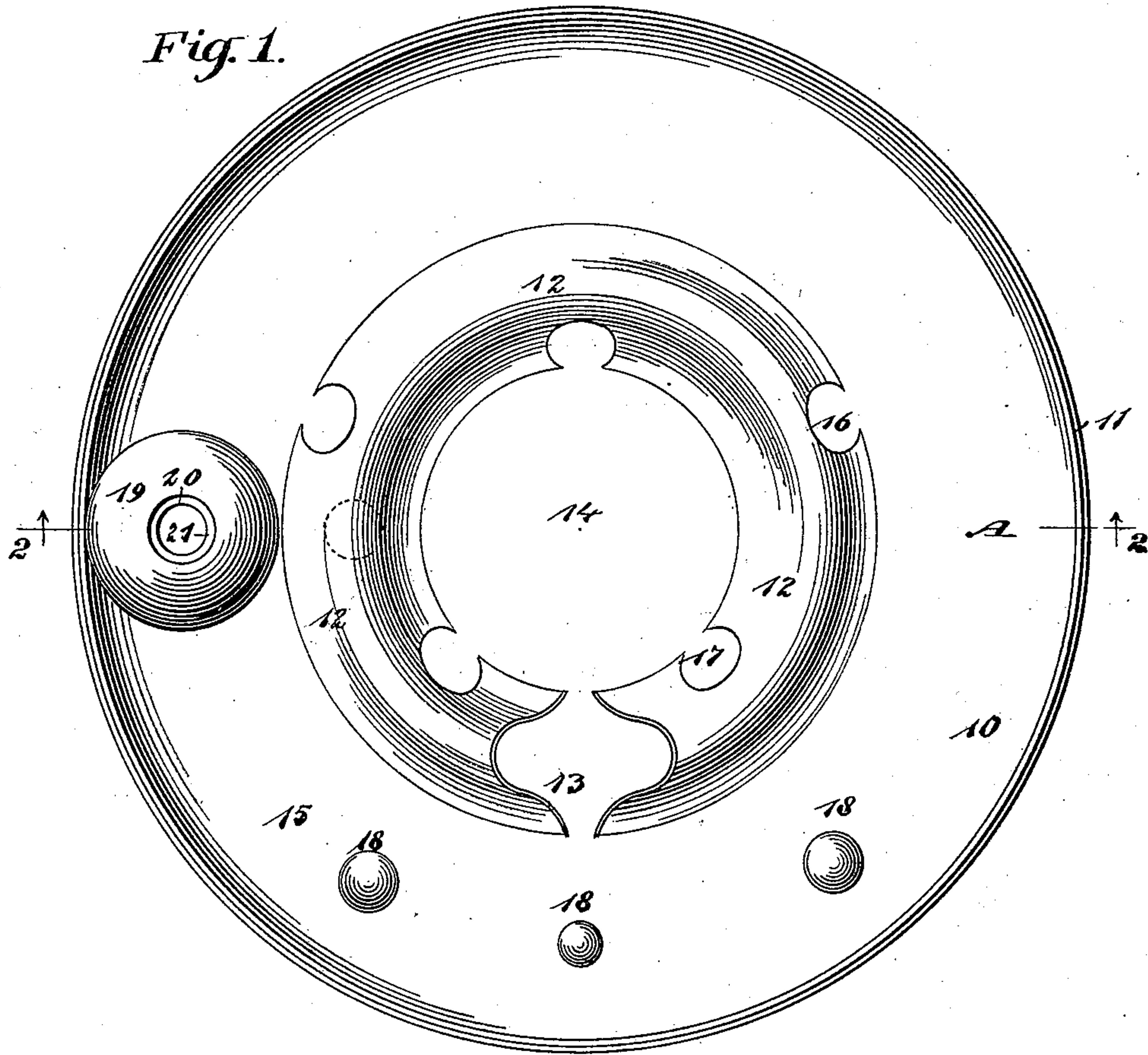
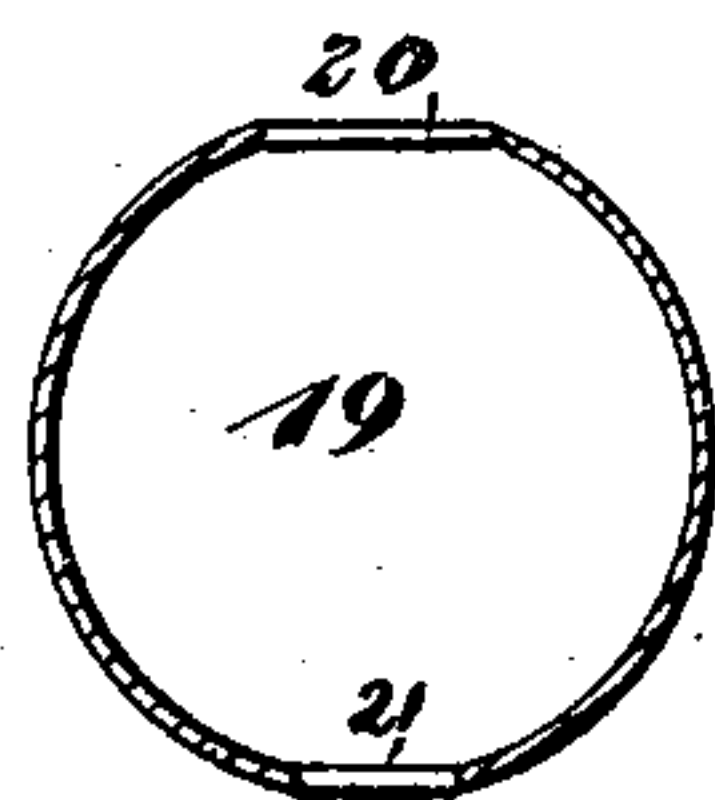


