

No. 672,165.

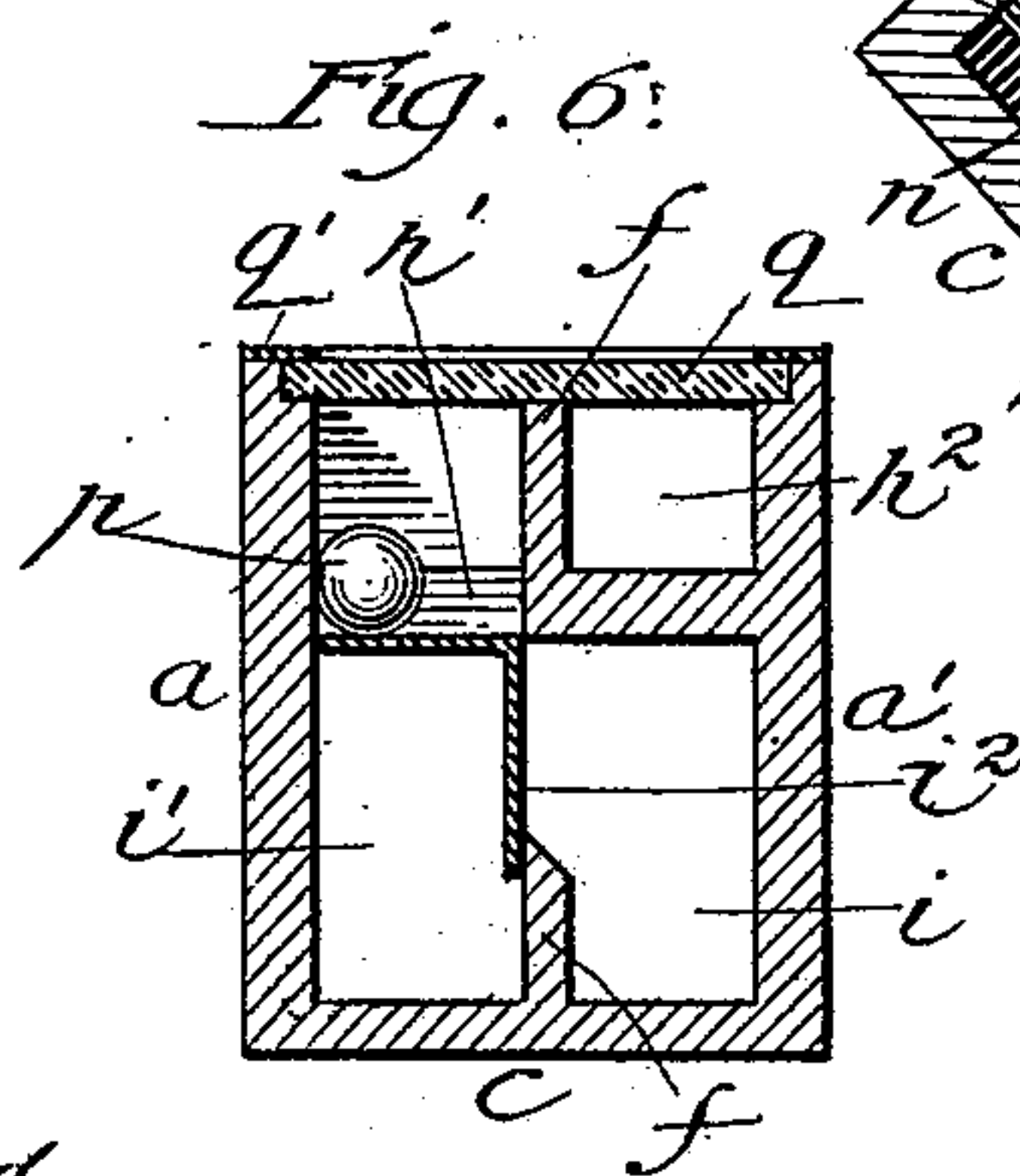
