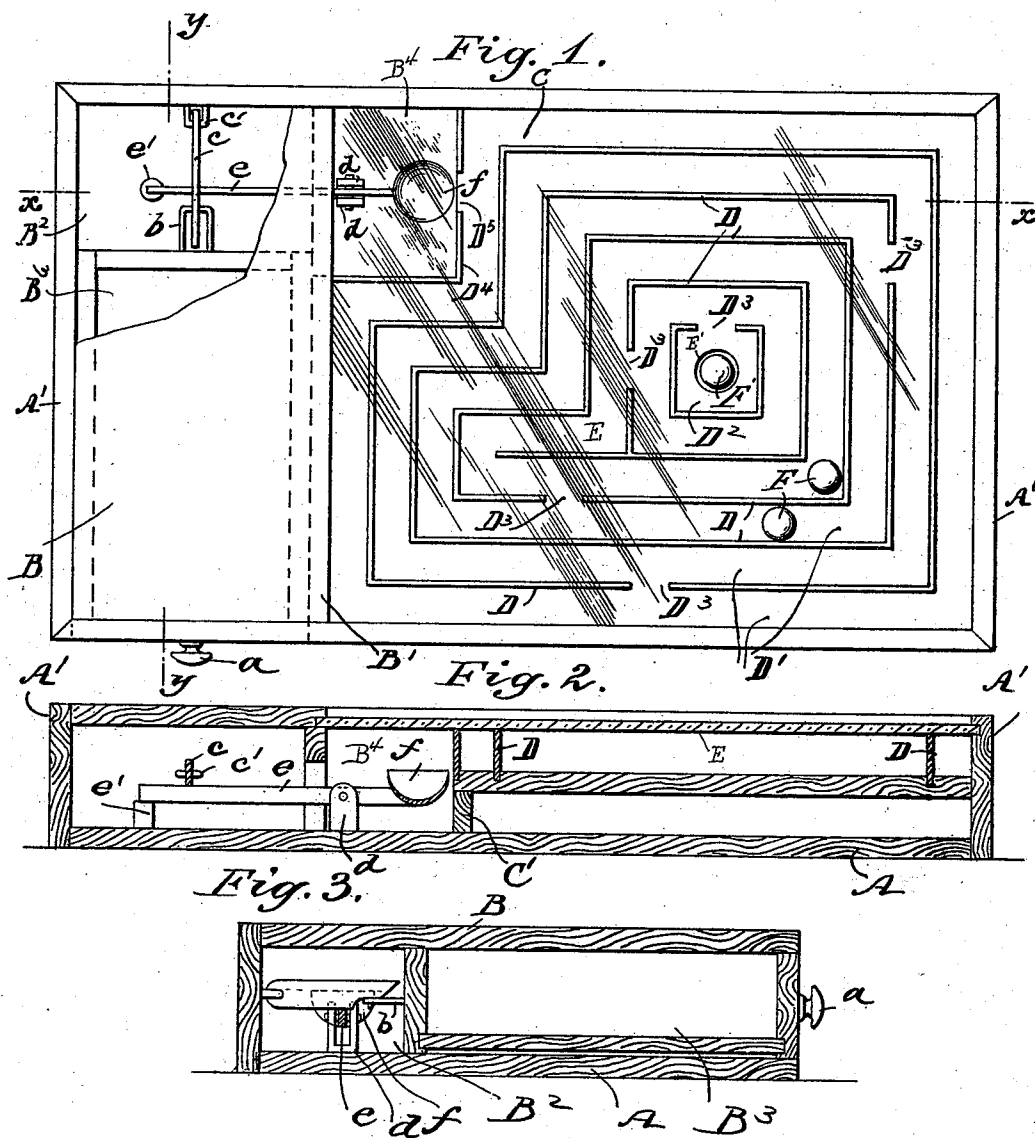


(No Model.)

A. F. SUTHERLAND.
PUZZLE.

No. 534,769.

Patented Feb. 26, 1895.



WITNESSES:
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PUZZLE.

SPECIFICATION forming part of Letters Patent No. 534,769, dated February 26, 1895.

Application filed November 21, 1894. Serial No. 529,451. (No model.)

To all whom it may concern:

Be it known that I, ANDREW FRASER SUTHERLAND, a subject of the Queen of Great Britain, and a resident of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Puzzles, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which
10 similar letters of reference indicate corresponding parts in all the figures.

This invention relates to puzzles and has for its object to provide a device which will comprise a secret drawer in which a prize is
15 placed which said drawer will be normally locked and unlocked by the completion or solution of the puzzle; a further object of the invention being to provide such a device as will comprise a plurality of rolling balls of which
20 but one, on reaching the terminal of the puzzle, will unlock the drawer, thereby rendering the solution thereof more difficult.

The invention consists in the novel construction and arrangement of parts herein-
25 after fully described.

In the accompanying drawings: Figure 1 is a plan view, partially broken away, of a device embodying my invention. Fig. 2 is a longitudinal vertical section of the same taken
30 on the line $x-x$, Fig. 1. Fig. 3 is a transverse section taken upon the line $y-y$, Fig. 1.

