

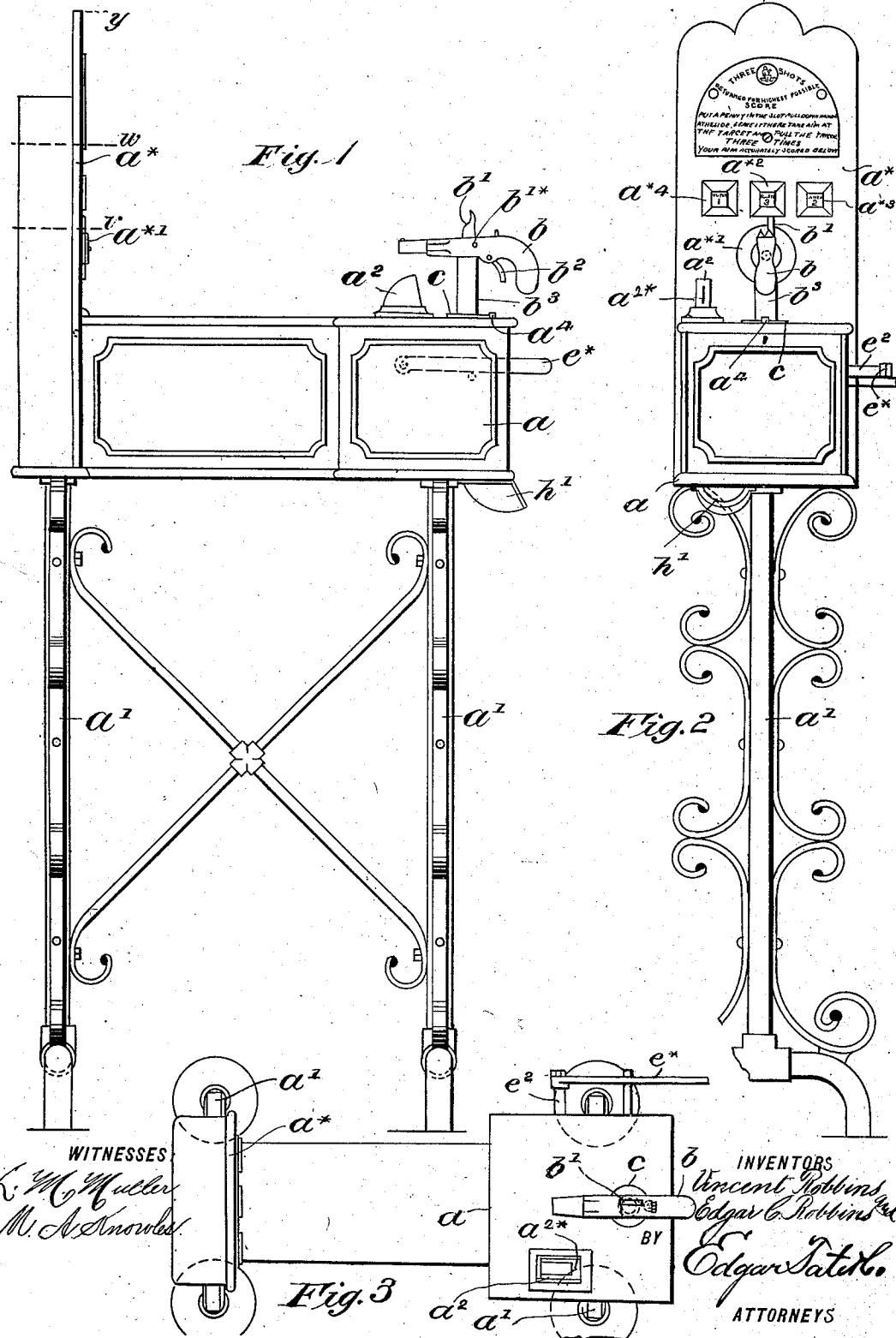
(No Model.)

V. & E. C. ROBBINS.
COIN OPERATED MACHINE.

6 Sheets—Sheet 1.

No. 577,149.

Patented Feb. 16, 1897.



