

No. 859,767.

PATENTED JULY 9, 1907.

J. W. HARRIS.

PUZZLE.

APPLICATION FILED NOV. 8, 1906.

FIG. 1.

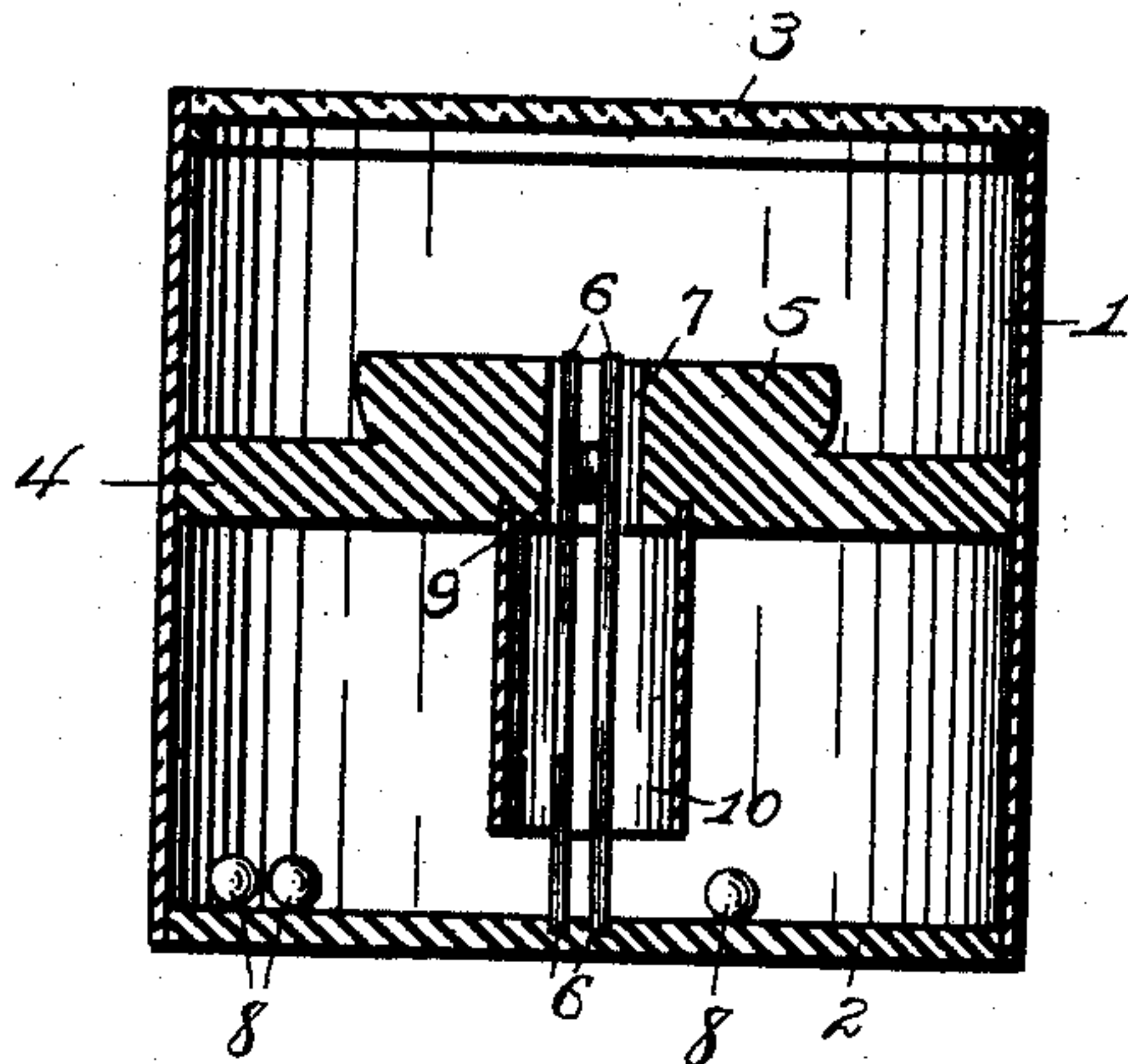


FIG. 2.

