

A. HARRIS.

APPLIANCE FOR PLAYING GAMES OF CHANCE.

No. 455,100.

Patented June 30, 1891.

Fig 1

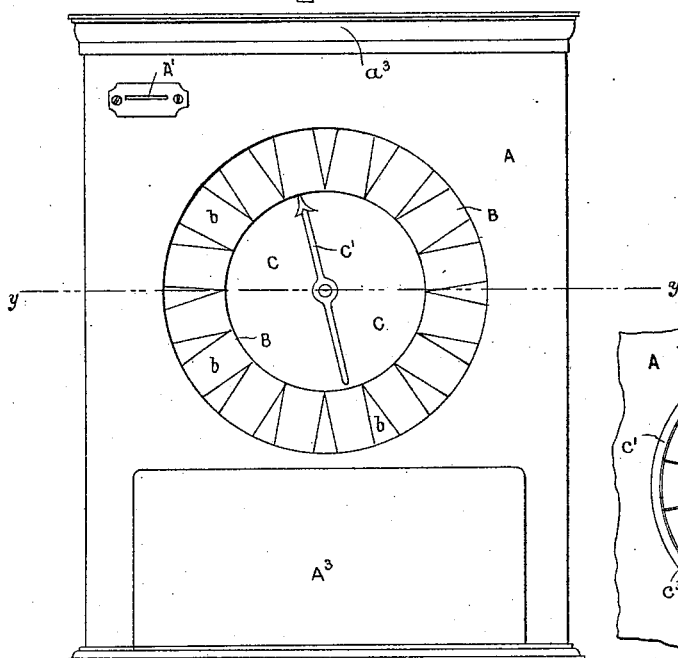


Fig 9

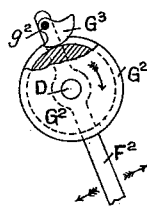


Fig 7

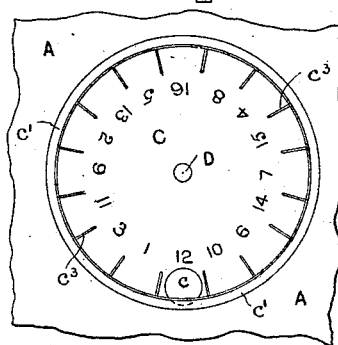


Fig 5

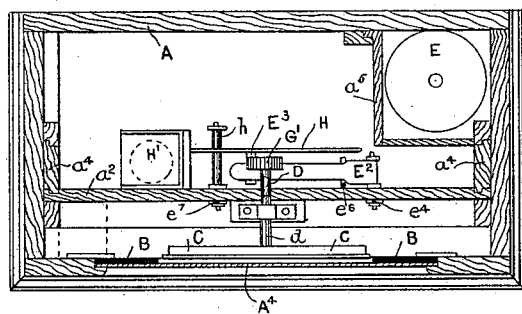
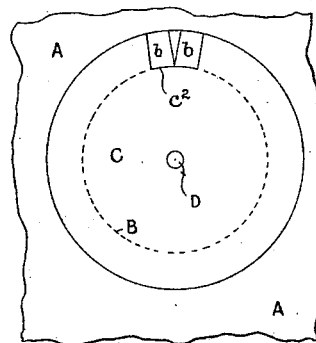


Fig 8



Witnesses

Henry Meiminger
J. Albert Schaefer

Inventor

Anthony Harris
By Clarence R. Rogers
Attorney

A. HARRIS.

APPLIANCE FOR PLAYING GAMES OF CHANCE.

No. 455,100.

Patented June 30, 1891.