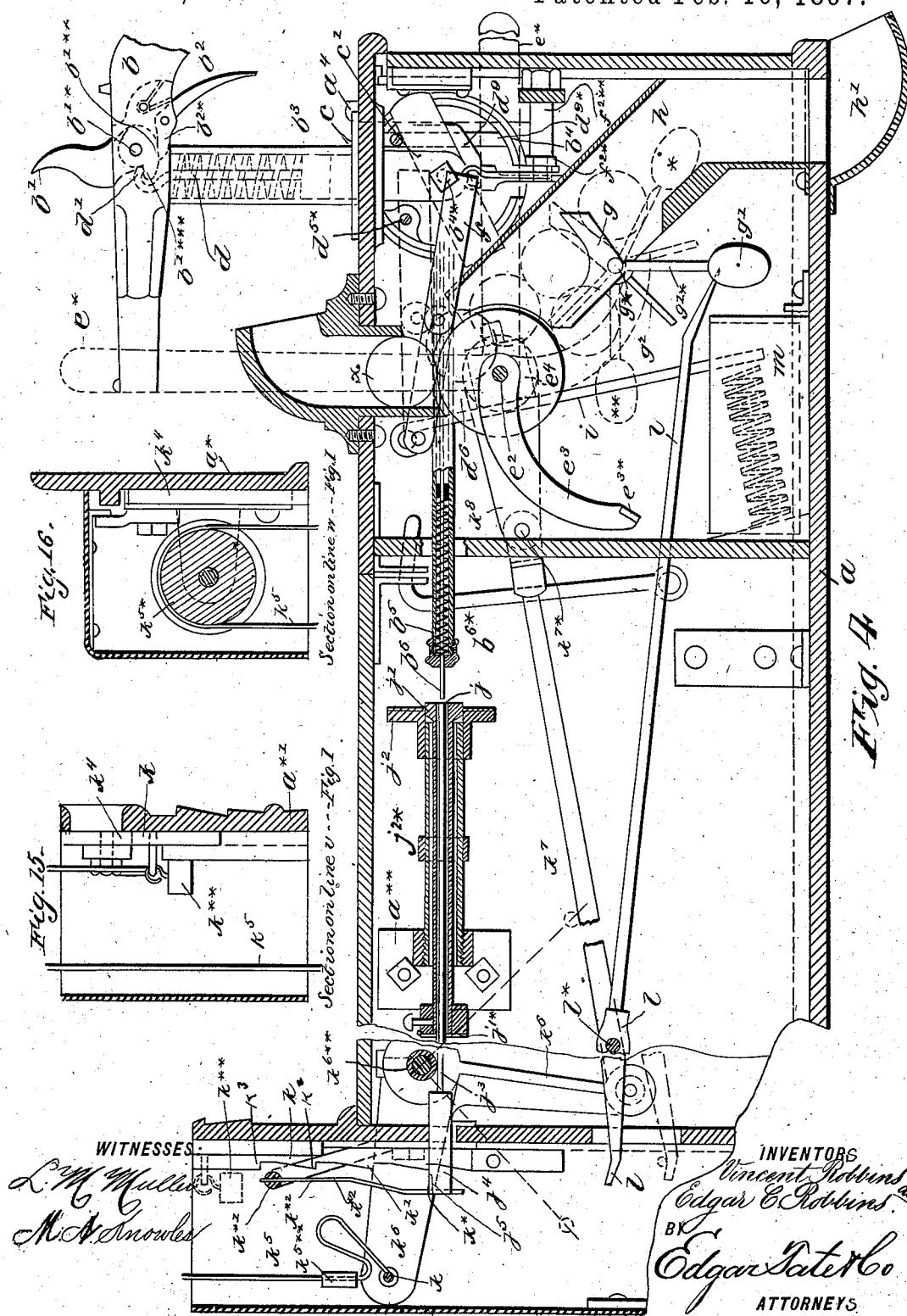
(No Model.)

6 Sheets—Sheet 2.

V. & E. C. ROBBINS.
COIN OPERATED MACHINE.

No. 577,149.

Patented Feb. 16, 1897.