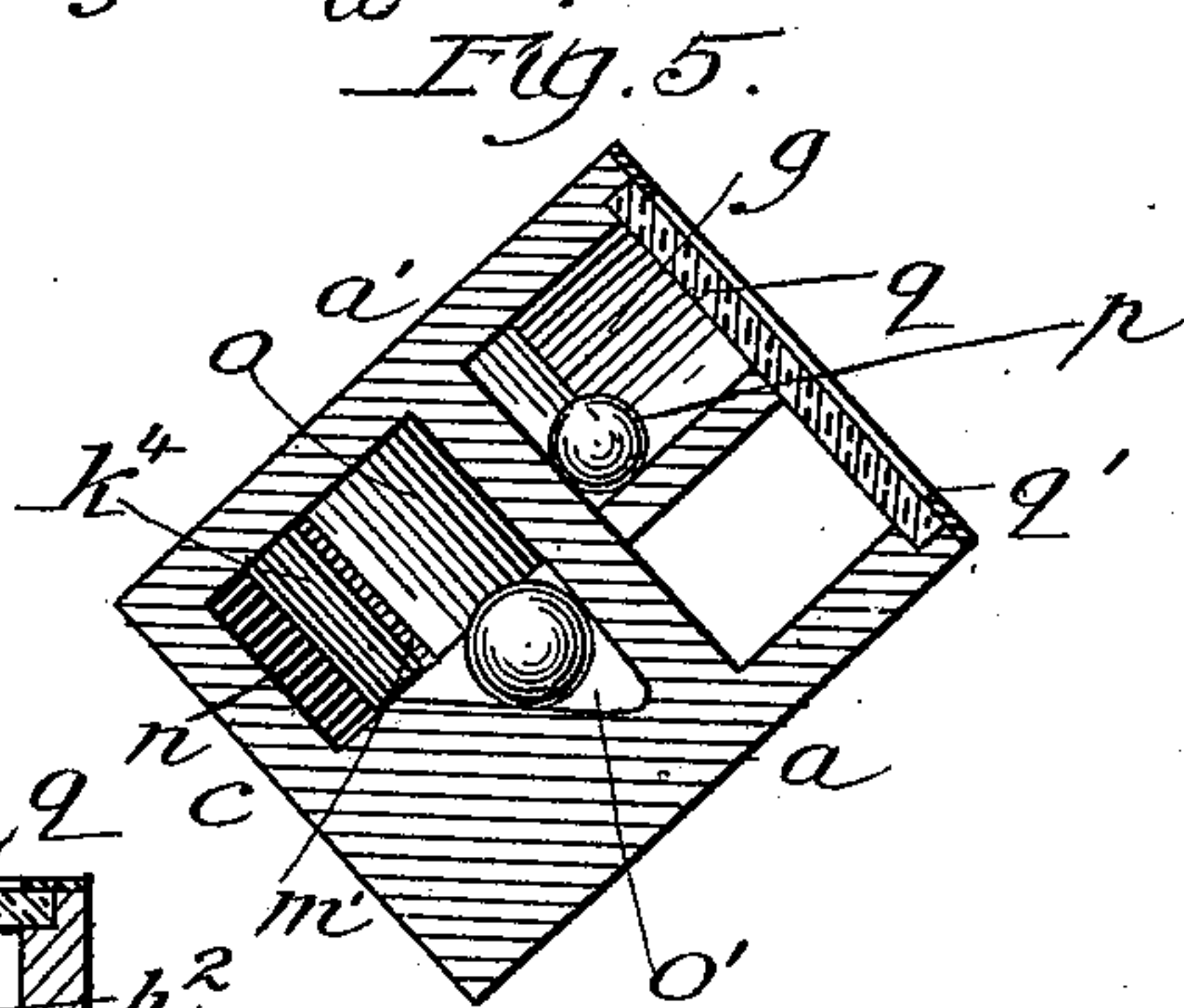
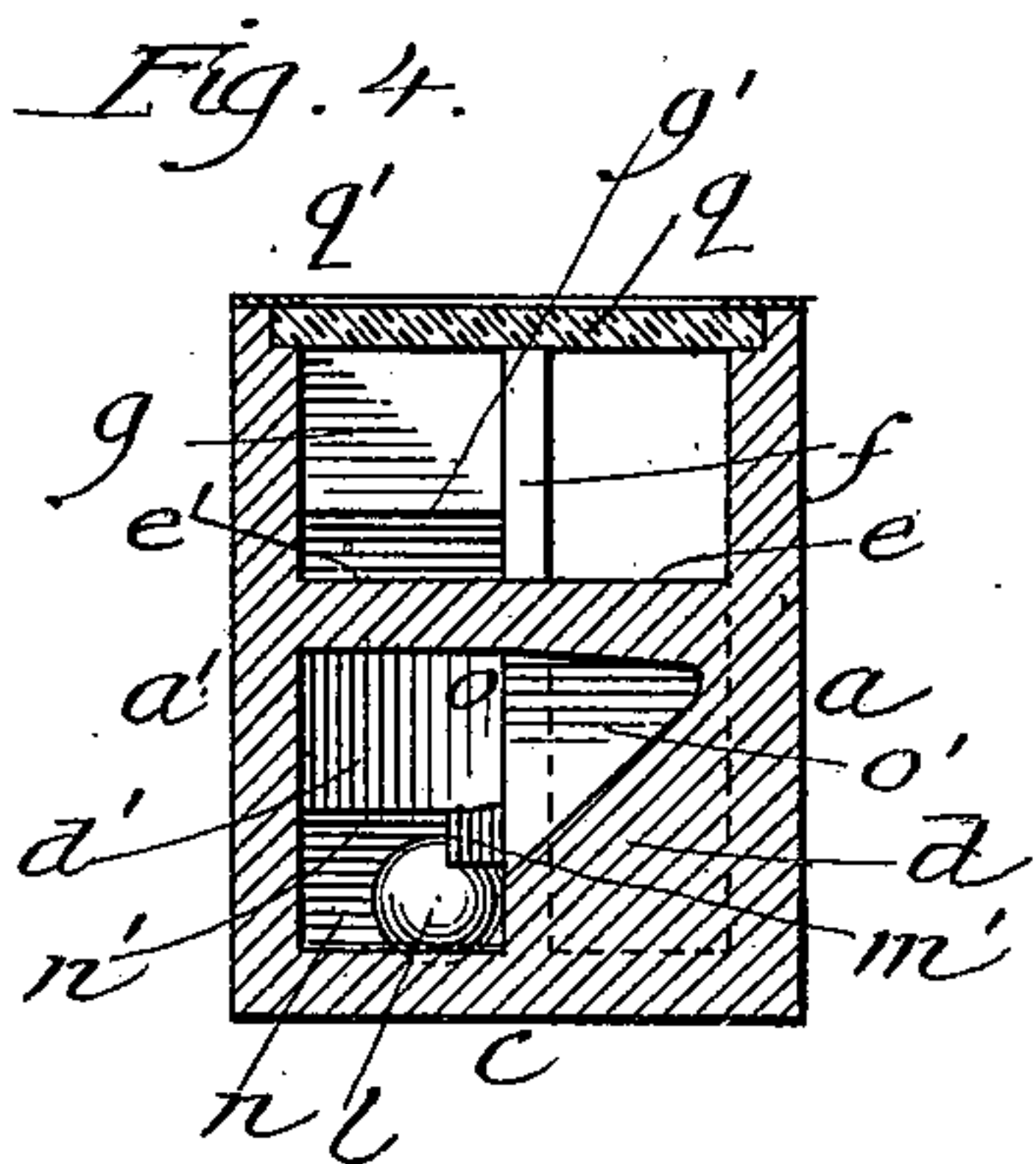