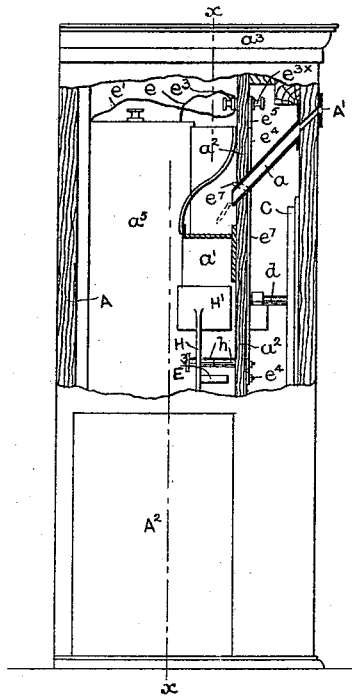


Fig 2

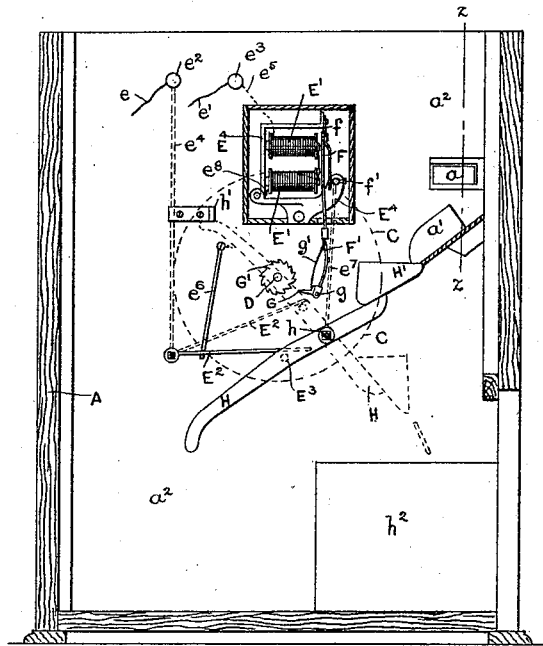


Fig 3

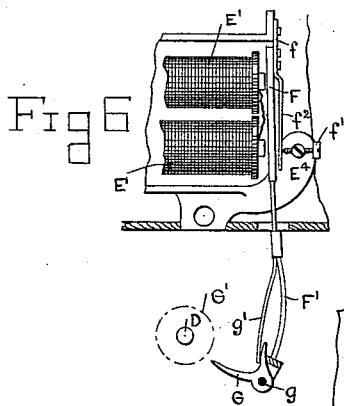


Fig 6

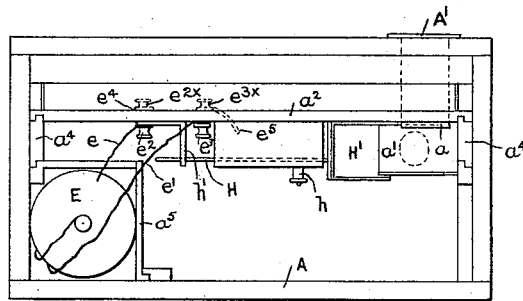


Fig 4

Witnesses
Henry Meisinger
J. Gilbert Palmer

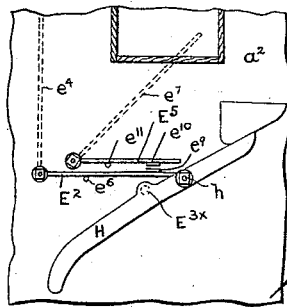


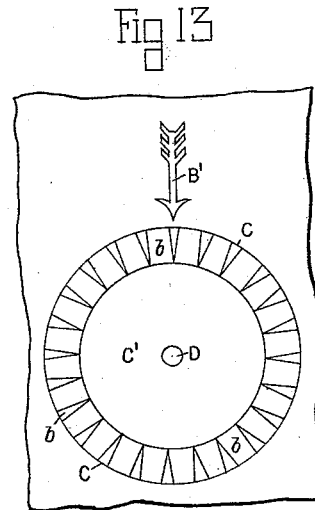
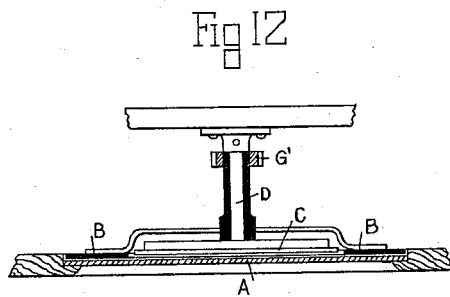
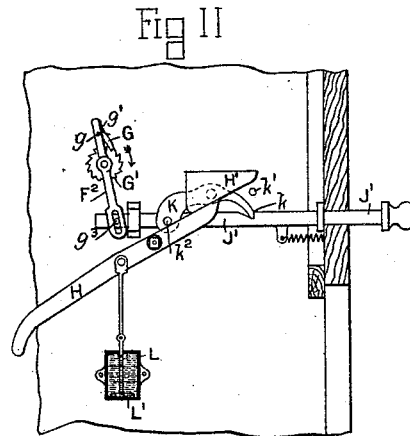
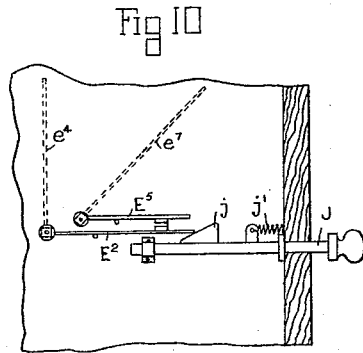
Fig 6A

Inventor
Anthony Harris
By *James R. [Signature]*
Attorney

3 Sheets—Sheet 3.

APPLIANCE FOR PLAYING GAMES OF CHANCE.

Patented June 30, 1891.



Witnesses
Henry Meininger
J. Culbert Palmer

Investor
Anthony Harris
By Clarence D. Brown
Associate Clerk

UNITED STATES PATENT OFFICE.

ANTHONY HARRIS, OF MIDDLESBROUGH, ENGLAND.

APPLIANCE FOR PLAYING GAMES OF CHANCE.

SPECIFICATION forming part of Letters Patent No. 455,100, dated June 30, 1891.

Application filed February 19, 1890. Serial No. 341,042. (No model.) Patented in England July 18, 1889, No. 11,480.

To all whom it may concern:

Be it known that I, ANTHONY HARRIS, engineer, a subject of the Queen of Great Britain, residing at Middlesbrough, in the county of York, in the Kingdom of England, have invented certain new and useful Improvements in Appliances for Playing Games of Chance or other Like Purposes, (for which I have received Letters Patent in England, No. 11,480, of July 18, 1889,) of which the following is a specification.

This invention relates, mainly, to machines or appliances for playing games of chance or hazard, or for providing other amusements or pastimes, the object of the invention being to construct a simple machine or appliance of this kind which shall by preference be operated or rendered operative either wholly or partly through the agency of a specified coin or coins inserted by