WITNESSES
L. M. Mullin
M. A. Snowdon

INVENTORS
Vincent C. Robbins and
Edgar E. Robbins
BY
Edgar Gates & Co
ATTORNEYS

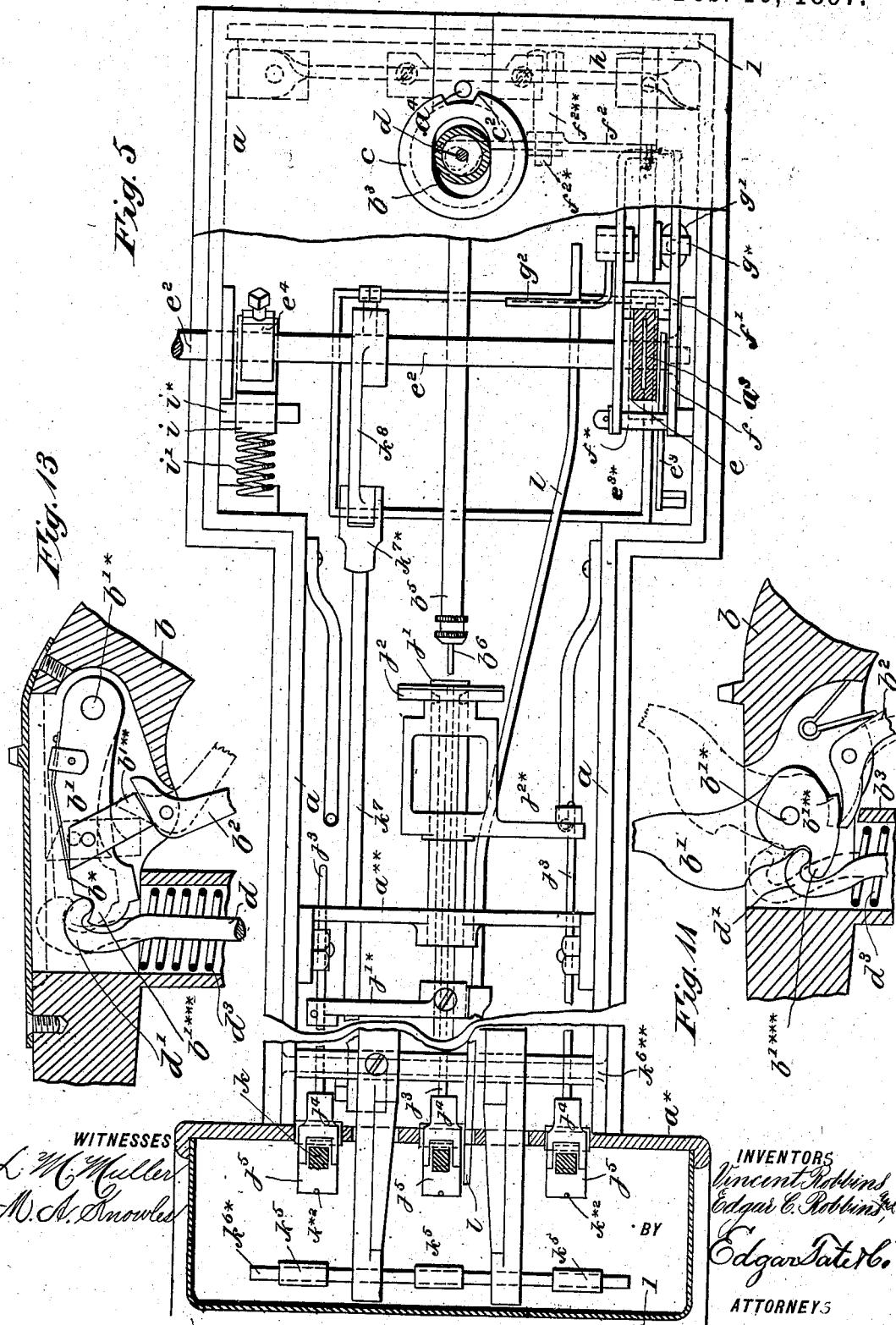
(No Model.)