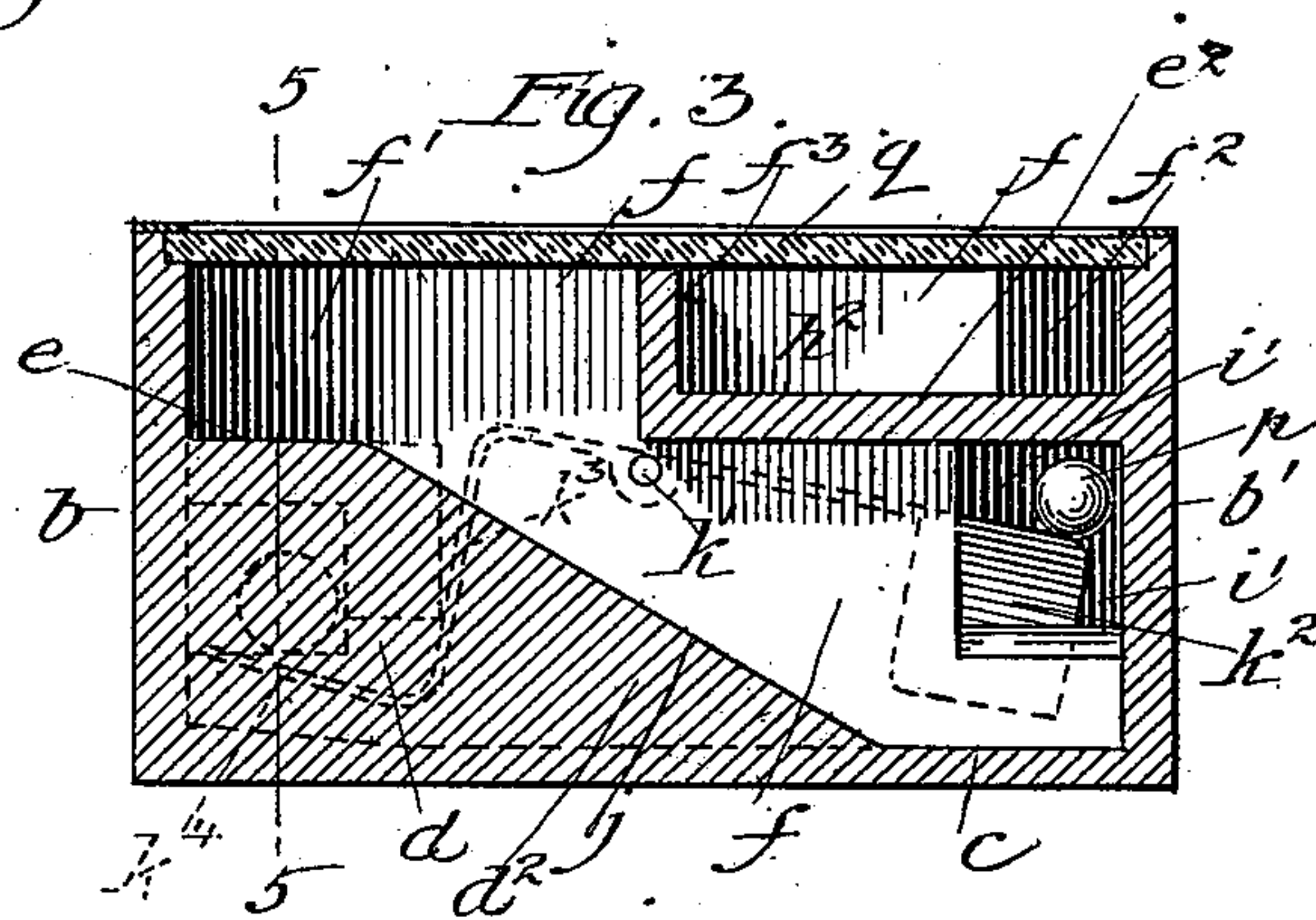
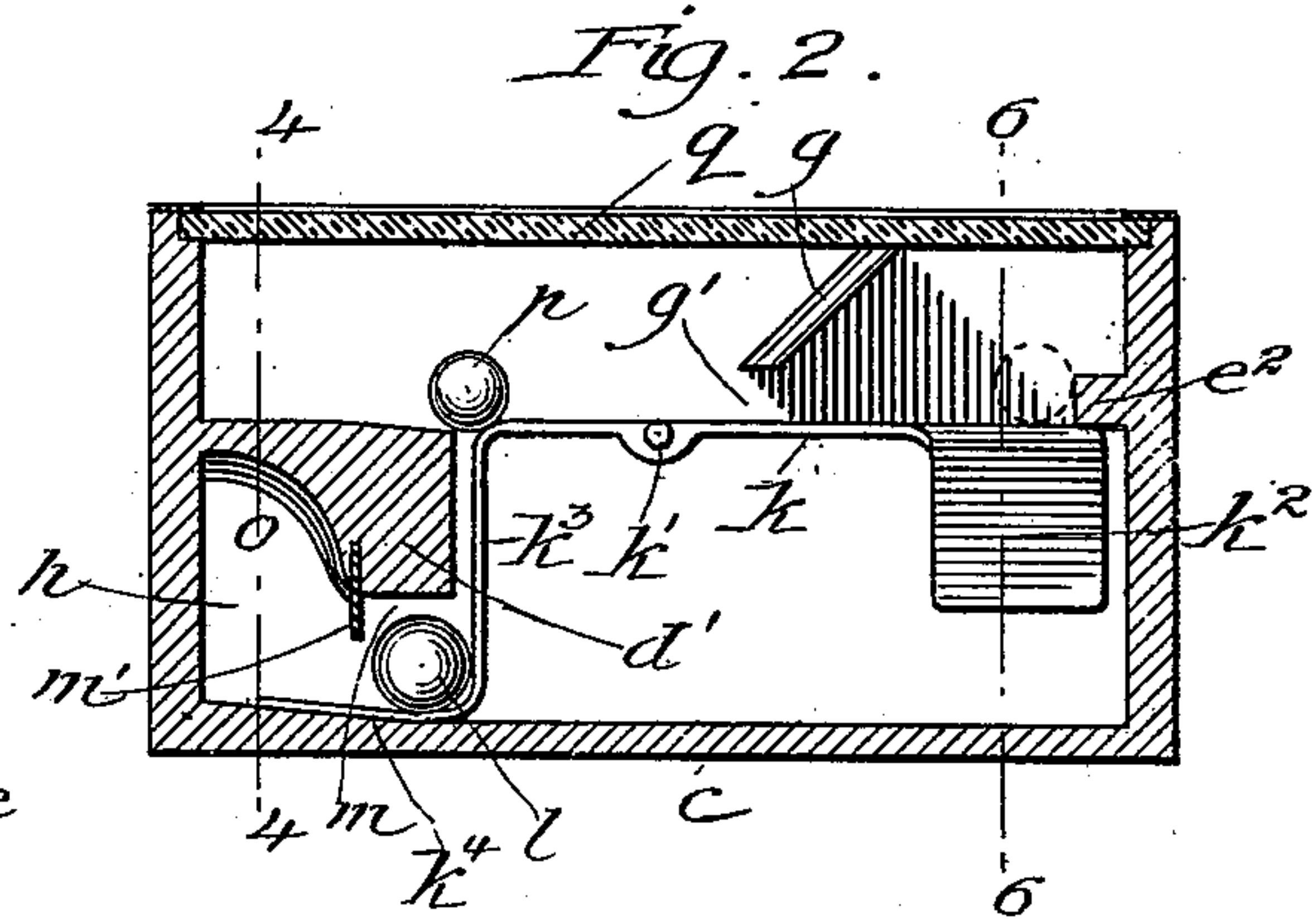