the user into a suitable orifice in the inclosing cabinet of the machine. The machine can, however, be so constructed as to be worked directly by the user without the intervention of a coin. Certain portions of the invention are also applicable to machines or apparatus for exhibiting information or other matter which may be of interest to the user.

In machines which are entirely automatic—that is, those in which the coin is the sole agency for operating the machine without any further assistance from the user—I prefer to employ electricity as the motive power and to bring it into play by the action of the coin. In machines which are intended to be only partly automatic I supplement the action of the coin by that of a push, pull, or turn handle, or a foot-board or other equivalent device which is located on the exterior of the machine and is adapted to be operated by the user after the introduction of the specified coin into the machine. Where the machine is required to be non-automatic, I substitute the action of the coin for that of one of the above devices, which is adapted to be operated by the user or an attendant on paying the latter a specified amount.

The invention is briefly as follows: A fixed piece or surface and a rotatable piece or surface are mounted in proximity to each other and together form the two members of an in-

dicating or exhibiting device. A ratchet or other wheel movable synchronously with the said rotatable member is adapted to be engaged by a vibratory slip-pawl in such a manner that it and the rotatable member have movement imparted to them in a constant direction. The mechanisms for vibrating the slip-pawl may vary considerably, such variations depending largely upon the manner in which the machine is to be worked, whether entirely automatically, partly so, or non-automatically.