Fig. 3.

WITNESSES:

J. H. Griswell
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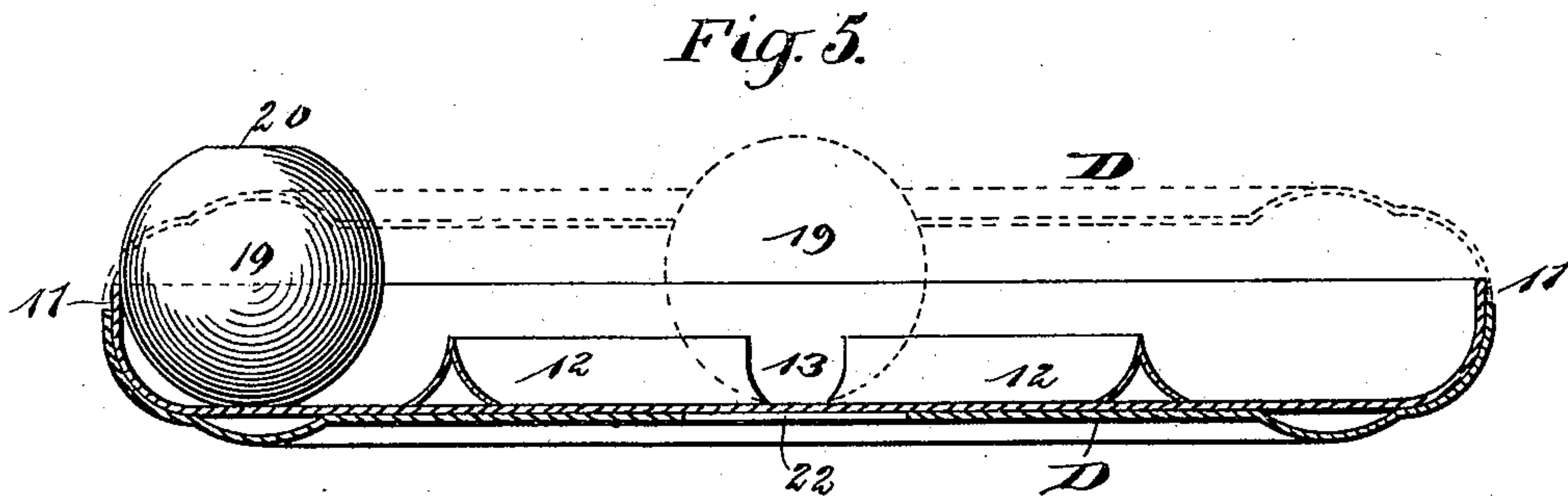