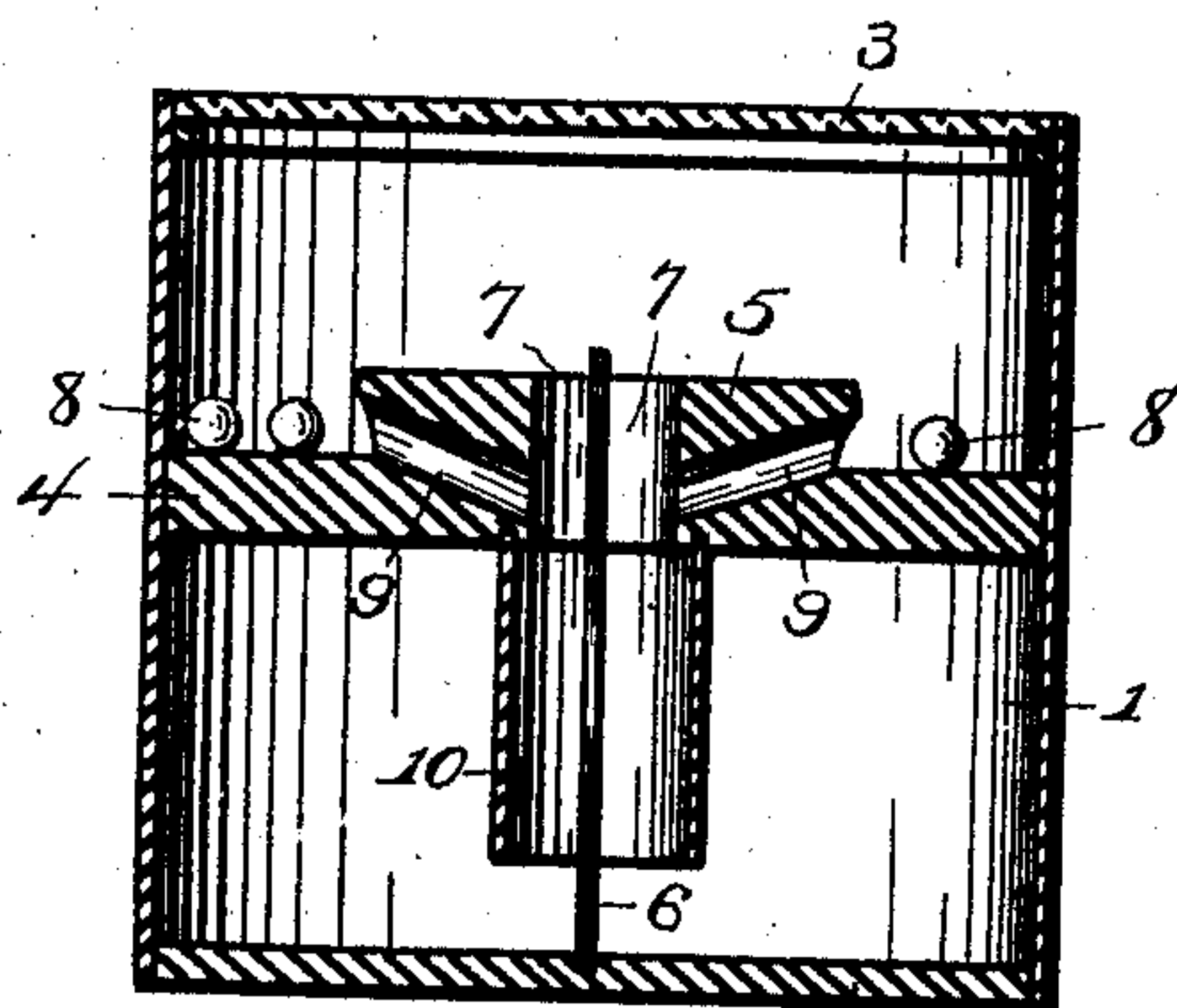
