(No Model.) 2 Sheets—Sheet 1.

I. J. TURNER.

DICE SHAKER.

No. 434,613. Patented Aug. 19, 1890.

Fig. 1.

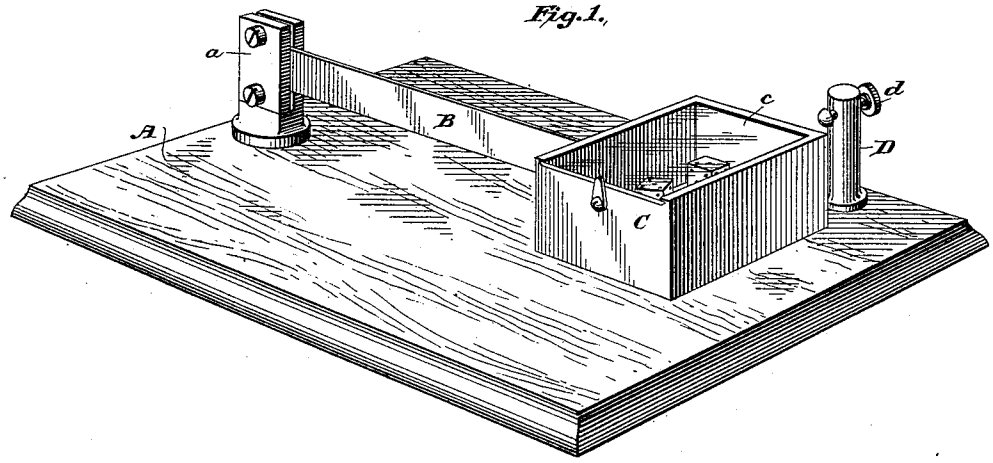


Fig. 2.

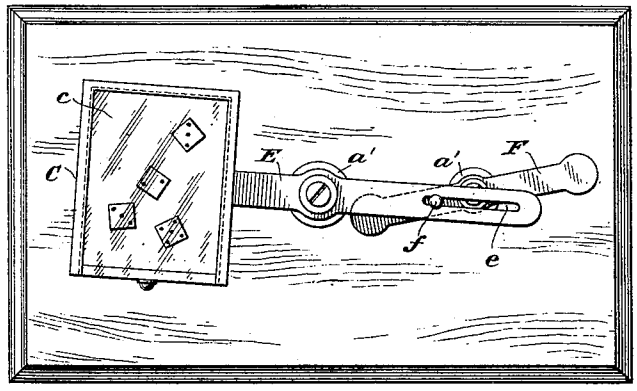
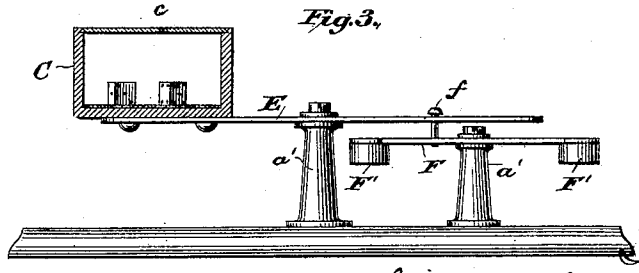


Fig. 3.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

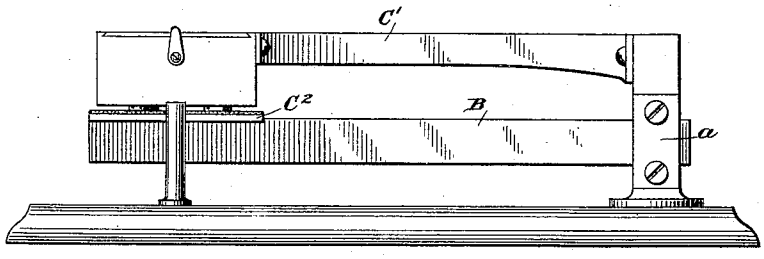
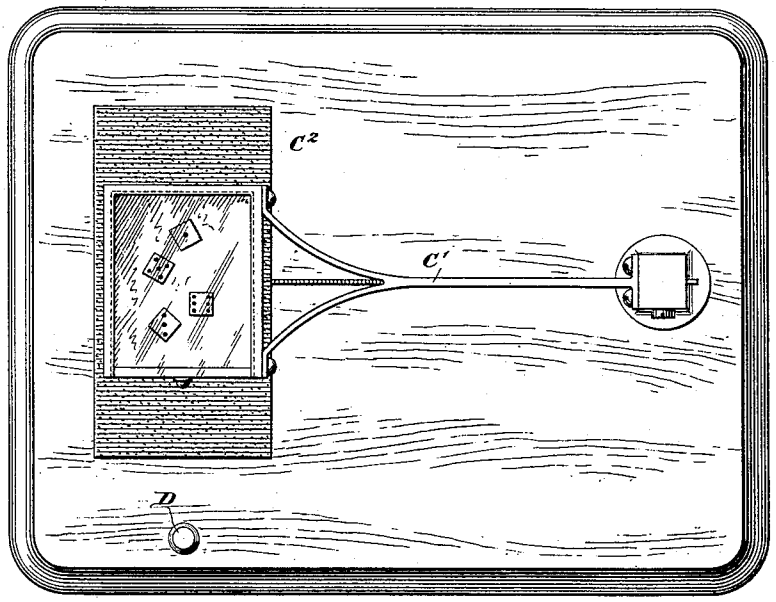


Fig. 5.