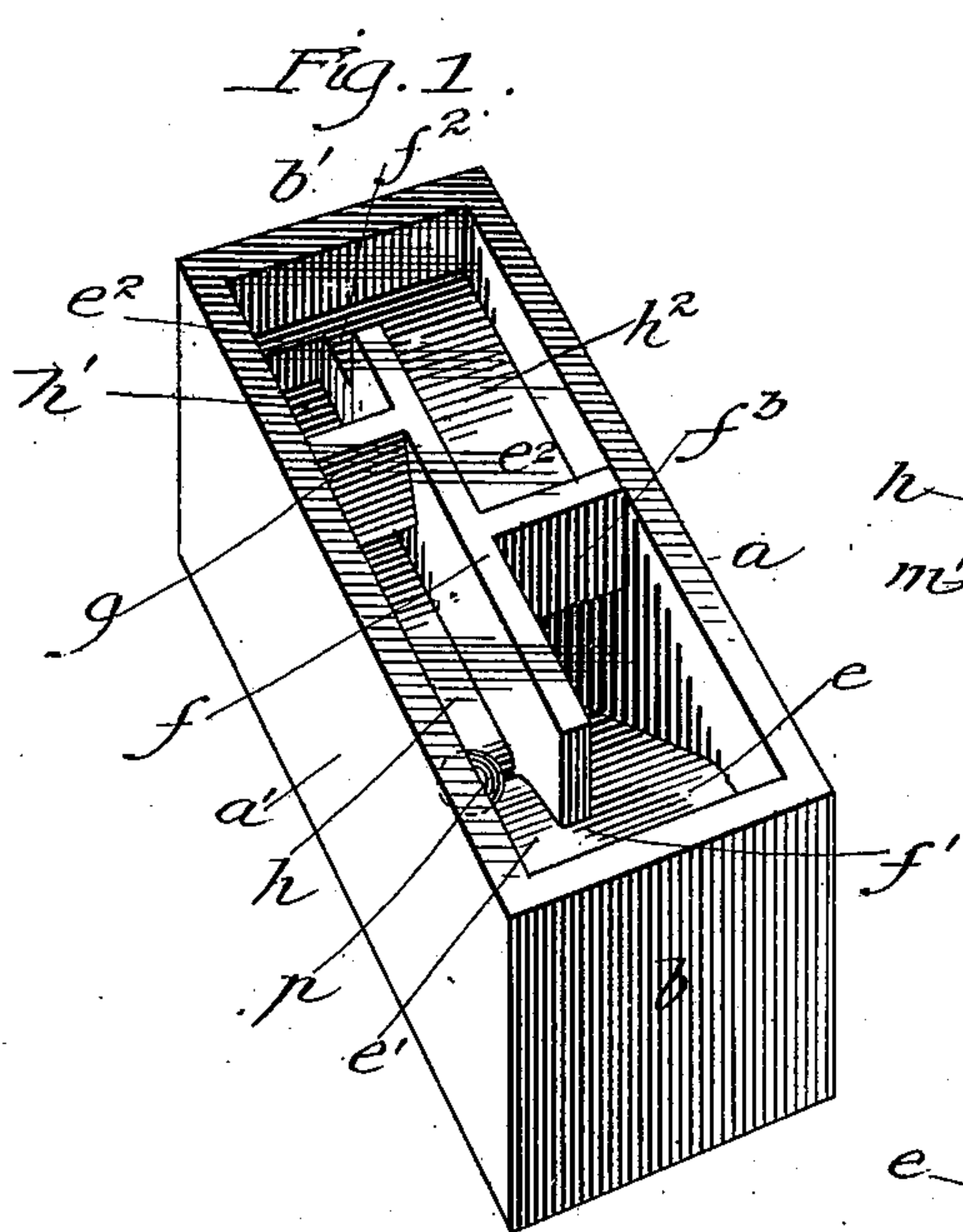
Patented Apr. 16, 1901.