V. & E. C. ROBBINS.
COIN OPERATED MACHINE.

6 Sheets—Sheet 3.

No. 577,149.

Patented Feb. 16, 1897.



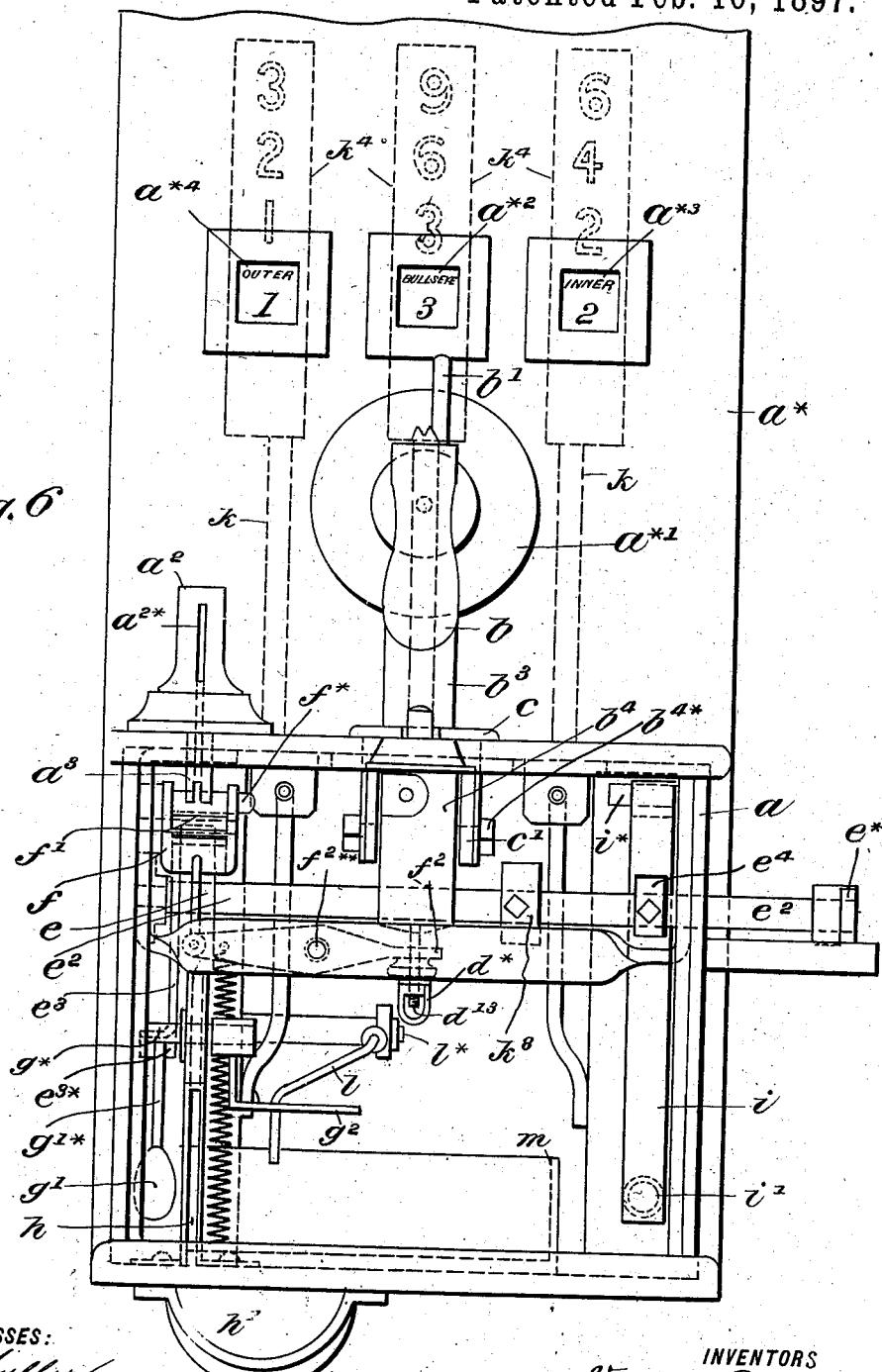
(No Model.)

