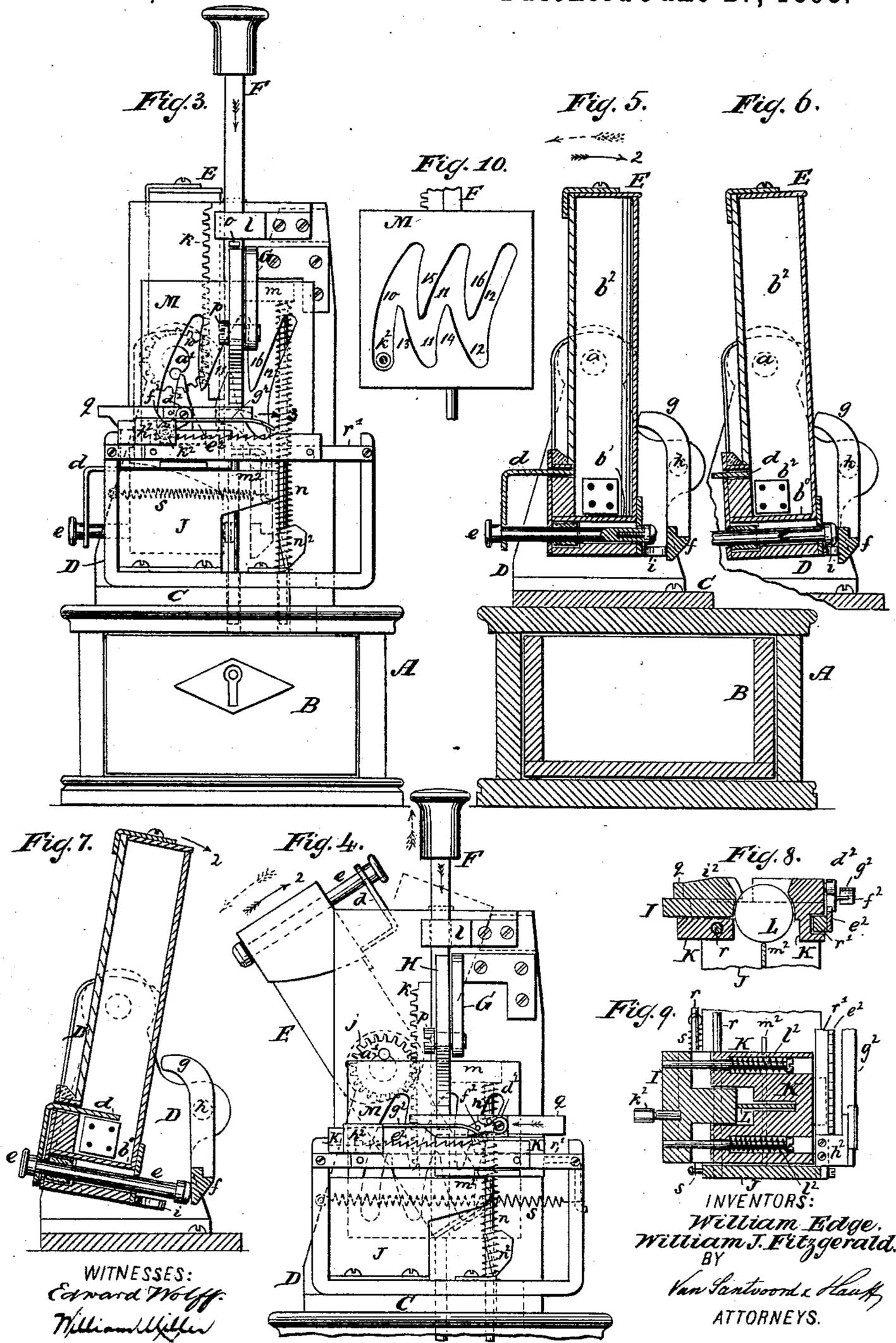




W. EDGE & W. J. FITZGERALD.  
GOIN CONTROLLED DICE BOX.

No. 500,478.

Patented June 27, 1893.



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# UNITED STATES PATENT OFFICE.

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## COIN-CONTROLLED DICE-BOX.

SPECIFICATION forming part of Letters Patent No. 500,478, dated June 27, 1893.

Application filed October 15, 1892. Serial No. 448,995. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM EDGE, residing at Orange, in the county of Essex and State of New Jersey, and WILLIAM J. FITZGERALD, residing at Brooklyn, in the county of Kings and State of New York, citizens of the United States, have invented new and useful Improvements in Coin-Controlled Dice-Boxes, of which the following is a specification.