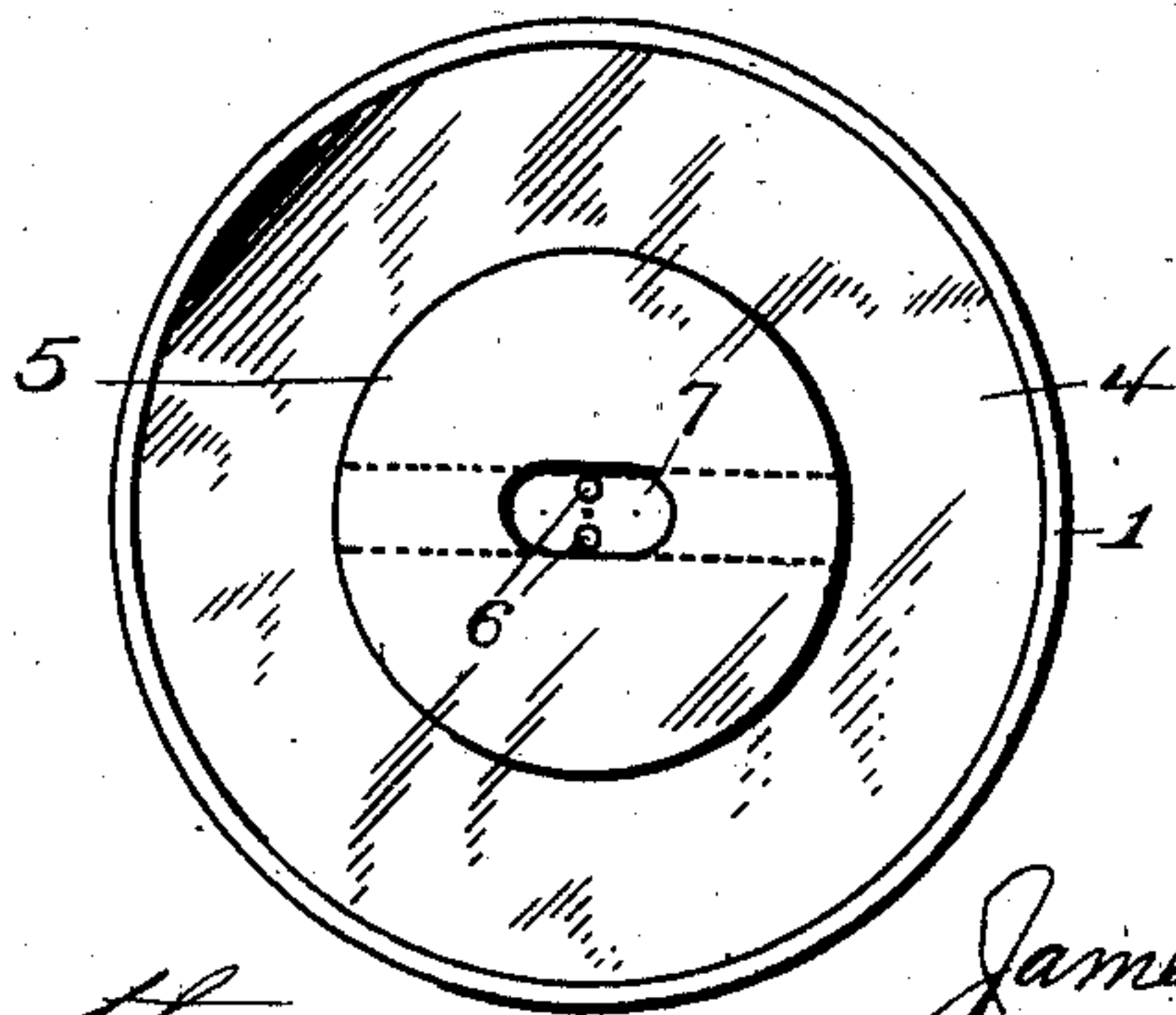