W. F. FELDHOFF.

PUZZLE.

(Application filed Feb. 16, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

WALTER F. FELDHOFF, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
CHARLES E. ROBERTS, OF SAME PLACE.

PUZZLE.

SPECIFICATION forming part of Letters Patent No. 672,165, dated April 16, 1901.

Application filed February 16, 1901. Serial No. 47,614. (No model.)

To all whom it may concern:

Be it known that I, WALTER F. FELDHOFF, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Puzzles, of which the following is a specification.

This invention relates to puzzles of that class in which it is the design or intention in solving the puzzle to trap a ball in a chamber or compartment, and has for its objects the construction of a puzzle in which a ball is to be removed from one compartment or chamber and deposited or received into another compartment or chamber adjacent to the compartment or chamber in which it is normally located; and the invention consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the puzzle as a whole; Fig. 2, a central longitudinal section of the puzzle; Fig. 3, a longitudinal section of the puzzle through the receiving compartment or chamber for the ball; Fig. 4, a cross-section on line 4 of Fig. 2, showing the parts in normal position without the ball to be trapped; Fig. 5, a similar view to Fig. 4, taken on the line 5 of Fig. 3 and showing the puzzle tipped into position for passing the ball to be trapped from the containing compartment or chamber therefor into the receiving compartment or chamber; and Fig. 6, a cross-section on line 6 of Fig. 2, showing the parts in position for the ball to enter the receiving compartment or chamber.

