No. 615,413. Patented Dec. 6, 1898.

J. E. SHARPE.

PUZZLE.

(Application filed Dec. 4, 1897.)

(No Model.)

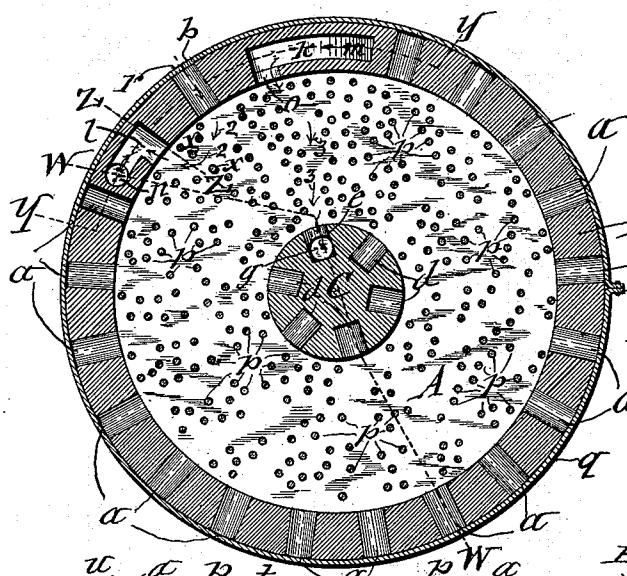


Fig. 1

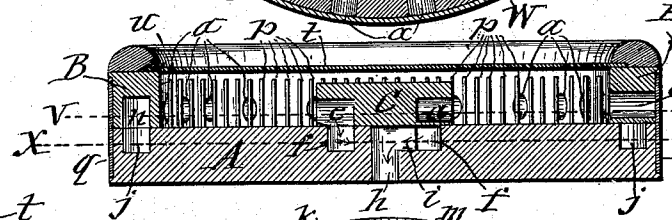


Fig. 2

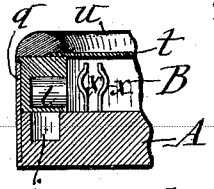


Fig. 5

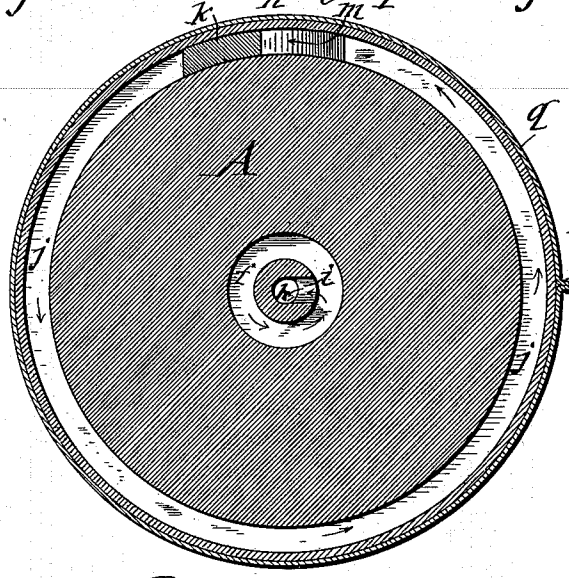


Fig. 3

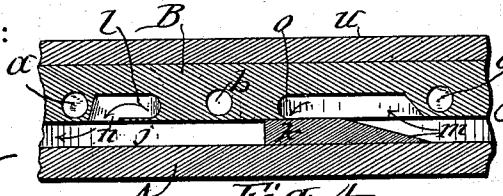


Fig. 4

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UNITED STATES PATENT OFFICE.

JOHN E. SHARPE, OF ONEIDA, NEW YORK.

PUZZLE.

SPECIFICATION forming part of Letters Patent No. 615,413, dated December 6, 1898.

Application filed December 4, 1897. Serial No. 660,738. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. SHARPE, of Oneida, in the county of Madison, in the State of New York, have invented new and useful Improvements in Puzzles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to an improvement in puzzles, and it has special reference to that class of puzzles comprising a board provided with a series of pins and suitably-arranged pockets or receptacles, said pins forming tortuous or labyrinthian paths in which a ball or balls are made to travel by tilting or otherwise manipulating the board, and are thus caused to enter said pockets or receptacles.

