

(No Model.)

J. C. COLLIN.  
TOY.

No. 418,166.

Patented Dec. 31, 1889.

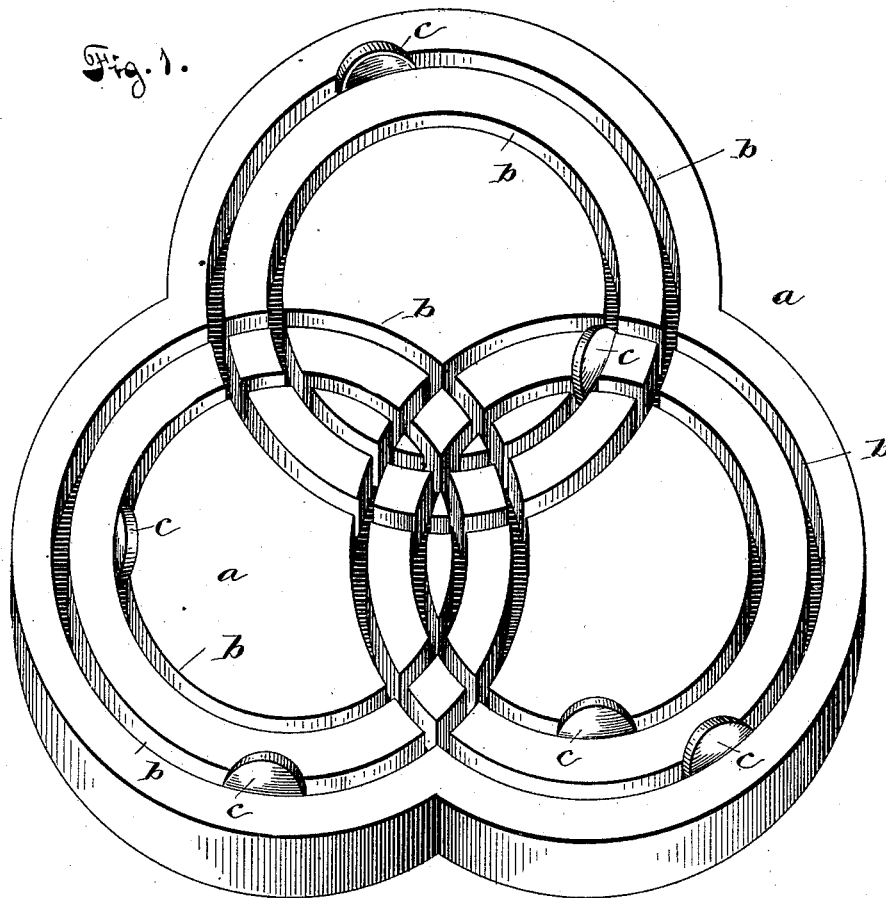


Fig. 2.

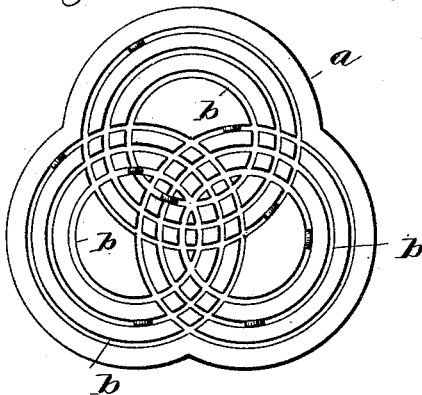


Fig. 3.

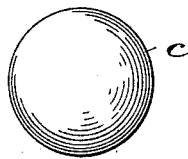


Fig. 4.



Witnesses

H. D. Neale

J. P. Davis

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James C. Collin  
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his Attorney

# UNITED STATES PATENT OFFICE.

JAMES C. COLLIN, OF SYRACUSE, NEW YORK.

## TOY.

SPECIFICATION forming part of Letters Patent No. 418,166, dated December 31, 1889.

Application filed July 6, 1889. Serial No. 316,655. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES C. COLLIN, of Syracuse, county of Onondaga, in the State of New York, a citizen of the United States, have invented certain new and useful Improvements in Toys, of which the following is a specification.

My invention relates to that class of puzzles or toys which are adapted to be held in the hand while being manipulated; and the particular object to be attained is to produce an attractive and fascinating device having the novel characteristics hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a perspective view of my complete invention; Fig. 2, a modification of the board, in which the number of annular grooves are multiplied; Fig. 3, a top view of one of the rolling objects; and Fig. 4, a sectional edge view of the same, showing its contour.

The reference-letter *a* denotes a board provided with three pairs of intersecting ways or grooves *b*, in which are located a number of wheels or circular disks *c*, placed upon their edges in an upright position. The depth and width of these grooves are sufficient to prevent the disks from overturning, and the disks are made concavo-convex to correspond to the curvature of the ways, so that they will move freely within them. The board is by preference made of wood with a plain upper surface, and the intersecting endless ways are cut into this surface by any suitable means. Although the board is preferably made of wood, yet any other suitable material could be employed. The rolling disks are made of metal to make them respond more freely to variations in the inclination of the board; but I do not limit myself to this particular material.

In the modification shown in Fig. 4 a larger number of intersecting ways are employed for making the accomplishment of the puzzle

still more difficult; hence it is apparent that my invention is not limited to the kind of material nor the number of annular intersecting ways employed. Each way is provided with a single wheel or disk, making in the present instance six circles and six wheels.

The task to be accomplished is to roll the wheels or disks simultaneously and with continuous and equal speed around the ways one or more times without permitting them to collide. Owing to the constant tendency of the wheels to collide, the accomplishment of this task will be found extremely difficult until after long practice and much patience. It can be done, however, by holding the board in the hand and giving it a continuous circular or tilting movement, whereby the wheels will roll around the endless ways in which they are confined.

When the operator has succeeded in making all the disks traverse a complete circle in unison without the occurrence of a collision, then the feat has been accomplished.

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

1. In a puzzle or toy, a board adapted to be held in the hand and provided with intersecting endless ways, and two or more rolling disks or bodies adapted to be moved in said ways, in the manner and for the purpose substantially as described.

2. In a puzzle or toy, a board adapted to be held in the hand and provided with annular ways intersecting each other, in combination with concavo-convex disks located and adapted to travel upon their edges within said ways, as and for the purpose described.

In witness whereof I have hereunto set my hand this 3d day of July, 1889.

JAMES C. COLLIN.

In presence of—

H. P. DENISON,  
F. T. DENISON.