The puzzle is to have a main shell or casing formed of side pieces a and a' , end pieces b and b' , and a bottom c , and these parts may be made of metal, papier-mâché, vulcanized rubber, or other suitable material. The interior of the puzzle is formed in two divisions or sections d and d' , divided longitudinally of the shell or casing, and, as shown, these sections are formed separate from the side pieces of the shell or casing and constitute at their lower portions the bottom c of the shell or casing; but a separate bottom could be provided, and, if desired, the section or division d' could be formed with the side piece a' , with the side piece a separate, in order to permit the assembling of the parts comprising the

puzzle as a whole. The section or division d has a top piece e , and the section or division d' has a top piece e' , which when the parts are brought together form a rest or support in the upper portion of the shell or casing, at one end thereof. The section or division d , as shown, has the longitudinal inner wall f extending from the bottom to the top of the shell or casing, and the upper projecting portion of this wall or partition f is cut away at each end, leaving an opening f' at one end in line with the tops e and e' and an opening f^2 at the opposite end. A wall or partition g extends from the wall or partition f to the side piece a' of the shell or casing, and these partitions f and g divide the upper portion of the shell or casing into a compartment or chamber h , a compartment or chamber h' , and a compartment or chamber h^2 , and the compartment or chamber h^2 is formed by a bottom e^2 and an end partition or wall f^3 , extending from the partition or wall f to the side piece a , and, as shown, the bottom e^2 of the compartment or chamber h^2 is in a higher plane than the rest or bottom formed by the tops e and e' . The wall or partition f in line with the compartment or chamber h' has an opening i^2 , which furnishes a communication between a chamber i , located below the bottom or floor e^2 , and a chamber i' , located below the chambers h and h' , and the chamber i communicates with the upper portion of the division or section d of the puzzle by an incline j , formed on the upper portion or face of an extension d^2 of the section or division d , as shown in Fig. 3, so that the ball which is to be trapped has a free passage-way between the upper portion of the shell or casing and the chamber i through the rest or floor of the tops e and e' and the opening or mouth f' of the central partition or wall f .

The bottom of the compartments or chambers h and h' is formed by a tilting platform k , having trunnions or pivots k' mounted in the side wall a' and the central partition or wall f' , so that the platform is free to tilt. The end of the platform beneath the compartment or chamber h' has a downward-extending wing or flap k^2 , which when the platform is normal or at rest closes the opening i^2 between the chambers i and i' ; but when

the platform is tilted down, as shown in Fig. 3, the opening i^2 is left free, so as to furnish a communication from the tilting end of the platform into the chamber i . The opposite end of the tilting platform has a downward extension k^3 , and this extension is continued at right angles thereto, so as to form a table or support k^4 , on which the locking and releasing ball l is received, when the platform is in normal position to close the bottoms of the compartments or chambers h and h' and prevent communication between such compartments below the inclined partition or wall g by the mouth or opening g' at the end of such wall or partition and above the tilting platform, as shown in Fig. 2. The locking and releasing ball, when the parts are normal, rests on the table or support k^4 in a chamber or receptacle m and is held against rolling endwise of the shell or casing from its chamber or receptacle by a guard or retaining-plate m' . The chamber or receptacle m joins a chamber or receptacle n and communicates therewith by an opening or passage n' between the side wall a' and the guard or retaining-plate m' , as shown in Fig. 4, so that when the locking and releasing ball is rolled from the table or support into a position to be in line with the mouth or opening n' it can pass into the chamber or receiver n . The chamber or receiver n has a continuation or upward extension forming a receptacle o , which communicates with a receptacle o' in the section or division d , as shown in Figs. 4 and 5, so that when the ball has been entered into the chamber or receiver n it can be properly tipping the puzzle as a whole be carried into the receptacle o and pass into the receptacle o' , where it will be held as shown in Fig. 5. The ball p to be trapped normally lies in the compartment or chamber h and is to be passed from such compartment beneath the partition or wall g into the compartment or chamber h' and from thence through the mouth or opening f^2 into the compartment or chamber h^2 , and when the ball is entered into the compartment or chamber h^2 the puzzle has been solved.