The object of my invention is to provide a novel puzzle which will possess simplicity, at the same time will require a great amount of study to solve, and thus produce a device which will create a great deal of interest.

My improved puzzle comprises, essentially, a board provided with an annular wall, a series of radial ports through said wall for the admittance of a ball, a goal mounted in the center of said board and provided with a plurality of choked pockets, an annular passage concealed under said goal, an outlet in the bottom of the board with which said passage communicates, an exit-pocket also in said goal and communicating with said passage, a partial annular passage concealed under said wall and having one end communicating with one of the ports of the wall to receive the ball and the other end leading to the top of the board to deliver the ball thereto, and a series of pins projecting from the top of the board and forming tortuous or labyrinthian paths for the ball from the delivery end of the latter passage to the exit-pocket and from one of the ports to the receiving end of said passage and also forming supplemental tortuous paths from the other ports to the choked pockets.

In the annexed drawings, Figure 1 is a horizontal transverse sectional view of my improved puzzle, taken on line V V in Fig. 2. Fig. 2 is a transverse section on line W W in Fig. 1. Fig. 3 is a horizontal transverse section on line X X in Fig. 2. Fig. 4 is a sectional view on line Y Y in Fig. 1, and Fig. 5 is a detail sectional view taken on line Z Z in Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A denotes the board, which is preferably annular and is provided at its periphery with an annular wall B, through which extend a plurality of ports *a a* and also a port *b*, through which ports a ball is admitted to the top of the board. The ports *a* communicate directly with the surface of the board, while the port *b* communicates with said surface through an intervening tortuous passage, hereinafter described.

On the top of the board, central thereof, is mounted a goal C, consisting of an annular block provided in its periphery with a plurality of choked pockets *d d* and also with an exit-pocket *e*, which communicates with an annular passage *f* by means of an opening *g*, which passage consists of a groove formed in the top of the board A and concealed under the goal C, as clearly shown in Fig. 2 of the drawings.

In the center of the board A is provided an opening or outlet *h*, with which said passage communicates by means of a passage *i*.

Under the annular wall B is a concealed annular passage *j*, consisting of a groove formed in the top of the board A, similar to the passage *f*, and in the passage *j* is secured a block *k*, formed with an incline *m*, the purpose of which will be shortly explained.

At one side of the port *b* in the wall B is an inlet *l*, which communicates with one end of the passage *j* by means of an opening *n*. At the opposite side of the port *b* and in the wall B is formed an outlet *o*, by which the other end of the passage *j* communicates with the top of the board A. Projecting from the top of the board is a series of suitably-arranged pins *p p*, forming tortuous paths in which the ball is made to travel by a slight tilting of the board and is thus caused to enter the pockets *d d* and *e*.

Embracing the periphery of the board A and the wall B is a circumferentially-sliding gate *q*, provided with an aperture *r*, by which the ball is introduced into the ports *a a* and

b. The gate is also provided with an offset or projection *s*, by which to operate the same.

Over the pins *p p* is placed a glass *t*, which rests upon the top of the wall B and is preferably held thereon by a strip of molding *u*, secured to the top of the wall, said glass serving to prevent the passage of the ball over the top of the pins.

Having described the construction of my improved puzzle, I will now proceed to explain the manner of manipulating the same and the results of said manipulation, whereby a solution of the puzzle is reached.