The games which may be played and the amusements which may be provided by the machine are many and various, and a few only of them are mentioned hereinafter as examples.

In the drawings, Figure 1 is a front elevation of the machine as worked automatically and as applied to the game or pastime of fortune-telling. Fig. 2 is a side elevation partly in section, the section being taken on the line $z z$, Fig. 3. Fig. 3 is a vertical section on the line $x x$, Fig. 2, the top cover of the inclosing cabinet being removed. Fig. 4 is a plan of the machine as shown in Fig. 3. Fig. 5 is a section on line $y y$, Fig. 1. Fig. 6 is a detail view, on an enlarged scale, of a portion of the driving mechanism. Fig. 6^a shows in elevation a modification of the contact-making device seen in Fig. 3. Figs. 7 and 8 are front views on a slightly-reduced scale, showing two modifications hereinafter described. Figs. 9 to 13, inclusive, show further modifications hereinafter described, Figs. 9, 10, and 11 being elevations, partly in section, looking from the rear of the machine, Fig. 12, a sectional plan, and Fig. 13 a front view.

A is the inclosing cabinet of the machine.

A' is the coin-orifice.

A² is a door, whence the money may be withdrawn from time to time.

A³ is a plate adapted to bear the directions to the user or attendant, or other desired information.

B is a fixed annular dial-plate, forming the fixed member of the indicating or exhibiting device and located preferably behind a glazed window A⁴. In the case of a fortune-telling machine the dial-plate B is provided with a series of spaces or divisions b , in which

are marked mottoes, devices, or oracular words designed for the benefit or otherwise of the users.

C is a rotatable plate or disk having a pointing device C', marked or mounted thereon and forming the movable member of the indicating or exhibiting device. The said disk is placed concentrically to the annular dial-plate B and is carried by a rotatable spindle D, mounted in bearings d. The pointer C' may consist of any suitable device, such as a pointing angel, devil, witch, hermit, &c.; or the disk may be dispensed with, and a pointer of any suitable form may be fixed directly to the spindle D.

G' is a ratchet-wheel, which is movable synchronously with the pointer C', being in this case fixed upon the spindle D thereof. The ratchet-wheel G' is adapted to be engaged in one direction only by a pointed slip-pawl G, which is so mounted as to be capable of being vibrated bodily in a path, either straight or curved, lying approximately tangential to the periphery of the wheel. The slip-pawl G is so mounted upon its vibratory carrier F' that it rotates the wheel G' and pointer C' in a constant direction during its successive forward strokes, but slips over the teeth of the wheel without operating it during its return-strokes. To this end it may be spring-pivoted upon its carrier, as shown at g g', Figs. 3 and 6, so that it can move upon its pivot for a certain limited distance.

Instead of employing a toothed ratchet-wheel and pointed slip-pawl, as in Figs. 3 and 6, I may (especially when a comparatively slow movement is required in the pointer C') use a device such as that shown in Fig. 9. In this G² is a grooved friction-wheel and G³ a friction slip-pawl, which is pivoted at g² to its vibratory carrier F². The latter is shown mounted upon the wheel-axle D. The action of this pawl is similar to that described above.

When the machine is to be entirely automatic, I prefer to work it by the aid of electricity and to construct it as follows:

E is an electric cell or cells of any suitable description inclosed in a chamber within the cabinet A. The terminal wires e e' of the cell are connected to two insulated binding-screws e² e³, Figs. 3 and 4. These are connected to similar binding-screws e^{2x} and e^{3x} on the opposite side of the partition a², and the latter screws are connected, respectively, to wires e⁴ e⁵, which again are adapted to be connected, as hereinafter described, with the coils E' E' of a pair of electro-magnets forming part of an automatic electric make-and-break device—such, for instance, as is ordinarily employed in electric-bell mechanism. The connections and coin mechanism are so arranged that the circuit is completed and the armature F vibrated in the usual manner each time a specified coin is introduced into the machine.