V. & E. C. ROBBINS.
COIN OPERATED MACHINE.

6 Sheets—Sheet 4.

No. 577,149.

Patented Feb. 16, 1897.



WITNESSES:

L. M. Muller.
M. A. Knowles.

INVENTORS

Vincent Robbins and
Edgar C. Robbins,
BY
Edgar Satchell

ATTORNEYS

(No Model.).

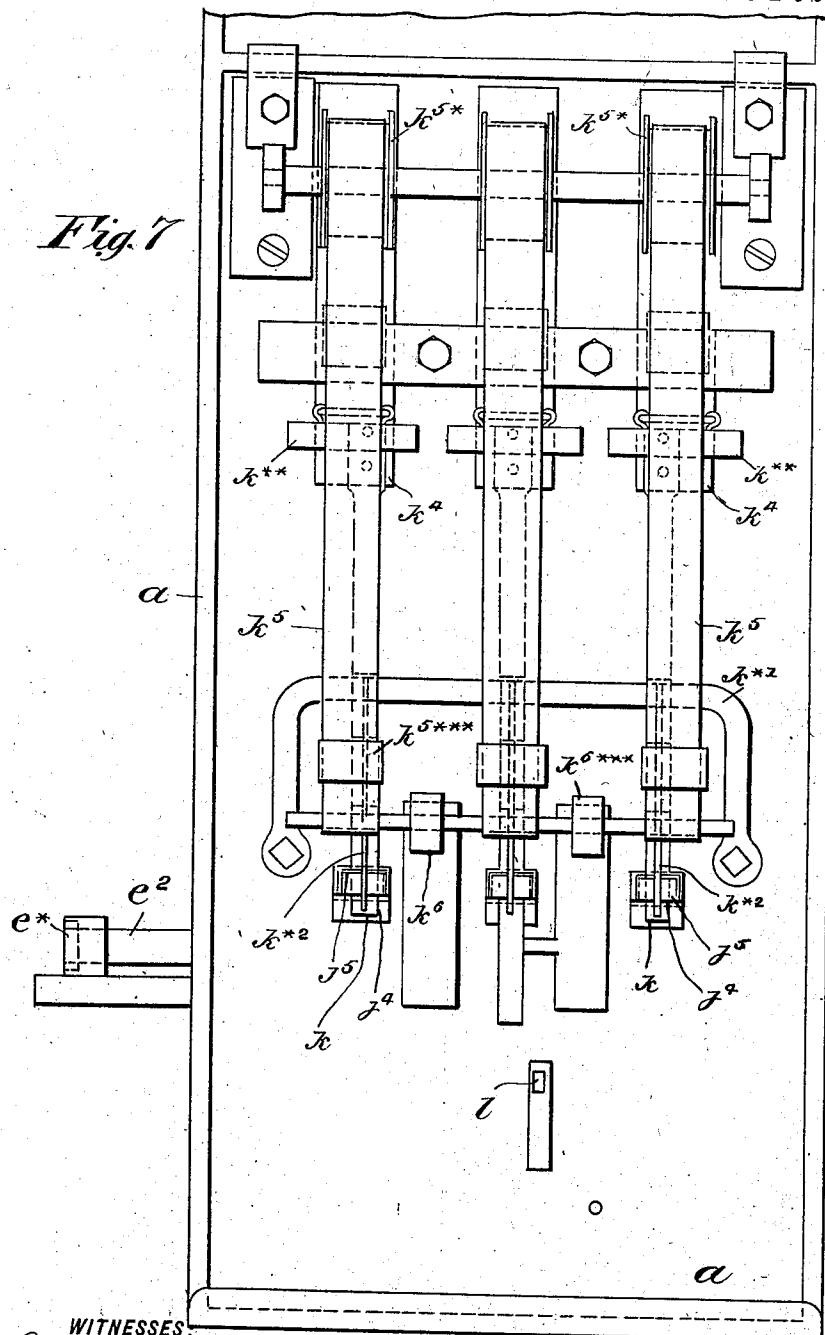
6. Sheets—Sheet 5.

V. & E. C. ROBBINS.
COIN OPERATED MACHINE.

No. 577,149.

