

No. 741,766.

PATENTED OCT. 20, 1903.

M. J. CAWLEY.

PUZZLE.

APPLICATION FILED JAN. 27, 1903.

NO MODEL.

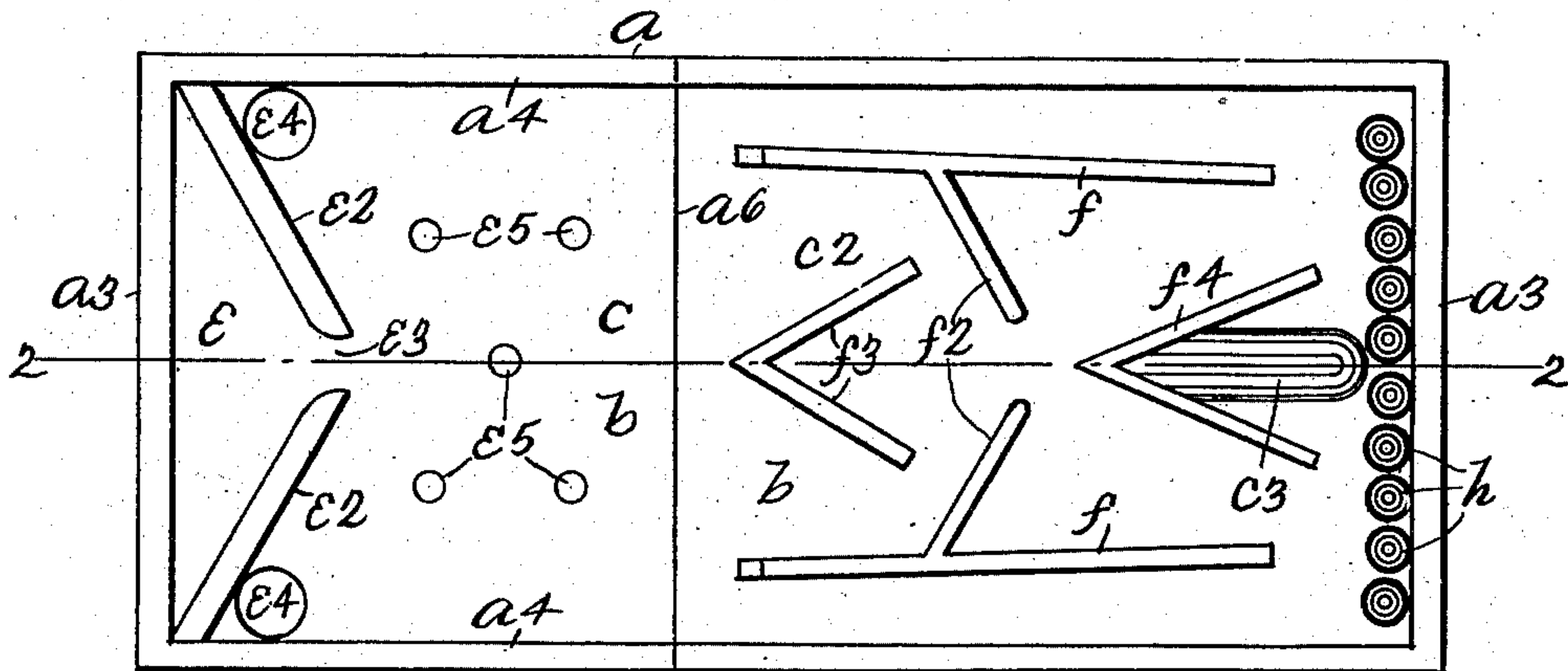


Fig. 1

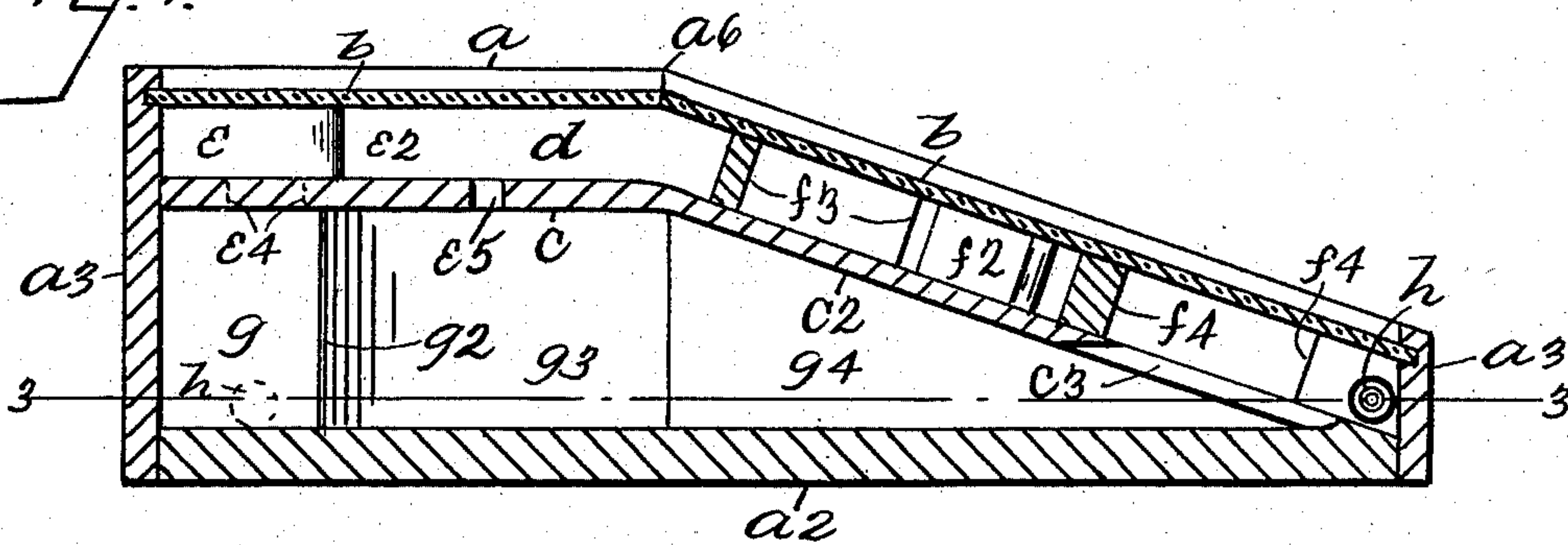
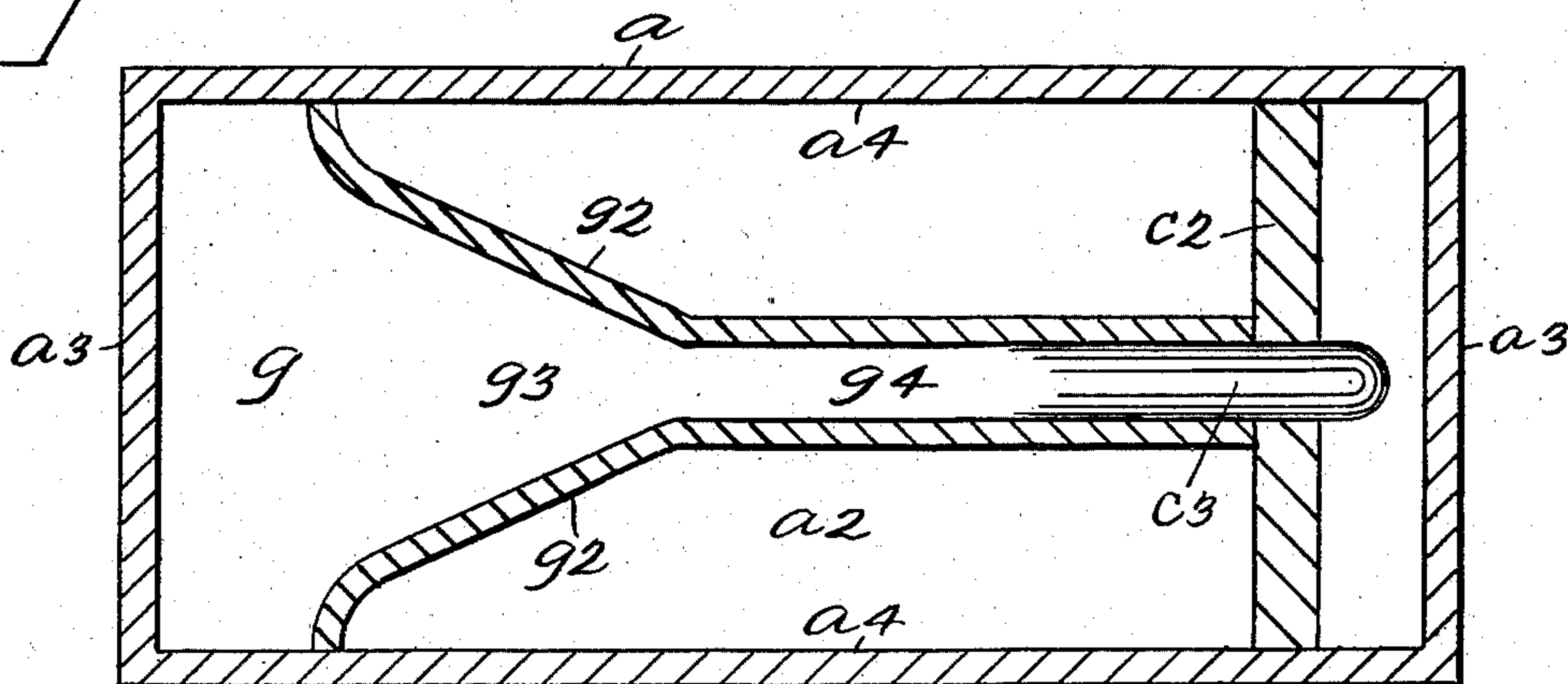