The vibratory armature F is spring-mounted, as at f, and automatically makes and breaks

the circuit in the well-known manner. The backward travel of the armature is controlled by an insulated contact-screw f', forming part of the electric circuit, as hereinafter described. The screw f' is provided with a sharp or small point, which rests by preference upon a small flat spring f², carried by the armature.

The pawl-carrier F' is connected with the armature in any suitable manner so as to vibrate therewith. It is by preference formed by a downward extension of the armature, as shown, the slip-pawl G being mounted on the lower end of such extension, as before described. The vibration of the armature thus turns the pointer C' always in the same direction.

The wire e⁴ leads from the binding-screw e^{2x} aforesaid to a flat contact-piece E², which is by preference movably mounted in such a manner that it may rise freely (as into the position shown in dotted lines) with the movement of the balanced mechanism hereinafter described. To this end the contact E² may be pivoted at the left end, as shown in the drawings, Fig. 3. e⁶ is a small wire bracket which serves to hold the contact E² in its normal position during the non-operation of the machine. A second contact, as E³, also by preference movable, is located normally in proximity to the contact E² and is in electric connection, as hereinafter described, with the armature contact-screw f'. The two contacts are adapted to be brought together, so as to close the circuit through the medium of suitable mechanism actuated by the weight or impact of a specified coin introduced into the machine. In the arrangement shown in Fig. 3 the contact E³ is mounted upon one arm of the balanced lever H. This lever is pivoted at h and carries at one end a money-tray H', into which the coin is led from the coin-orifice A' by chutes a a'. The pivot h is in electric connection on the one hand with the contact E³ by means of the lever and on the other hand with the armature contact-screw f' by means of a wire e⁷. The armature F is also in electric connection by its suspension-spring f with the metallic frame E⁴, carrying the coils E', and the said frame is connected, as at e⁸, with one terminal of the coils E', the other terminal being connected with the wire e⁵ aforesaid.

The partition a², carrying the coils E', pointer C', and the whole of the mechanism connected therewith, is made removable. It may be taken out of the cabinet by simply lifting the cover a³, slackening the binding-screws e² e³ and withdrawing the sliding strips a⁴. The side a⁵ of the cell-chamber is also made removable, so that the cell or cells may be withdrawn.

The mode of action of the above automatic machine is as follows: On inserting the coin or coins at the orifice A' it (or they) falls down the chutes a a' into the tray H', and the balance of the lever H is thereby dis-

turbed. The lever falls over against a stop h' into the position shown in dotted lines in Fig. 3, and allows the coin (or coins) to drop out of the tray into a receptacle h^2 . During a greater or less portion of the lever's movement the contacts E^3 and E^2 are closed, and the circuit is thus completed through the wires $e^4 e$, cell E , wires $e' e^5$, coils $E' E'$, wire e^8 , frame E^4 , armature F , screw f' , wire e' , pivot h , and lever H . The armature F then vibrates rapidly in a well-known manner, and the pointer C' is rapidly rotated by successive forward strokes of the pawl G , acting upon the wheel G' . As soon as the coin-tray has emptied itself the lever H resumes its normal position, the contact between the pieces E^2 and E^3 is broken, and the armature ceases to vibrate. The pointer C' continues to spin, and finally comes to a standstill opposite one or other of the spaces b , thus indicating to the user what is in store for him in the future, or such other information as may be interesting to him. The disk C or pointer is very evenly balanced, so that there is little liability of it stopping at the same point several times in succession.