Patented Feb. 16, 1897.

Fig. 7



WITNESSES

WITNESSES:
L. M. Muller.
M. A. Knowles

INVENTORS
Vincent Robbins and
Edgar C. Robbins,
BY
Edgar Tateshio
ATTORNEYS.

ATTORNEYS

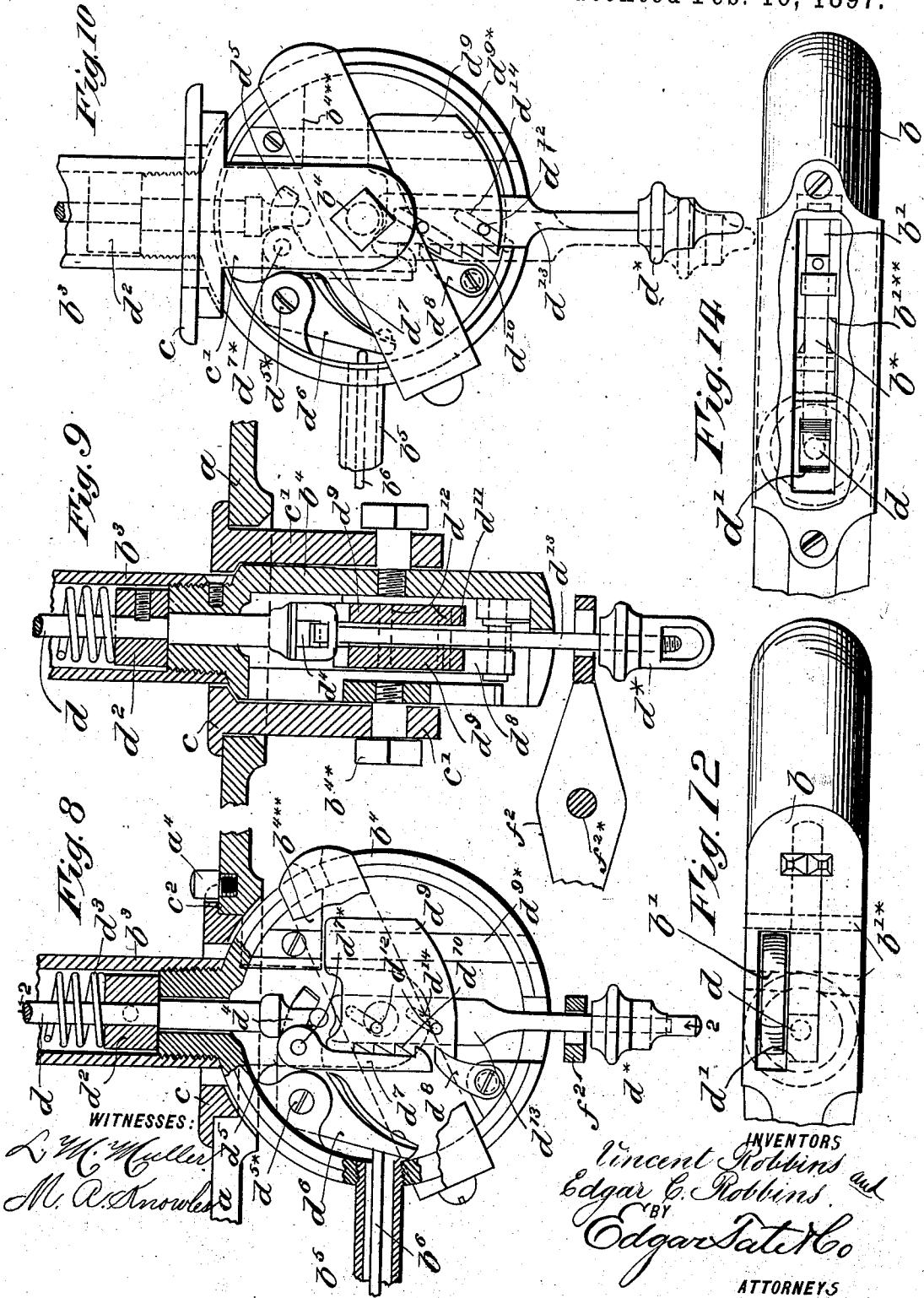
(No Model.)