FIG. 3.



WITNESSES:

*Robt. F. Dilworth*  
*D. Fenner*

INVENTOR  
*James William Harris*  
By *A. E. S. S. S.*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

JAMES WILLIAM HARRIS, OF WHEELING, WEST VIRGINIA.

## PUZZLE.

No. 859,767.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed November 8, 1906. Serial No. 342,452.

*To all whom it may concern:*

Be it known that I, JAMES WILLIAM HARRIS, a citizen of the United States of America, and resident of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Puzzles, of which the following is a specification.

My invention relates to new and useful improvements in puzzles, and more particularly to a novel toy-puzzle; and it has for its object to provide a puzzle of simple construction, the solution of which is capable of accomplishment, but is more or less difficult, requiring the exercise of care, skill and patience on the part of the manipulator.

The invention consists, essentially, of a cylindrical box having a bottom, a glass cover and a partition, the latter being of a peculiar formation and dividing said box into two compartments; and it consists, further, of a series of balls and of two vertical parallel pins mounted in said bottom and constituting a runway for said balls, said pins being projected through a central aperture or orifice provided in said partition.

The object to be attained in the operation of the device is to assemble the balls in the upper of the compartments—that is, upon the face of the partition.

In describing the invention in detail, reference is herein had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a central vertical section of the invention; Fig. 2 is a similar section taken at right angles to the section illustrated in Fig. 1; and Fig. 3 is a top plan view of the invention.

Referring to said drawings, in which like reference-numerals designate like parts throughout the several views—1 indicates a cylindrical box or casing having a bottom 2 and a glass cover 3. Arranged within the box or casing to divide the same into compartments of substantially equal dimensions is a transverse partition 4 having a centrally-located circular protuberant boss 5 on its upper face and preferably integral therewith.

Rigidly mounted in the bottom 2 are two vertical parallel posts or pins 6 which project through an oblong aperture or orifice 7 which extends vertically through said partition and boss, said pins constituting a runway over which balls 8 may be actuated to travel from the lower compartment to the upper compartment. Said pins extend through said oblong aperture 7 in such manner as to virtually divide the latter into two vertical parallel passages through either of which a ball 8 traveling along said runway may readily pass.

As is apparent, the solution of the puzzle consists in so manipulating the box or casing 1 as to cause the balls 8, one at a time, to mount said runway at the bot-

tom and to travel therealong into the upper compartment. If the partition 4 is made of a non-transparent material, and it preferably is, the balls will of course not be visible to the person experimenting, and it will consequently require numerous and repeated attempts and considerable skill to cause the balls to mount the runway formed by the parallel pins; but, having mounted said runway, a ball may be readily caused to travel to the upper compartment. Great celerity and much care and skill is, however, required to retain a ball or balls in said upper compartment while manipulating the box or casing in an endeavor to conduct the remaining balls from the lower compartment, the tendency of the balls in the upper compartment being to roll through the downwardly-inclined passages 9 which extend from the edge of the boss 5 on a level with the partition 4 to the aperture 7. Said passages 9 are located directly opposite the faces of the runway so that a ball passing therethrough will drop upon said runway and, unless the box is quickly tipped over, will return therealong to the bottom.

For preventing the gathering of the balls in the upper compartment by a mere shaking or upturning of the box, a cylindrical tube 10 is rigidly mounted in the under side of the partition 4, encircling the pins forming the runway, said tube terminating at a distance above the bottom 2 but little more than sufficient to admit of the passage of the balls 8 thereunder. The balls must therefore mount the runway at the bottom in order to be conducted to the upper compartment.

Modifications in details may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. A puzzle consisting of a box having a bottom and a cover, a horizontal partition dividing said box into two compartments, a central boss carried by said partition on its upper face, an oblong vertical aperture through said partition and boss, and a vertical runway extending from the bottom of said box through said aperture, in combination with a plurality of balls adapted to be passed from one compartment to the other along said runway.

2. A puzzle consisting of a cylindrical box having a bottom and a glass cover, a horizontal partition dividing said box into two superposed compartments, a central boss carried by said partition on its upper face, an aperture through said partition and boss, a runway extending from the bottom through said aperture, said runway comprising two stationary parallel pins, and a plurality of balls adapted to be passed from the lower compartment to the upper along said runway.

3. A puzzle consisting of a box having a transverse partition dividing the box into two superposed compartments and carrying a centrally-located circular boss on its upper face, said partition and boss having a central aperture therethrough, and downwardly-inclined passages leading from the outer edge of the boss to said aperture, and a

runway comprising two vertical parallel pins rigidly mounted in the bottom of the box, said runway being projected centrally through said aperture, and a plurality of balls adapted to be actuated by the manipulation of the  
5 box to travel from the lower compartment to the upper compartment along said runway.

4. A puzzle consisting of a cylindrical box or casing having a bottom and a glass top or cover, a partition dividing said box into two superposed compartments, said partition  
10 carrying a circular boss upon its upper face, a vertical oblong aperture in said partition and boss, a runway comprising two vertical parallel pins mounted in the bottom of the box and projecting centrally through said aperture,

a plurality of balls adapted to be actuated by manipulation of the box to travel from the lower compartment to the upper compartment along said runway, said partition and boss having downwardly-inclined passage-ways leading from the edge of the boss to said central aperture, and a cylindrical tube mounted in the under side of the partition and encircling the pins which constitute the runway.  
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In testimony whereof I affix my signature in presence of two subscribing witnesses.

JAMES WILLIAM HARRIS.

Witnesses:

E. A. LENKARD,  
H. E. DUNLAP.