In the modification shown in Fig. 6^a the second contact E^5 is mounted above the contact E^2 , and the wire e' , instead of being connected with the lever-pivot h , is led to the pivot or support of the said contact E^5 , the latter being very similar to the contact E^2 . The contacts $E^2 E^5$ are preferably provided on their opposing faces with two small pieces $e^9 e^{10}$, respectively, which may be tipped with platinum and form the contacts proper. e^{11} is a support for the contact E^5 . When the lever is overbalanced, a pin E^{3x} on the lever H (formed preferably of an electrical non-conductor) engages the lower contact E^2 and places the pieces $e^9 e^{10}$ in contact. The two contacts $E^2 E^5$ together move upward with the movement of the tail end of the lever in the same manner as above described with respect to Fig. 3. To permit of the contacts $E^2 E^5$ moving freely upward at the same time, it is preferable to place them in different vertical planes and to let the pieces $e^9 e^{10}$ project beyond the adjacent edges of the contacts.

In some cases I may close the two contacts, as $E^2 E^5$, by means of a push-bar J , Fig. 10, or equivalent device, which is adapted to be operated by the user or attendant from the exterior of the cabinet. The push-bar carries an inclined piece j , of non-conducting material, which, when the bar is pushed inward, engages and raises the lower contact E^2 the required distance.

j' is a returning-spring for the push-bar. The latter may, if desired, be combined with any suitable coin-feed device, so that it can only be operated by the user after he has introduced a specified coin into the machine. The machine can thus be rendered either partly automatic or non-automatic while still retaining the above electric arrangement.

In machines, however, which are intended to be only partly automatic, I prefer to dispense with the electric arrangement and to supplement the action of the coin by that of the vibratory push-bar J' or its equivalent, which may be connected with the ratchet-wheel G' , as shown in Fig. 11. The slip-pawl G is spring-pivoted, as before, upon a carrier F^2 , which oscillates about the axis of the wheel G' . The lower end of the carrier is connected to the push-bar at g^3 , as shown, so that on working the bar to and fro the wheel is rotated as before. The coin-balance $H H'$, instead of being the means of closing an electric circuit, is made the means of releasing a counter-weighted retaining-stop K , which is adapted, when the machine is not in operation, to engage the push-bar, as at k , in such a manner that it cannot be operated.

k' is a pin which limits the movement of the stop K when released, and holds it in such a position that it can be replaced when the lever H resumes its original position. A pin k^2 on the stop rests upon the upper edge of the lever H when it and the stop are in their normal positions. To retard the movement of the lever and give the operator a longer time to work the machine, the said lever may be connected to a dash-pot device such as shown. The said device consists of a closed cylinder L , filled with liquid and provided with a loosely-fitting piston L' , the rod of which is connected to the lever H . The retarding action of the dash-pot may be so adjusted as to permit the user to operate the machine for a longer or shorter specified time.

If it be desired to render the machine entirely non-automatic, the above coin-balance and retaining-stop are dispensed with and the machine placed in charge of an attendant or let out on hire for a given period. The user or attendant then operates the machine at will by means of the vibratory push-bar J' or its equivalent.

In any case, whether the movable member of the indicating or exhibiting device receives its impulses indirectly by means of a vibratory piece which is automatically set in motion by the action of a coin, or whether such impulses be given directly by the user or attendant through the medium of a vibratory push-bar or its equivalent, the duration of the rotative motion of such movable member is varying and uncertain and forms the hazard or chance upon which the spirit of the game of chance depends. The machine can, however, be adapted, as hereinafter set forth, to provide other amusements or pastimes into which the element of chance does not enter, or at least not to any great extent.

The parts forming the two members of the indicating or exhibiting device may be arranged in a variety of ways, according to the fancy of the maker or the kind of game or amusement to which it is desired to adapt the machine. I do not limit my invention, however, to any particular arrangement of indi-