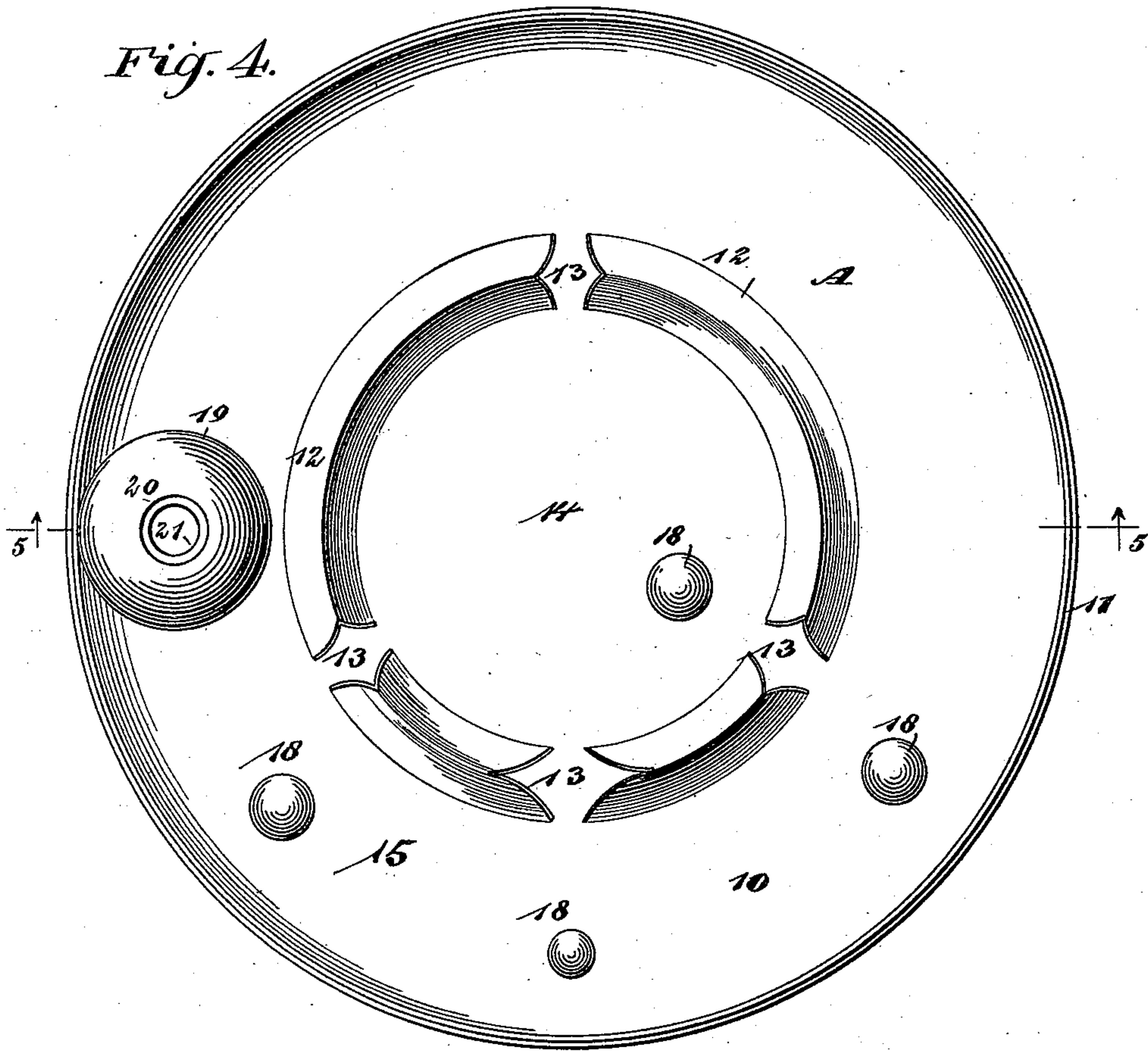
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2 Sheets—Sheet 2.