The operation is as follows: With the parts normal the locking and releasing ball l is in the chamber m , therefore resting on the table or support k^4 , and when in such position the tilting platform k will be held up or in a straight plane, forming a bottom for the compartments or chambers h and h' and a guard against the passage of the ball p from the compartment or chamber h into the chamber or compartment h' through the mouth or opening g' below the partition or wall g , and the platform will be held in this position so long as the locking and releasing ball remains in its chamber or receiver m , holding the tilting platform raised. The locking and releasing ball, in solving the puzzle, is to be rolled into position where it can pass the guard or retaining-plate m' and enter the chamber or receiver n through the passage or

opening n' and be passed by tipping the puzzle as a whole into an inclined position, as shown in Fig. 5, into the pocket or receptacle o' , where it will be held, and with the ball thus caught and held the weight which holds the platform raised will be removed and the ball p can be rolled down such platform, which will tip slightly at the end beneath the compartment or chamber h' , allowing the ball to pass beneath the stop wall or partition and enter the compartment or chamber h' , and when entered into such compartment the ball can be guided over into the corner of the compartment adjacent to the side wall a' and the end wall b' , where it will be retained and held, so that by turning the puzzle bottom up, or partially so, the platform is returned to its normal position and the locking and releasing ball returns into its locking position in the chamber or receiver, resting on the table or support and holding the platform raised with the ball p in the chamber h' , and from whence it can be passed through the mouth or opening f^2 into the compartment or chamber h^2 , thus solving the puzzle. The ball p must be rolled into the corner indicated in order to solve the puzzle, for if it is rolled into the corner of the compartment or chamber h' , formed by the partition or wall f and the end wall b' , it will pass from the end of the tilting platform through the opening i^2 into the chamber i , from which it can roll by tilting the puzzle as a whole endwise up the incline j and return to the receiving compartment or chamber h for solving the puzzle, which is trapping the ball in the compartment or chamber h' by passing it thereinto, as above described. The ball can be returned to its normal position in the initial or first chamber by permitting it to enter the intermediate compartment or chamber and rest on the end of the tilting platform and then rolling the locking and releasing ball again into its releasing position in the receptacle therefor, so that the ball p to be trapped will depress the end of the tilting platform and pass through the opening i^2 into the chamber i and be thence rolled up the incline j into the upper part of the puzzle and into the initial or first chamber. It will be understood that after the ball l has been entered into its releasing position in the receptacle o and o' the return of the puzzle to a level position returns the ball into the receiving-chamber m back of the guard or retaining-plate onto the table or support of the tilting platform, so that the tilting platform will be held level or in its normal position. The top q of the puzzle can be made of glass or other transparent material, so as to have the ball to be trapped visible in whatever chamber it is located, and the glass can be retained in place by strips of paper or cloth or other flexible material q' , and, if desired, the shell or casing can be covered with a covering of cloth, paper, or other suitable material after the parts constituting the puzzle as a whole have been properly as-

sembled. The body of the puzzle, including the sections *d* and *d'* and the parts connected therewith, can be made of wood, metal, papier-mâché, vulcanized rubber, or other suitable material, and, as before stated, the parts can be made separate and united together by glue or cement or they can be made of a single piece so formed as to permit of the assembling of the parts, so as to have the locking and releasing ball in its chamber, the tilting platform in place, and the ball to be trapped in the upper portion of the puzzle, after which the glass or transparent top can be secured in place, so as to prevent access to the interior of the puzzle, requiring the solution thereof to be had by manipulating the puzzle so as to throw or travel the locking and releasing ball into its receptacle to permit the ball to be trapped to enter the intermediate chamber and pass into the final compartment or chamber.

The series of upper compartments or chambers, two of which are in line one with the other and separated by the cross wall or partition and the other one of which is alongside of the terminal compartment or chamber of the two-in-line compartments or chambers and in a higher plane, are the chambers or compartments in which the ball to be trapped is troweled to solve the puzzle. The chamber *i*, opening *i'*, and incline *j* furnish a passageway for returning the ball to be trapped from the trapping chamber or compartment to the receiving chamber or compartment. The chamber *i'* is for the location and operation of the tilting platform, and the chambers *m* and *n* and receptacles *o* and *o'* furnish a runway for the locking and releasing ball in controlling the tilting platform. The movements of the ball to be trapped in its compartments or chambers are attained by the position of the tilting platform, and the position of the tilting platform is controlled by the locking and releasing ball, and these two elements constitute the essential ones in carrying out the invention.

What I regard as new, and desire to secure by Letters Patent, is—

1. The combination, in a puzzle, of a main shell or casing, a series of compartments or chambers in the upper portion of the shell or casing, a stop wall or partition between two of the compartments or chambers, a tilting platform for the two compartments or chambers and beneath the stop wall or partition, and a lock and release for the tilting platform actuated by manipulating the puzzle as a whole, substantially as described.

2. The combination, in a puzzle, of a series of compartments or chambers comprising an initial or first, an intermediate in line with the initial or first and a final or last compartment or chamber at the side of the intermediate one, stop wall or partition between the initial or first and the intermediate compartments or chambers, a tilting platform for the

bottom of the initial or first and the intermediate compartments or chambers, and a lock and release for the tilting platform actuated by manipulating the puzzle as a whole, substantially as described.