This invention relates to novel means for throwing dice as pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents a front elevation. Fig. 2 is a horizontal section in the plane  $x x$  Fig. 1. Fig. 3 is an end view looking in the direction of arrow 1 Fig. 1 when the apparatus is in its normal position of rest. Fig. 4 is a similar view showing the parts in a position which they occupy after the plunger has been depressed three times in succession. Fig. 5 is a transverse vertical section in the plane  $y y$  Fig. 2. Fig. 6 is a similar view showing the parts in a different position. Fig. 7 is a similar view showing the parts in another different position. Fig. 8 is a partial horizontal section in the plane  $u u$  Fig. 1. Fig. 9 is a partial vertical section in the plane  $z z$  Fig. 2. Fig. 10 is a detached face view of the cam plate.

In the drawings the letter A designates a box which contains a drawer B. These parts may be made of wood or any other suitable material.

On the box A is firmly secured the base plate C of our game apparatus and from this base plate rise two standards D D' which form the bearings for gudgeons  $a a'$  which extend from the ends of the dice box E. This dice box is constructed with a series of compartments  $b, b', b^2, b^3, b^4$  each of which is intended to contain one of the dice and the front plate  $c$  is transparent so that the dice can be inspected and the number of points contained on the upper face of each die can be counted.

Each of the compartments of the dice box is provided with a slide  $d$  secured to a rod  $e$  which extends transversely through the dice box beneath the bottom plate  $b^0$  of the compartments  $b, b', b^2, b^3, b^4$  (see Figs. 5, 6, and 7).

When the rod is pushed in from the position

shown in Fig. 5 to that shown in Fig. 7, the slide  $d$  covers the die in the respective compartment and the dice box E can be swung on its gudgeons in the direction of arrow 2 and returned to its original position while the die is retained in position by the slide  $d$ , but, when the rod  $e$  is pushed in to the position shown in Fig. 7 its rear end strikes a bar  $f$  which connects two levers  $g g$  which have their fulcrums on gudgeons  $h h$  extending through holes in the standards D D' (see Fig. 2 and also Fig. 1). A spring  $i$  which is secured to the back of the dice box also acts on the bar  $f$  as will be presently explained.

By swinging the dice box on its gudgeons in the direction of arrow 2 from the position shown in Fig. 7 to that shown in Fig. 4 and then swinging it back to the position shown in Fig. 5 the dice which are not covered by one of the slides  $d$  are free to roll in their compartments so that when the dice box has reassumed its normal position (Fig. 5), the numbers of points shown on the upper faces of said dice may be changed, while the dice covered by slides do not change their positions. But when the dice box is swung back in the direction opposite arrow 2 from the position shown in Fig. 4 to that shown in Fig. 6, the inner end of the rod  $e$  strikes the bar  $f$ , the upper ends of the levers  $g g$  are thrown against the back of the dice box, the spring  $i$  is compressed, the slide  $d$  is pushed back to uncover the face of its die and finally the spring  $i$  causes the dice box to move from the position shown in Fig. 6 to that shown in Fig. 5. If the player after having made a throw desires to retain one or more dice in position, he can do so by pushing in the respective slides and after the next throw the die or dice thus retained are uncovered so as to enable the player to count the points on all the dice.

In order to enable each player to impart to the dice box the required motion we have provided the following mechanism: On the gudgeon  $a'$  which extends through the standard D' is firmly mounted a pinion  $j$  which meshes into a rack bar  $k$  formed on the shank of a plunger F which is guided above in a bracket  $l$  secured to the standard D' while its lowest end extends through a hole in the bottom

flange of said standard and in the base plate C. From the shank of the plunger F extends an arm  $m$  (shown in dotted lines in Figs. 3 and 4) which is exposed to the action of a spring  $n$  so that when the plunger is pushed down, this spring is compressed and when the plunger is released, it is carried back to its normal position (Figs. 1 and 3) by the action of the spring  $n$ . The upward movement of the plunger is limited by the action of a stop  $o$  against the bracket  $l$  (Figs. 1 and 3).

On the standard  $D'$  is firmly secured a bracket  $G$  to which is secured a double armed lever  $H$  by a pivot  $p$  and this lever is adjusted so that when the same is left to follow its own gravity, its upper end will drop inward beneath the stop  $o$  of the plunger F and the plunger cannot be depressed until the lower end of said lever  $H$  is forced inward so that its upper end will clear the stop  $o$ . This lower end bears against a rail  $q$  secured to a spring actuated slide I (Figs. 1, 2, 8 and 9) which is fitted into a carriage K that is mounted on rails  $r$   $r'$  in the upper part of a standard J and subjected to the action of spring  $s$  which has a tendency to retain the carriage in its initial or normal position (shown in Figs. 1 and 3).