eating or exhibiting device, but I mention the following by way of illustration. The disk C, bearing the pointing device, may be made a fixture, and the annular plate B, carrying the information, may be connected to the ratchet-wheel G' and caused to rotate therewith, as shown in Fig. 12; or the information may be arranged, as in Fig. 13, in full view of the user, around the central rotatable disk C, and the fixed annular plate B may be replaced by a fixed pointing device, as B', pointing to the edge of the disk; or the rotatable central disk C may be provided, as in Fig. 7, with suitable figures or numerals on or near its circumference, and the pointing or indicating device may consist of a ball c, preferably a small pith ball, which rests upon a suitable rim or flange c' or in a groove on the disk, and always keeps to the lower edge of the disk as the latter rotates. c³ are radial ribs, which are raised very slightly above the surface of the disk C and serve to prevent the ball c from resting midway between two of the numbered spaces. In this way the machine may be adapted for playing the game of "Roulette." By substituting or supplementing the aforesaid figures on the disk by a series of alternate red and black spaces the machine may be adapted for playing the game of "Rouge et noir;" or the rotatable disk C may be enlarged, as in Fig. 3, and placed in front of the fixed annular plate B bearing the information, so as to cover the same, with the exception of an opening or gap c² on or near the edge of the disk, which serves as the pointing device, and is large enough to disclose one or even two or more of the spaces b on the plate B, or the reverse arrangement may be employed, the enlarged disk C, with opening c², being made a fixture, while the annular plate is made rotatable. This may be accomplished in a similar manner to that shown in Fig. 12.

The machine may be adapted to play many other games of chance, which need not be enumerated herein. It may also be adapted to provide other simple amusements or pastimes.

Where the machine is to be adapted to the exhibition of information or other matter which may be of interest or may afford amusement to the user, such matter is by preference mounted upon the rotatable member of the indicating or exhibiting device—as, for instance, upon an annular plate (similar to the plate B, Fig. 8)—which is moved behind a fixed plate (similar to the plate C, Fig. 8) having a suitable aperture c². The speed of the member B is reduced to the desired amount by means of gearing interposed between it and the ratchet-wheel G'. Into amusements or pastimes of this description the element of chance does not necessarily enter, or at least it only enters therein to a very slight extent.

I declare that what I claim is—

1. In a machine of the kind described, the combination, with the freely-rotatable mem-

ber of an indicating device capable of a variable amount of movement, of a wheel movable synchronously with the same, a vibratory slip-pawl to engage said wheel when moved in one direction only, and means adapted to impart to the said slip-pawl as a whole a variable momentum in one direction in a path approximately tangential to the periphery of the wheel, whereby the said rotatable member may receive at will a variable impulse in a constant direction at each forward stroke of the slip-pawl and will be unaffected by said slip-pawl during its return-stroke, substantially as described.

2. In a machine of the kind described, the combination, with a freely-rotatable piece forming the movable member of an indicating device, of a wheel movable synchronously with the said piece, a slip-pawl to engage the said wheel when moved in one direction only, and means for imparting at will to said pawl a rapid variable vibratory motion in a path approximately tangential to the periphery of the wheel, whereby there is imparted to the said rotatable piece an uncertain amount of movement in one direction, substantially as described.

3. In a machine of the kind described, the combination, with a fixed plate bearing the object matter, and a freely-rotatable pointing device mounted in proximity thereto, of a wheel G', movable synchronously with said pointing device, a slip-pawl G, adapted to engage said wheel in one direction, as described, and means for imparting for a short period a rapid vibratory motion to said pawl in a path approximately tangential to the periphery of the wheel, substantially as and for the purpose described.

4. In a fortune-telling machine, the combination, with a fixed annular plate B, bearing the mottoes or devices, as described, and a freely-rotatable pointer C', mounted concentrically thereto, of a wheel G' on the shaft of said pointer, a slip-pawl G, adapted to engage said wheel, as described, and means for imparting to said pawl for a short period a rapid vibratory motion in a path approximately tangential to the periphery of the said wheel, substantially as described.

5. In combination with the freely-rotatable member of the indicating device and a wheel movable synchronously therewith, a pawl-carrier free to be continuously vibrated at will to its full or a variable extent, as described, and a slip-pawl spring-pivoted upon said carrier and adapted to engage said wheel during its successive forward strokes and to rotate the same in a constant direction and through a variable distance, substantially as described.