3. The combination, in a puzzle, of a main shell or casing, a longitudinal partition or wall, a series of compartments or chambers in the upper portion of the shell or casing and comprising an initial or first, an intermediate and a final or last compartment or chamber, a stop wall or partition between the initial and the intermediate compartments or chambers, a tilting platform for the bottom of the initial and intermediate compartments or chambers pivotally mounted in a side wall of the shell or casing and the longitudinal wall or partition, and a lock and release for the tilting platform actuated by manipulating the puzzle as a whole, substantially as described.

4. The combination, in a puzzle, of a main shell or casing, a longitudinal partition or wall, a series of compartments or chambers in the upper portion of the shell or casing and comprising an initial or first, an intermediate and a final or last compartment or chamber, a stop wall or partition between the initial and the intermediate compartments or chambers, a tilting platform for the bottom of the initial and the intermediate compartments or chambers, a table or support at one end of the tilting platform, a locking and releasing ball normally carried by the table or support, and a receptacle for the ball in its released position, substantially as described.

5. The combination, in a puzzle, of a main shell or casing, a longitudinal partition or wall, a series of compartments or chambers in the upper portion of the shell or casing and comprising an initial or first, an intermediate and a final or last compartment or chamber, a stop wall or partition between the initial and the intermediate compartments or chambers, a tilting platform for the bottom of the initial and the intermediate compartments or chambers, a table or support at one end of the tilting platform, a locking and releasing ball normally carried by the table or support, a chamber in which the ball can travel, and a receptacle for the ball in its released position, substantially as described.

6. The combination, in a puzzle, of a main shell or casing, a longitudinal partition or wall, a series of compartments or chambers in the upper portion of the shell or casing and comprising an initial or first, an intermediate and a final or last compartment or chamber, a stop wall or partition between the initial and the intermediate compartments or chambers, a tilting platform for the bottom of the initial and the intermediate compartments or chambers, a table or support at one end of the tilting platform, a locking and releasing ball normally carried by the table or support, a chamber in which the ball can travel, a guard or retaining-plate holding the

ball on the table or support until released, and a receptacle for the ball in its released position, substantially as described.

7. The combination, in a puzzle, of a main
 5 shell or casing, a longitudinal partition or wall, a series of compartments or chambers in the upper portion of the shell or casing and comprising an initial or first, an intermediate and a final or last compartment or chamber,
 10 a stop wall or partition between the initial and the intermediate compartments or chambers, a tilting platform for the bottom of the initial and the intermediate compartments or chambers, a table or support at one end of
 15 the tilting platform, a locking and releasing ball normally carried by the table or support, a chamber in which the ball can travel, a guard or retaining plate holding the ball on the table or support until released, a recep-
 20 tacle for the ball in its released position, an opening in the partition, and a flap or cover on the tilting platform for escaping the ball from the end of the tilting platform, substan-
 25 tially as described.
8. The combination in a puzzle, of a main
 25 shell or casing, a longitudinal partition or wall, a series of compartments or chambers in the upper portion of the shell or casing and comprising an initial or first, an intermediate
 30 and a final or last compartment or chamber, a stop wall or partition between the initial and the intermediate compartments or chambers, a tilting platform for the bottom of the initial and the intermediate compartments or
 35 chambers, a table or support at one end of the tilting platform, a locking and releasing ball normally carried by the table or support, a chamber in which the ball can travel, a guard or retaining plate holding the ball on
 40 the table or support until released, a receptacle for the ball in its released position, an opening in the longitudinal partition, a chamber and return-passage with which the open-
 45 tilting platform normally closing the opening

against the ball to be trapped, substantially as described.

9. The combination, in a puzzle, of a trap-
 ping compartment or chamber, a ball to be trapped, a tilting platform controlling the
 50 passage of the ball to be trapped, and a locking and releasing ball controlling the position of the tilting platform, substantially as described.

10. The combination, in a puzzle, of a trap-
 55 ping compartment or chamber, a ball to be trapped, a tilting platform controlling the passage of the ball to be trapped, a locking and releasing ball controlling the position of the tilting platform, a return-passage for the
 60 ball to be trapped, and a runway for the locking and releasing ball, substantially as described.

11. The combination, in a puzzle, of a series
 65 of connected ball-trapping compartments or chambers, a ball to be trapped, a tilting platform for two of the compartments or chambers controlling the passage of the ball between said compartments or chambers, a lock-
 70 ing and releasing ball controlling the position of the tilting platform, a return-passage for the ball to be trapped, and a runway for the locking and releasing ball, substantially as described.

12. The combination, in a puzzle, of a series
 75 of ball-trapping compartments or chambers, a ball to be trapped, a stop between two of the compartments, a tilting platform controlling the passage of the ball to be trapped past the stop between the two chambers, a locking
 80 and releasing ball controlling the position of the tilting platform, a return-passage for the ball to be trapped, and a runway for the locking and releasing ball, substantially as described.

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Witnesses:

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