Fig. 2



WITNESSES  
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Fig. 3

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## UNITED STATES PATENT OFFICE.

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## PUZZLE.

SPECIFICATION forming part of Letters Patent No. 741,766, dated October 20, 1903.

Application filed January 27, 1903. Serial No. 140,738. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL J. CAWLEY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Puzzles, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved puzzle which is simple in construction and the solution of which is difficult, but may be accomplished by the exercise of care, skill, and ingenuity in the manipulation of the device or the parts thereof.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a plan view of my improved puzzle; Fig. 2, a vertical section on the line 2 2 of Fig. 1, and Fig. 3 a horizontal section on the line 3 3 of Fig. 2.

In the practice of my invention I provide an oblong rectangular box or case *a*, composed of a bottom portion *a*<sup>2</sup>, end portions *a*<sup>3</sup>, and side portions *a*<sup>4</sup>. For the purpose of this description the left-hand side of the box or case, as shown in the drawings, may be called the "rear" end and the opposite end the "front" end, and in practice the top portion of the box or case is inclined outwardly and forwardly from the point *a*<sup>6</sup>, said point being preferably slightly to the rear of the transverse center of the box or case. Both the rear and the front portions of the box or case are also provided with a glass cover *b*, below which is placed a partition-plate *c*, which extends the full length of the box or case and is composed of a rear portion, which is horizontal, and a front portion *c*<sup>2</sup>, which is downwardly inclined to correspond with the inclined front portion of the glass cover *b*, and between the plate *c* and the glass cover *b* is a longitudinal space *d*, formed by the plate *c* and the glass cover *b* and the sides of the box or case. At the rear end of the box or case and between the plate *c* and glass cover *b* is formed a chamber *e*, which I call the "guard-house" and which is formed by

inwardly and forwardly directed walls *e*<sup>2</sup>, the inner ends of which are separated by a space *e*<sup>3</sup>, which constitutes the door or entrance to the guard-house, and in the opposite corners of the chamber *d* and at the rear end of the box or casing the plate *c* is provided with holes *e*<sup>4</sup>, both of which are shown in full lines in Fig. 1 and one of which is indicated in dotted lines in Fig. 2. The rear portion of the plate *c* in front of the guard-house is also provided with holes or depressions *e*<sup>5</sup>, five of which are shown, and said holes or depressions are preferably arranged in the form of a triangle. The front downwardly-inclined portion *c*<sup>2</sup> of the plate *c* is provided near its opposite sides with two substantial parallel walls *f*, which fill the space between the part *c*<sup>2</sup> of the plate *c* and the corresponding part of the glass cover *b*, and these walls *f* are provided with inwardly and forwardly directed baffles or wings *f*<sup>2</sup>, and rearwardly thereof is arranged a V-shaped baffle *f*<sup>3</sup>, the apex of which is directed backwardly and which comprises V-shaped walls, which also fill the space between the part *c*<sup>2</sup> of the plate *c* and the corresponding part of the glass cover *b*. Forwardly of the baffles *f*<sup>2</sup> is also arranged another V-shaped baffle *f*<sup>4</sup>, the apex of which is directed backwardly, and this baffle *f*<sup>4</sup> is of the same form and construction as the baffle *f*<sup>3</sup>, and within the side wings of the baffle *f*<sup>4</sup> the part *c*<sup>2</sup> of the plate *c* is provided with a longitudinal opening *c*<sup>3</sup>.

