(No Model.)

A. D. KIMBALL.

PUZZLE BOX

No. 467,816. Patented Jan. 26, 1892.

Fig. 1.

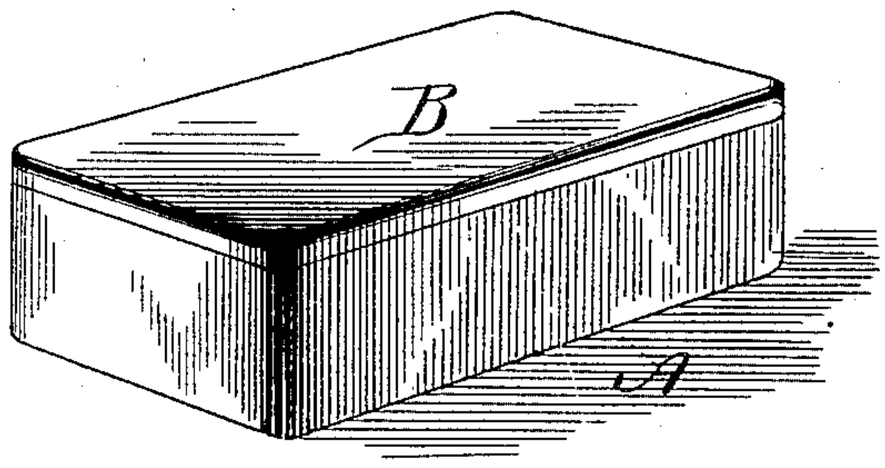


Fig. 2.

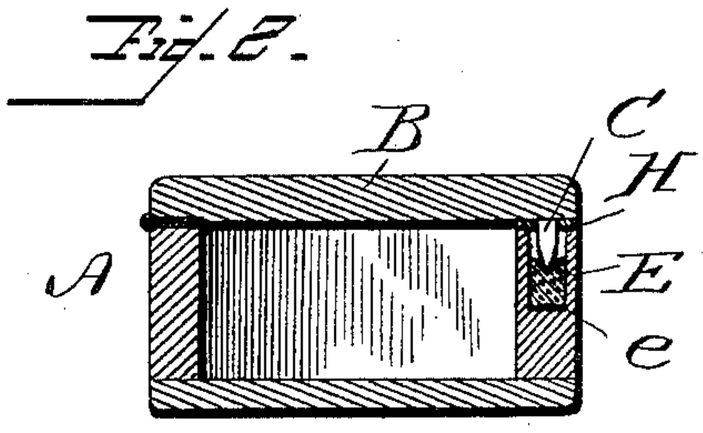


Fig. 3.

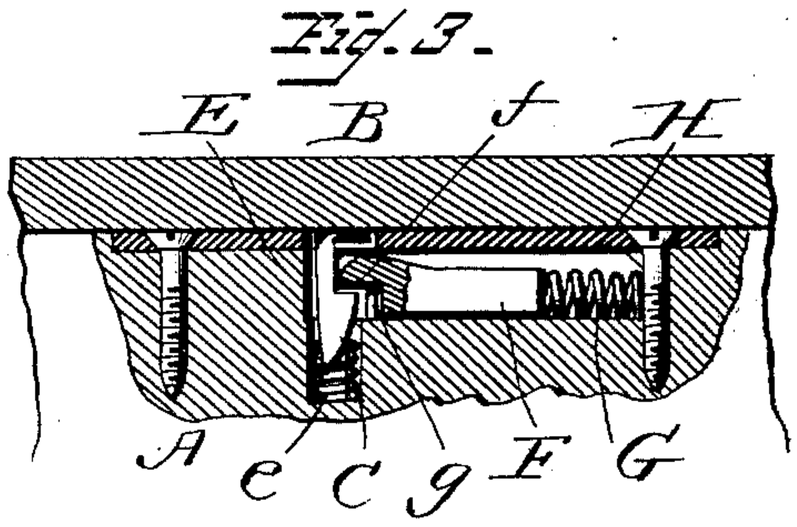
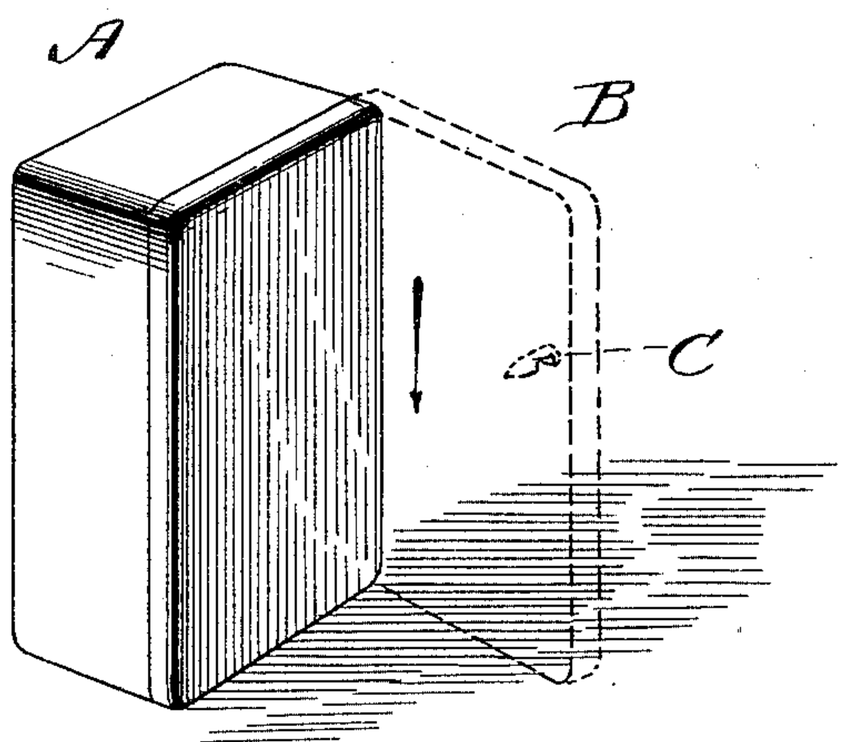