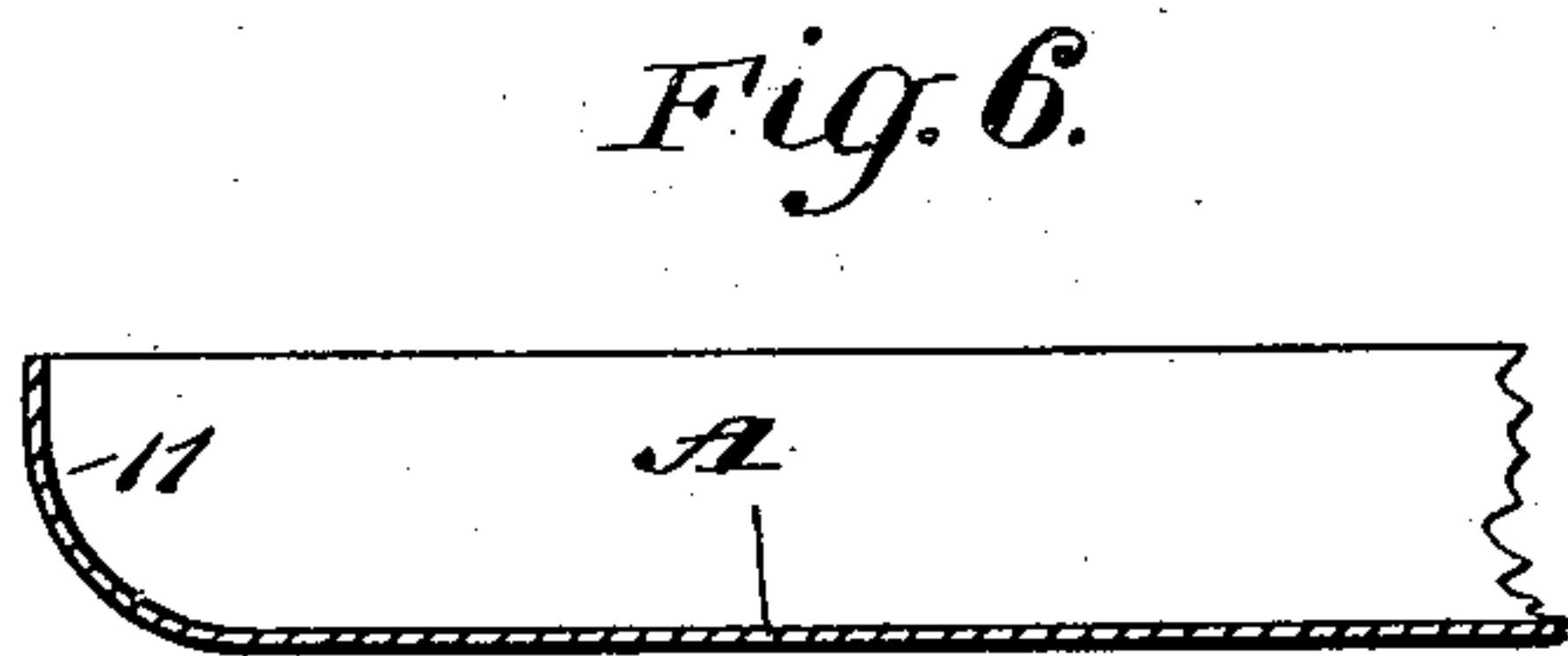
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UNITED STATES PATENT OFFICE.

HENRY F. KEIL, OF NEW YORK, N. Y.

PUZZLE.

SPECIFICATION forming part of Letters Patent No. 488,819, dated December 27, 1892.

Application filed May 3, 1892. Serial No. 431,620. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. KEIL, of New York city, in the county and State of New York, have invented a new and Improved Game-Board or Puzzle, of which the following is a full, clear, and exact description.

My invention relates to an improvement in game boards or puzzles, and has for its object to provide a puzzle exceedingly difficult of accomplishment, yet simple and durable in construction, and of that type in which a support carrying movable objects is to be manipulated in a manner to roll the objects to a predetermined position or positions.

A further object of the invention is to provide a puzzle comprising in connection with a flanged or dished platform, capable of being oscillated or reciprocated by hand, a number of balls or spheres of various sizes, and a hollow sphere or ball provided with an opening or openings capable of receiving the smaller balls, the largest sphere being hollow, as stated, and large enough to admit of the smaller balls entering it and being contained therein. The point to be made in the game or puzzle is, while keeping all the spheres in motion, to cause all the smaller spheres to enter the large hollow ball through the aperture or apertures therein, and to retain the smaller balls within the largest one.