The holes *e*<sup>4</sup> in the rear portion of the plate *c* open downwardly into an open space *g* below said plate *c* and in which is placed vertically-arranged side plates *g*<sup>2</sup>, which form a chute *g*<sup>3</sup>, which leads forwardly to the opening *c*<sup>3</sup>, and the rear end of the chute *g*<sup>3</sup> is as wide as the box or case, while the front end thereof is formed into a narrow neck *g*<sup>4</sup>.

I also provide a plurality of balls or spherical bodies *h*, ten of which are preferably employed, and these balls or bodies are placed in the box or case and are free to roll through the opening *c*<sup>3</sup> and through the holes or openings *e*<sup>4</sup>, but cannot pass through the holes *e*<sup>5</sup>, and said holes *e*<sup>5</sup> form, in effect, small depressions or stops, in which the balls *h* are adapted to rest.

The solution of the puzzle consists in manipulating the box or case so as to lodge five



of the balls  $h$  in the stops or holes  $c^5$  and five of said balls or bodies in the guard-house  $e$ , and five of said balls or bodies may be distinguished from the other five, if desired, by coloring or in any other manner.

The above solution is exceedingly difficult, but may be accomplished by the exercise of care and skill.

The balls or bodies  $h$  are free to roll all over the box between the plate  $c$  and the part  $c^2$  thereof, and the walls  $f$  and baffles  $f^2, f^3$ , and  $f^4$  interfere with the movement of said balls in the solution of said puzzle, and said balls are also free to pass through the holes  $e^4$  in the plates  $c$ , and when the box or case is tilted forwardly they will roll through the chute  $g^3$  and  $g^4$  and through the opening  $c^3$  into the space  $d$  over the plate  $c$  and  $c^2$ , and all these various movements tend to render the solution of the puzzle more difficult.

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

1. A puzzle device of the class described, comprising an oblong rectangular box or case having a transparent cover and a plate placed thereunder so as to form a space between said plate and cover, the front ends of said plate and said cover being downwardly inclined and the rear ends thereof being horizontal, a chamber formed over said plate at the rear end thereof and provided with a central forwardly-directed opening, ball stops or recesses formed in said plate in front of said chamber, V-shaped baffles secured to the downwardly-inclined portion of said plate and other baffles comprising parallel walls arranged at the opposite sides of the V-shaped baffles and

provided with inwardly-directed baffles, and a plurality of balls or spherical bodies which are adapted to pass into said chamber and to be lodged in said stops or recesses, substantially as shown and described.

2. A puzzle device of the class described, comprising an oblong rectangular box or case having a transparent cover and a plate placed thereunder so as to form a space between said plate and cover, the front ends of said plate and said cover being downwardly inclined and the rear ends thereof being horizontal, a chamber formed over said plate at the rear end thereof and provided with a central forwardly-directed opening, ball stops or recesses formed in said plate in front of said chamber, V-shaped baffles secured to the downwardly-inclined portion of said plate and other baffles comprising parallel walls arranged at the opposite sides of the V-shaped baffles and provided with inwardly-directed baffles, and a plurality of balls or spherical bodies which are adapted to pass into said chamber and to be lodged in said stops or recesses, the horizontal portion of said plate being also provided with a hole and the downwardly-inclined portion with an opening, and a chute beneath said plate and leading from said hole to said opening, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 26th day of January, 1903.

MICHAEL J. CAWLEY.

Witnesses:

J. C. LARSEN,  
F. A. STEWART.