In the practice of my invention, I construct a base A, having upwardly projecting sides A', and closed at one end throughout about a
35 quarter of its length by a transversely ranging wooden or other opaque cover B, immediately beneath the inner end of which is an aligning partition B' to form a recess or chamber B². Sliding in this recess B² is a drawer
40 B³ provided with a knob a , and not extending wholly to the rear of the box, and having secured upon the inner end thereof a staple b , with which engages a tapered or beveled gravity hook or latch c , pivotally secured upon
45 a loop or eye c' in the rear of the box, and normally resting in said staple to maintain the drawer locked within the recess B².

At the rear of the device adjacent to the recess B² is a smaller recess B⁴, in which I mount
50 bearings d having a lever e pivoted therein, projecting beneath and secured to the gravity hook c and resting upon a lug or shoulder e'

beneath the same. The opposite end of the lever e projects but slightly from the bearings d or fulcrum point, in order to be normally
55 raised by the weight of the opposite end and the hook c . Upon said end of the lever is mounted a semi-spherical cup f .

Extending from the partition B' to the opposite end of the box and cut out or apertured
60 in alignment with the minor recess B⁴ is an elevated bottom C, supported above the level of the cup f upon a rib or flange C' secured to the base A.

Upon the elevated bottom C, I secure a plu-
65 rality of upraised partitions D, approximately rectangular in form and concentric with respect to, and wholly isolated from, each other, to form a plurality of correspondingly shaped grooves or passages D', and a central recess
70 D² which communicate with each other by means of single openings D³, which I form in the partitions at opposite sides. Bordering the recess B⁴ I secure a partition or guard D⁴, in which is formed an opening D⁵ immedi-
75 ately in front of the cup f . Resting upon these partitions between the recess B² and the opposite edge of the box, is a glass cover E, having an opening E' at the center thereof, through which are inserted in the box a plu-
80 rality of spherical bodies or balls F, F', of which I have illustrated three in all, the ball F' being of the usual material, to be sufficiently heavy to depress the lever e when placed in the cup f , and the remaining balls
85 being of some lighter material, as rubber or hollow celluloid, in order not to appreciably affect such lever, all of said balls being similarly shaped and colored.

The operation of the device will be read-
90 ily apparent from the foregoing description, taken in connection with the accompanying drawings. The ball being inserted through the opening F' into the central recess D² the puzzle is manipulated to cause one of the balls
95 to leave said recess and pass from one passage to the other through the openings D' until the outermost passage is reached, the ball then being rolled through the opening
100 D⁵ in the guard D⁴, into the cup f , the remaining balls being meanwhile by manipulation retained in the central recess D².

Should the player have selected the heavy ball F', which of course is not distinguishable

from the others, said ball will weigh down the cup *f*, and raise the opposite end of the lever *e*, thereby lifting the gravity hook *c* and releasing the drawer *C*, which may then be withdrawn and the contents thereof, which may be any suitable prize, appropriated. The ball is then dislodged from the cup *f*, and rolled into the main recess *B*² and the drawer being withdrawn, said ball may be removed and re-inserted into the central recess *D*³ through the opening *E'* in the glass top *E*.

Should the player unconsciously have selected one of the lighter balls *F*, the lever will not be actuated by its entrance into the cup *f*, and said ball is then dislodged from the cup and left in the recess *B*⁴, while the next player makes the attempt.

After the opening of the drawer, a second prize is placed therein and the said drawer re-inserted, being automatically locked by the gravity latch *c*.

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

1. A puzzle comprising a box having partitions thereon to form passages, one or more balls adapted to roll therein, a drawer in said box, a catch normally locking the said drawer, and means whereby the ball may be caused to raise said catch, substantially as shown and described.

2. A puzzle comprising a box, a plurality of partitions thereon to form passages, a concealed drawer in said box, a gravity catch normally locking the same, a lever connecting to said catch, a cup upon one end thereof, and one or more balls adapted to roll in said passages and to enter said cup and open the drawer, substantially as shown and described.

3. A puzzle comprising a box, having a plurality of partitions thereon to form passages,

a concealed drawer in said box, a gravity catch normally locking the same, a plurality of balls rolling in the passages, of which but one is weighted and the others of light material, and means whereby the weighted ball may be caused to lift the catch and open the drawer, substantially as shown and described.

4. A puzzle comprising a box having a transverse partition thereon to form a chamber in which is inserted a drawer, a cover on the end of the box to conceal the same, a staple upon the rear of the drawer, a beveled gravity catch pivoted in the box and normally engaging said staple to lock said drawer, a lever pivoted adjacent to the chamber and secured to the catch, and having a short inner end on which is mounted a semi-spherical cup, an elevated bottom above the level of said cup, having a plurality of approximately concentric and rectangular partitions to form a series of passages, said partitions having openings therein, a guard partition bordering the bottom adjacent to the cup and having an opening therein in alignment therewith, a weighted ball adapted to traverse the passage and enter said cup to depress the same, elevate the catch, and unlock the drawer, a plurality of balls of light material to be incapable of unlocking the same, and a glass cover upon the box above the elevated bottom, having an opening therein for the entrance of the balls, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 19th day of November, 1894.

ANDREW FRASER SUTHERLAND.

Witnesses:

PERCY T. GRIFFITH,
L. MULLER.