The invention consists in the novel construction and combination of these several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the game board or puzzle, the top of the casing being removed; Fig. 2 is a section taken practically on the line 2—2 of Fig. 1, illustrating in dotted lines the cover over the casing, and in positive lines the cover under the casing; Fig. 3 is a detail sectional view of the largest ball or sphere; Fig. 4 is a plan view of the game board or puzzle illustrating a slight modification in the construction thereof; Fig. 5 is a section taken practically on the line 5—5 of Fig. 4, showing the cover beneath the casing in positive lines and above the casing in dotted lines; and Fig.

6 is a partial vertical section through a plain casing.

In carrying out the invention a board or casing A is employed, which casing may be of any desired shape, as for instance, it may be dished. Preferably, however, it is circular in general contour, comprising a bottom 10 and a flange 11 at its margin, and I desire it to be understood that where the flange connects with the bottom an angle may be formed, or a curved surface may be produced if chosen, the latter formation being preferred, and the radius of the curve which is also preferred is that shown in Figs. 2 and 5. Between the center and the periphery of the board a tunnel-like fence or partition 12, is located, the partition or fence being concentric with the flange 11. The partition or fence is designated as tunnel-like as it is usually made inverted U or V-shape in cross section, as shown in Figs. 2 and 5, but it may partake of any other shape. This partition is attached to the bottom directly in any suitable or approved manner; and the partition and likewise the board and its flange may be made of metal, of paste-board, papier-maché, or of any material found in practice to be most effective.

In Fig. 1 the tunnel-like fence or partition is shown as divided transversely at one point, forming thereby a pass 13, which connects what I term the inner field 14 with the outer field 15, the inner field being that surrounded by the partition or fence 12, and the outer field is that space between the fence or partition and the flange 11 of the board. In Fig. 4, however, instead of one pass 13 only being employed, a series of passes is used, which passes may be placed at equal distances apart, or they may be produced wherever desired in the formation of the fence or partition. When but a single pass 13, is used, openings 16 and 17, are preferably made in the fence or partition, the opening 16 being in the outer face and the opening 17 in the inner face, and these openings are ordinarily alternately arranged, as illustrated in Fig. 1, or their arrangement is such that the inner openings are out of transverse alignment with the outer openings; but if in practice it is found desirable two sets of openings may be dispensed

with, and an opening be made in either the inner or the outer face of the fence or partition only.

In addition to the board one or more spheres 5 18, are employed. These spheres are either hollow or solid, but in practice ordinary marbles are used. When one or more spheres or marbles are used they are preferably made of different diameters, the spheres or marbles 10 being so constructed that they will be practically graded as to size. In addition to these spheres or marbles 18, a large hollow ball or sphere 19, is used. This largest ball or sphere is capable of freely traveling in the outer 15 field 15, and it will be observed, as shown in Fig. 2, that when the ball or sphere is in engagement with the flange of the board the curve of the flange is eccentric to the outer peripheral surface of the sphere, the ball or 20 sphere simply touching the flange at the outer edge of the latter, and this relative formation of the flange and sphere is preferred. The largest ball or sphere is capable of passing through the pass 13 in the construction shown 25 in Fig. 1, and may be made to pass through only one of the passes in the construction shown in Fig. 4, the marbles being capable of passing through the other passes; or the passes in the construction shown in Fig. 4, may all 30 be made of such size that the large ball or sphere can not enter the inner field 14. It will also be understood that the openings 16 and 17 in the construction shown in Fig. 1, are of such diameter that the largest of the 35 marbles may pass through them into the space beneath the fence or partition, but the large ball or sphere is precluded from such entrance.

The large hollow ball is provided with one or more openings as in practice may be found 40 desirable. When provided with two openings, the opening 20 in one side is made sufficiently large to admit the largest marble 18; and the opening 21, which is placed preferably immediately opposite the opening 20, is 45 of less size than the latter opening, its diameter being sufficient to allow only the smallest of the spheres or marbles to pass through it.