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UNITED STATES PATENT OFFICE.

ISAAC J. TURNER, OF PRINCETON, NEW JERSEY.

DICE-SHAKER.

SPECIFICATION forming part of Letters Patent No. 434,613, dated August 19, 1890.

Application filed April 30, 1890. Serial No. 350,061. (No model.)

To all whom it may concern:

Be it known that I, ISAAC J. TURNER, a subject of the Queen of Great Britain, residing at Princeton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Dice-Shakers, of which the following is a specification.

The object of my invention is to provide a convenient and simple device for shaking dice, in which the dice are not removed from their receptacle, but are viewed through a glass that closes it.

The invention comprehends a dice box or receptacle in which the dice are shaken or disturbed by a vibratory motion.

In one form of the device the dice-box having a top closed by a glass cover is mounted upon a horizontally-vibrating spring-arm mounted in a post on the base of the apparatus. When the box is turned to one side and released, the resilience of the spring thoroughly agitates the dice contained therein. This is the construction I prefer, as it is simple and effective. The box proper may, however, be stationary and a large plate closing its bottom and upon which the dice rests be vibrated horizontally, or instead of using a spring-arm supporting either the box or the bottom plate, as last described, I may provide an arrangement in which the momentum of weights is employed to effect the proper movement of the box and disturbance of the dice.

In the accompanying drawings, Figure 1 is a perspective view of one form of the apparatus; Fig. 2, a plan, and Fig. 3 an elevation, partly in section, of another form; and Fig. 4, a side elevation, and Fig. 5 a plan for another form.

In Fig. 1, A is the base of the instrument. It may be of cast-iron or of any suitable material. In a post *a* on the base the horizontally-vibrating spring-arm B is mounted. On the end of this arm is the dice-box C, having a glass cover *c*. I preferably line the bottom of the box with felt *c'*, Fig. 3, or other rough material that will take hold of the dice and turn them over thoroughly, as I find that when the bottom of the box is perfectly smooth there is a tendency for the dice to slip thereon without turning.

In order to insure perfect fairness and uniformity of swing of the dice-box, I provide at one side of the base a stop D, which forms a limit to which the box may be pressed to one side. This stop may be provided with an adjustable stop-screw *d*, as is plain from the drawings.

In Figs. 4 and 5 the box C may be held stationary by a bracket C' projecting from the post *a*. The top of the box is of glass, and the bottom is formed by a plate C of considerably larger area than the bottom of the box and carried by a spring B. When this plate is vibrated back and forth by the spring, it acts upon the dice to disturb and roll them over.

In Figs. 2 and 3 I have shown a somewhat different arrangement. The base A has upon it two posts *a' a'*. On one of these posts is pivoted a horizontally-vibrating arm E, one end of which carries the dice-box C, and the other end is slotted, as at *e*. In this slot works a pin *f* on the horizontally-rotating arm F, pivoted on the other post *a'*. A weight F' is preferably placed on each end of the arm F. When an impulse of rotation is imparted to the arm F, the dice-box is of course vibrated and the dice shaken.

So far as I am aware, I am the first to mount a dice-box upon a vibratory arm, so that the dice will be thoroughly agitated and viewed without removal from the box.

I claim as my invention—

1. The combination, substantially as set forth, of a dice-box, through the top of which the contained dice may be seen, and a horizontally-vibratable arm that carries the dice-box.

2. The combination, substantially as set forth, of a horizontally-vibratable arm, the dice-box carried thereby, and a lining of felt or like rough material on the bottom of the box.

3. The combination, substantially as set forth, of a vibratable spring-arm and the dice-box carried thereby and with which it vibrates.

4. The combination, substantially as set forth, of the post or support, the horizontally-vibratable surface upon which the dice lie, and the inclosing-box in which the dice are contained.

5. The combination, substantially as set forth, of the dice-box having a glass cover, through which the dice may be viewed, and a vibratory arm, to which the box is secured and with which it vibrates.

In testimony whereof I have hereunto subscribed my name.

ISAAC J. TURNER.

Witnesses:
EDWARD C. DAVIDSON,
MAMIE J. KELLEY.