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

ARDEN D. KIMBALL, OF CHICAGO, ILLINOIS.

PUZZLE-BOX.

SPECIFICATION forming part of Letters Patent No. 467,816, dated January 26, 1892.

Application filed July 23, 1891. Serial No. 400,418. (No model.)

To all whom it may concern:

Be it known that I, ARDEN D. KIMBALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Puzzle-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a puzzle-box, the object being to secure the cover against being opened by the ordinary means and appliances, no visible means being provided.

The improvement consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a perspective view of a box embodying my invention, the cover being closed. Fig. 2 is a cross-section of the box taken on a line corresponding with the position of the keeper. Fig. 3 is a section on the line *x x* of Fig. 2, showing the details of the locking mechanism. Fig. 4 is a detail view showing the manner of opening the box.

The box A is of ordinary construction and is provided with cover B, which is hinged thereto and which is fastened by locking mechanism hereinafter more particularly described. The keeper C, secured to the cover, is notched in one side and the end below the notch is beveled off on the front and two sides. The opening E in a side of the box for the keeper to enter is provided with a spring or rubber *e*, which is compressed by the keeper when the cover is closed and which, when the keeper is released, springs open the cover. The lock-bolt F, located to one side of opening E, is weighty for the purpose hereinafter described and is provided at its front end with the projection *f*, which is designed to enter the notch in the side of the keeper and lock the cover. The projection is beveled to correspond with the beveled end of the keeper and form a guide to give proper direction to the said keeper when entering the opening E. The spring G in the rear of bolt F is just strong enough to hold the said bolt in engagement with the keeper under normal conditions; but which will yield under the weight of the bolt when the box is struck a blow on the end to release the keeper, when the spring *e* will open the box by pressing upon the keeper. The stop or pin *g* limits the forward movement of the bolt F.

To lock the box the cover is shut against the tension of a spring, as *e*, and the bolt F engages with the keeper C. To unlock the box the latter is turned to bring the lock-bolt F into an approximately vertical position and in a lower plane than the keeper C. The box is struck a smart blow on a table or other convenient place which jars the bolt F sufficiently to disengage it from the keeper when the said spring will open the cover. Obviously the bolt F must be of sufficient mass to acquire a momentum when the box is struck to release the keeper and overcome the tension or force of the spring G.

The parts *e*, F, and G may be inclosed in a suitable case which may be secured to the box in any well-known manner; but for simplicity of construction they are located in a mortise cut in the box, the mortise being covered by the plate H.

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

1. The combination, with a box, of a keeper, a weighted lock-bolt, a spring to hold the bolt in an operative position, and a spring to open the cover when the box is given a jar sufficient to disengage the bolt from the keeper, substantially as described.

2. The combination, with a box, and a keeper notched in its side and beveled on the front and two sides below the notch, substantially as shown, of a lock-bolt having a projection which is beveled to correspond with the beveled end of the keeper, a stop to limit the forward motion of the bolt, a spring to retain the bolt in an operative position, and a spring to open the box when the lock-bolt is released when jarred in the proper direction, substantially as described.

3. The combination, with a box, of a keeper, a spring located in the keeper-opening, and a

bolt to engage with the keeper and adapted to be released when the box is properly jarred, substantially as described.

4. The combination of the box, the keeper C, the spring *e* to press up on the keeper, the bolt F, having projection *f*, stop *g*, and spring G, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ARDEN D. KIMBALL.

Witnesses:
HUGH R. JONES,
WILLIAM H. DOOLEY.