In playing the game the marbles are placed upon the board in either the inner or the outer 50 field, or in both fields, and the large ball is placed preferably in the outer field. The board is then to be reciprocated laterally, or rocked, and it is required as a solution of the game or puzzle that all the spheres or marbles 55 18, shall be entered and lodged in the ball 19, being held collectively therein, and the large ball receiving the marbles only while one is in motion. It is understood that the operator does not touch any of the balls or 60 marbles while using the board as above described.

It is obvious that during the progress of the game or while the game or puzzle is being solved, that sundry of the spheres or marbles 65 will pass into the space covered by the tunnel-like partition 12, either through the pass

or main opening 13, or through any of the smaller passes or openings 16 and 17; and that the marbles are also liable, when in this tunnel like space, to come out through any of 70 the openings or passes. It is also obvious that as the smaller opening in the large ball will admit of the outward passage of the smallest marble, or smallest marbles, it is really necessary that one of the larger marbles should 75 be caught first, and made to stop the smaller opening before the smaller marbles shall be taken into the ball through the larger opening.

It will be readily seen from the foregoing 80 that the game may be played in various ways, and according to predetermined and accompanying rules and regulations.

I desire it to be distinctly understood that when in practice it is found desirable, the 85 partition 12, may be removed, as shown in Fig. 6, and the marbles and the large ball, together with the flanged or dished board or plate, in that event, will constitute the game or puzzle. 90

The tunnel-like fence or partition is not absolutely necessary; it renders the game or puzzle, however, more difficult to solve, and if in practice it is found desirable, a straight 95 fence, or one standing purely at a right angle, or at an obtuse angle to the board, may be employed, the said fence to be provided with an opening or openings. When the tunnel partition is dispensed with, the large ball 19, is usually made with but one opening, 100 namely, the larger opening 20, as shown in Fig. 3.

The flanged or dished plate or casing A, is provided with a cover D, and this cover in order that it may fit snugly to the top of the 105 board, or the flange of the casing A, is provided with a central opening 22, shown in Figs. 2 and 5, which opening will admit of the projection of a portion of the large ball beyond the upper face of the cover; and by this 110 means the thickness of the casing and its cover is reduced to a minimum, and the ball, which is ordinarily made of a polished or bright material, will act in the capacity of an ornament. When the board or casing is being 115 manipulated the cover D, is placed upon the bottom, as shown in positive lines, Figs. 2 and 5. The opening 22 in the cover also has another function; it serves, when the cover is placed under the bottom of the casing, to form a recess for a finger, or a finger-hold, enabling 120 the board or casing to be manipulated with but one hand, whereas, were not such a finger-hold provided, the use of two hands would be necessary in the manipulation of 125 the game. As the game renders itself far more preferable to be played with but one hand, the opening 22 in the cover is considered a valuable part.

Having thus described my invention, I 130 claim as new, and desire to secure by Letters Patent,—

1. A game board or puzzle, consisting of a flanged or dished board or plate, a hollow ball capable of traveling over the surface of the board and provided with several apertures, large and small, and balls or marbles of smaller size than the hollow ball and also capable of rolling around the board, the largest of the smaller balls being capable of passing through the largest opening in the hollow ball, and the smallest of the smaller balls being capable of passing through the smallest opening in the hollow ball, substantially as shown and described.

2. A puzzle consisting of a flanged or dished board or plate provided with a partition located between the center and the periphery of the board or plate, the partition being provided with a pass or passage, a large ball capable of rolling around the board or plate, the said ball being hollow and provided with an opening therein, and smaller balls or marbles also capable of rolling around the board and capable of passing through the said partition, the smaller balls or marbles being capable of passing through

the opening of the large hollow ball into its interior, as and for the purpose set forth.

3. A puzzle consisting of a flanged or dished board or plate provided with a tunnel-like partition placed between the center of the board or plate and its periphery, the said partition being provided with a passageway extending through it, and apertures arranged in its sides leading into the tunnel of the partition, a series of balls or marbles capable of rolling upon the board and of passing into the tunnel of the partition and in or out through the tunnel apertures, and a larger ball provided with an opening or openings, the larger opening being of a diameter capable of admitting the largest of the smaller balls or marbles, and the smaller opening capable of permitting the smallest of the smaller balls or marbles to pass through it, as and for the purpose set forth.

HENRY F. KEIL.

Witnesses:

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C. SEDGWICK.