6. In a machine of the kind described, the combination, with the rotatable member of the indicating device, of the wheel G', movable synchronously therewith, the slip-pawl G, adapted to engage the teeth of the said wheel, as described, a pawl-carrier F', movable synchronously with the vibratory armature of an

electro-magnetic device, and means whereby the user may excite such device and cause the armature to vibrate, substantially as described.

5 7. In a machine of the kind described, the combination, with the rotatable member of the indicating device, of the wheel G', the slip-pawl G to engage the wheel G', the pawl-carrier F', the vibratory piece F, connected with
10 said carrier and forming the armature of an automatic make-and-break device, a pair of contacts included in the electric circuit of said device and standing normally open, and means for temporarily closing said contacts and com-
15 pleting the circuit, substantially as described.

8. In a machine of the kind described, the combination, with the rotatable member of the indicating device, of the wheel G', the slip-pawl G to engage the wheel G', the vibratory
20 armature F F', the insulated armature-contact f', normally in electric connection with the said armature, the metallic frame E⁴, carrying the armature and constantly in electric connection with the same, the coils E' E' of
25 the armature-magnets, connected on the one hand with the frame E⁴ and on the other with one pole of an electric battery, the movable contact E², connected with the opposite pole of said battery, a second movable contact lo-
30 cated in proximity to said contact E² and electrically connected with the said armature-contact f', and means for temporarily closing said contacts and completing the circuit, substan-
tially as described.

9. In a machine of the kind described, the combination, with the fixed plate B and the freely-rotatable pointer C', of the wheel G', slip-pawl G to engage the wheel G', vibratory
35 armature F F', insulated armature-contact f', contact-spring f², frame E⁴, coils E' E', wires e⁸ e⁵ e', battery E, wires e e⁴, contact E², connected with wire e⁴, contact E³, located nor-
40 mally in proximity to said contact E², wire e⁷, electrically connected on the one hand with the armature-contact f' and on the other
45 with the contact E³, and means for temporarily closing said contacts E² E³, substantially as described.

10. In a machine of the kind described, the combination, with the rotatable member of the indicating device, of a wheel G', mov-
50 able synchronously therewith, a slip-pawl G to engage the wheel G', a vibratory piece F, adapted to vibrate said pawl, as described,
55 and forming the armature of an automatic

make-and-break device, a pair of contacts included in the electric circuit of such de-
vice and standing normally open, and a coin-
actuated device adapted to close said con-
tacts, substantially as described.

11. In a machine of the kind described, the combination, with the rotatable member of the indicating device, of the wheel G', the slip-pawl G to engage the wheel G', the vi-
60 bratory armature F of an automatic make-
and-break device adapted to vibrate said
65 pawl, as described, a pair of movable con-
tacts included in the circuit of such device,
and a balanced lever H, adapted when over-
70 turned by a coin introduced into the ma-
chine to temporarily close said contacts and
complete the circuit, substantially as de-
scribed.

12. In a machine of the kind described, the combination, with the rotatable member of
75 the indicating device and the wheel G' ro-
tatable therewith, of the slip-pawl G to en-
gage the wheel G', the vibratory piece F F',
carrying said pawl and forming the arma-
ture of an automatic make-and-break de-
80 vice, a movable contact E² in electric con-
nection with one terminal of said device, a sec-
ond contact E³ in electric connection with the
other terminal thereof, and a balanced lever
H, carrying said contact E³ and adapted when
85 overturned, as described, to place the same
against the contact E², substantially as de-
scribed.

13. In a machine of the kind described, the combination, with the fixed plate B, rotatable
90 pointer C', and wheel G', of the spring-piv-
oted slip-pawl G to engage the wheel G',
vibratory piece F F', carrying the same and
forming the armature of an automatic make-
and-break device, hinged contact E² in elec-
95 tric connection with one terminal of said
device, balanced coin-lever H in electric con-
nection with the other terminal thereof, and
contact-piece E³, mounted on said lever below
the contact E² and adapted to engage and
100 raise the same on the overturning of the lever, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANTHONY HARRIS.

Witnesses:

H. MUDD,

W. H. C. NEILL.