On the carriage K is firmly secured a block  $t$  which carries a pawl  $d^2$  adapted to engage a rack bar  $e^2$  which is secured to the rail  $r'$ , and from said pawl extends a pin  $f^2$  which when the carriage is moved from its initial position in the direction of arrow 3 (Figs. 2 and 3) passes beneath a spring  $g^2$  which is secured to a bracket  $h^2$  fastened to the carriage and which extends in the direction of the rack bar  $e^2$  (Figs. 3, 4 and 9). The rear end of this spring is bent downward and when the carriage has reached the position shown in Fig. 4, the end of the spring  $g^2$  passes beneath the pin  $f^2$  of the pawl  $d^2$  so as to prevent the pawl from engaging the teeth of the rack bar  $e^2$  leaving the carriage free to follow the action of its retracting spring  $s$ .

From the rail  $q$  of the slide I extends a block  $i^2$  in line with the block  $t$  of the carriage K (see Figs. 2 and 8) and if a wedge or disk L such for instance as a penny is forced down between the blocks  $t$  and  $i^2$ , the slide I is forced inward to the position shown in Figs. 1, 2, and 9, so that a stud  $k^2$  which extends from the slide I is thrown in engagement with a cam plate M which is secured to the plunger F and moves up and down with the same. At the same time the rail  $q$  throws the lever H out of engagement with the stop  $o$ .

A detached face view of the cam plate M is shown in Fig. 10. It contains a cam slot composed of three curved slots 10, 11 and 12, two upwardly extending spurs 13 and 14 and two downwardly extending spurs 15 and 16. If the plunger F is depressed, the carriage K is moved in the direction of arrow 3 against the action of its spring  $s$  by the action of the curved slot 10 on the stud  $k^2$  and if the plunger is released and permitted to rise up, the

stud  $k^2$  follows the edges of the spurs 15 and 13 to the bottom end of the curved slot 11, the carriage K being prevented from following the action of its spring  $s$  by the rack bar  $e^2$  and pawl  $d^2$ . In the same manner when the plunger is depressed for the second time, the curved slot 11 acts upon the stud  $k^2$  and when the plunger is released, the stud  $k^2$  becomes located in the bottom end of the curved slot 12. If the plunger is depressed for the third time, the curved slot 12 acts upon the stud  $k^2$  and the carriage K is moved in the direction of arrow 3 (Fig. 3) to such a position that the pawl  $d^2$  passes the toothed portion of the rack bar  $e^2$  and at the moment when the upper end of the curved slot 12 strikes the stud  $k^2$ , the disk L drops down so that the slide I is free to follow the action of its retracting springs and the carriage K returns to the initial position.

In order to release the disk L automatically after the plunger F has been depressed three times in succession, the standard J is provided with a fin  $m^2$  which terminates over a chute  $n^2$  leading down into the drawer B. When the disk L is forced down between the blocks  $t$  and  $i^2$  (Fig. 8) it strikes the fin  $m^2$  and as the carriage K is moved in the direction of arrow 3 by the action of the cam plate M on the stud  $k^2$ , the disk L rides upon the fin  $m^2$  but as soon as it reaches the end of this fin, it drops down into the drawer B, the stud  $k^2$  is thrown out of engagement with the cam plate M and the carriage K is free to follow its retracting spring  $s$ . At the same time the lever H drops back in engagement with the stop  $o$  so that the plunger is locked.

In the example shown in the drawings the cam plate M, the carriage K and the parts which control the engagement of this carriage with the cam plate are so constructed, that each player has three throws in succession but it is obvious that these parts can be readily changed so as to give each player two or more throws in succession.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a suitable support, of a rotatable dice box provided with gudgeons mounted on said support for the purpose of bodily rotating the dice box, a plunger geared with the dice box for rotating the latter, and a spring which operates on the plunger for returning it and the dice box to their normal positions after the plunger has been depressed, substantially as described.

2. A dice box provided with a series of compartments, one for each die and with a series of dice retaining slides one for each compartment, substantially as described.

3. The combination with a dice box hung on gudgeons and having compartments one for each die, of dice retaining slides one for each compartment and mechanism substantially as described for returning the slides automatically to their normal positions after each throw.

4. The combination with a dice box hung  
on gudgeons and with the plunger which is  
geared with the dice box of the stop *o*, on the  
plunger the gravitating lever *H*, the cam plate  
5 *M* secured to the plunger, the spring actuated  
carriage *K*, the spring actuated slide *I*, the  
rail *q* secured to this slide and constructed to  
act on the lever *H*, the stud *k*<sup>2</sup> extending from  
the slide *I* and adapted to engage the cam  
10 plate *M*, the block *t* secured to the carriage

*K*, the block *v*<sup>2</sup> secured to the slide *I* and the  
fin or support *m*<sup>2</sup>, substantially as described.

In testimony whereof we have hereunto set  
our hands in the presence of two subscribing  
witnesses.

WILLIAM EDGE.

WILLIAM J. FITZGERALD.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.