The object of the puzzle is to admit the ball through one of the ports in the wall to the top of the board and by tilting the board cause the ball to travel in tortuous paths between the pins projecting from the board to one of the pockets in the goal mounted in the center of the board, wherefrom it is made to pass to the outlet in the bottom of the board by further manipulation of the board. It will be observed that by admitting the ball through one of the ports *a* to the top of the board A and by slightly tilting the board in various directions the ball is caused to travel in tortuous paths to one of the choked pockets *d* and is thus unable to enter the opening or outlet *h* in the bottom of the board. Therefore I have appropriately termed said ports "deceptive" ports. To introduce the ball into said ports, the gate *q* is slid around to bring the aperture *r* over the ports, and the same is then moved slightly to cover the ports and thus prevent the ball from dropping out. In order to accomplish the desired result, it is necessary to admit the ball through the port *b* to the top of the board A. Therefore I have termed said port the "correct" port. When the ball is admitted through the latter port and the board is tilted slightly, said ball is caused to travel in the tortuous path indicated by arrows 2 2 to the inlet *l*, and it then passes through the opening *n* into one end of the annular passage *j*, which is concealed under the wall B, as aforesaid, and by proper manipulation of the board the ball is caused to travel around said passage to the other end thereof, and by means of the incline *m* on the block *k* it is directed to the outlet *o* and thereby admitted to the top of the board A. Then by a further tilting of the board the ball is made to travel between the pins *p p* in a tortuous path (indicated by arrows 3 3) to the exit-pocket *e*, and thence through the opening *g* into the annular passage *f*, and by a proper manipulation of the board the ball is caused to travel around said passage and through the passage *i* and finally to the outlet *h*, as indicated by arrows.

It will be observed that the path indicated by arrows 2 2 is obstructed by two pins, as indicated at *x x*. Therefore in order that the ball may reach the inlet *l* said pins are spread apart intermediate their length sufficiently to allow the ball to pass between them, as clearly shown in Fig. 5 of the drawings, which passage is made by holding the board in an upright position. It will also be observed that it is impossible for the ball to reach the passage indicated by arrows 3 3 leading to the outlet *o* and to the exit-pocket *e* when said ball has been admitted to the top of the board A through any one of the ports *a*.

What I claim as my invention is—

1. A puzzle comprising a board provided with an annular wall and with a plurality of radial ports through said wall and communicating directly with the surface of the board and a radial port communicating with a tortuous passage beneath the wall and leading to the surface of the board, a goal located in the center of the board and provided with a plurality of deceptive pockets and an exit-pocket, and a series of pins erected on the board and forming tortuous passages from the aforesaid direct ports toward the deceptive ports of the goal and a labyrinthian path to the exit-port of the goal as set forth.

2. The herein-described puzzle comprising a board provided with an annular wall, a series of radial ports through said wall for the admittance of a ball, a goal mounted in the center of said board and provided with a plurality of choked pockets, an annular passage concealed under said goal, an outlet in the bottom of said board with which said passage communicates, an exit-pocket also in said goal and communicating with said passage, a partial annular passage concealed under said wall and having its receiving end communicating with one of the ports of the wall, and its delivery end leading to the top of the board, and a series of pins projecting from the top of the board forming a tortuous path for the ball to the exit-pocket and forming supplemental tortuous paths from the other ports to the choked pockets as set forth.

3. The herein-described puzzle comprising a board provided with an annular wall, a goal mounted in the center of said board and provided with a plurality of choked pockets, and an exit-pocket communicating with an opening in the bottom of the board by means of an annular passage concealed under said goal, a series of deceptive ports and a correct port through said wall, a partial annular passage concealed under said wall, an inlet in said wall to receive a ball from the top of the board and provided with an exit communicating with one end of said passage, an outlet also in the wall near the other end of the latter passage by which the ball is delivered to the top of the board, an incline in the latter end of said passage to direct the ball to said outlet, a series of pins projecting from the top of the board and forming a tortuous path from said outlet to the exit-pocket and from the correct port to the inlet, and also forming supplemental tortuous paths from the deceptive ports to the choked pockets, a pair of supplemental pins in the path leading from the correct port

to the outlet, and spread apart intermediate their length to allow the ball to pass between them, and a concealed annular passage under said goal and communicating with an outlet in the bottom of the board, and communicating with the exit-pocket as set forth and shown.

In testimony whereof I have hereunto signed my name this 30th day of November, 1897.

JOHN E. SHARPE. [L. S.]

Witnesses:
J. J. LAASS,
H. B. SMITH.