6 Sheets—Sheet 6.

V. & E. C. ROBBINS.
COIN OPERATED MACHINE.

No. 577,149.

Patented Feb. 16, 1897.



WITNESSES:

L. M. Muller
M. A. Knowles

INVENTORS
Vincent Robbins and
Edgar C. Robbins
BY
Edgar State & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

VINCENT ROBBINS AND EDGAR CHARLES ROBBINS, OF LONDON, ENGLAND.

COIN-OPERATED MACHINE.

SPECIFICATION forming part of Letters Patent No. 577,149, dated February 16, 1897.

Application filed June 19, 1895. Serial No. 553,260. (No model.) Patented in England May 4, 1894, No. 9,082.

To all whom it may concern:

Be it known that we, VINCENT ROBBINS and EDGAR CHARLES ROBBINS, subjects of the Queen of Great Britain, and residents of 5 Stockwell, London, England, have invented certain new and useful Improvements in Coin-Operated Machines, (for which we have obtained a patent in Great Britain, No. 9,082, bearing date May 4, 1894,) of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to that class of coin-operated machines in which a person introducing a coin is permitted to fire at a target and in which the accuracy of the shot is recorded by a suitable register; and the invention comprises various details of construction 20 and arrangement of parts, as hereinafter described.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

25 Figure 1 is a side elevation of a coin-operating machine constructed according to the present invention. Fig. 2 is a front elevation thereof, and Fig. 3 is a plan thereof. Fig. 4 is a vertical longitudinal section of a part 30 thereof with the supporting-frame removed. Fig. 5 is a sectional plan thereof. Fig. 6 is a front elevation thereof with the door removed. Fig. 7 is a rear elevation thereof with the case or cover removed. Fig. 8 is a vertical longitudinal section of the box and lower part of the pedestal. Fig. 9 is a vertical section taken on the line 2 2 of Fig. 8. Fig. 10 is an elevation of the parts represented at Fig. 8 but showing them in a different position. Fig. 11 40 is a vertical longitudinal section of a portion of the pistol. Fig. 12 is a plan thereof. Fig. 13 is a vertical longitudinal section of a slightly-modified form of pistol, and Fig. 14 45 is a plan thereof. Fig. 15 is a vertical sectional view of the part lying between the lines *v* and *w* of Fig. 1. Fig. 16 is a vertical sectional view of the part lying between the lines *w* and *y* of Fig. 1.

In the several figures, in which like parts 50 are indicated by similar letters of reference, Figs. 4 to 7 are drawn to an increased scale with respect to Figs. 1 to 3, and Figs. 8 to 14

are drawn to an increased scale with respect to Figs. 4 to 7.

Referring to Figs. 1 to 12, *a* represents the 55 case of the machine, which is mounted upon a suitable frame or stand *a'* in order to bring it to a convenient height. Near to the front of the case *a* is mounted upon a pedestal *b*³ a dummy pistol *b*, furnished with a hammer *b'* and trigger *b*², and toward the rear of the case *a* and in the background is arranged a vertical wall *a*^{*}, which carries target *a*^{*} and a register, hereinafter more fully referred to. The pedestal *b*³ of the pistol passes through 60 the top of the case *a* to the interior thereof and is mounted with capability of movement in several directions in the following manner: The lower end of the pedestal *b*³ within the case *a* of the apparatus has fixed therewith a circular box *b*⁴, serving to contain certain mechanism, hereinafter more fully referred to, and the box *b*⁴ is axially fixed with studs or trunnions *b*^{4*}, mounted in bearings formed in lugs *c*', fixed with an apertured disk or ring *c*, supported upon the top of the case *a*, with capability of partial revolution limited by a stud *a*⁴, fixed with the case, which engages a notch *c*² in the disk *c*. By this arrangement of parts the pedestal *b*³ is capable of being 75 moved on the axis *b*^{4*} to regulate the elevation of the pistol *b*, while the pedestal *b*³, together with the disk or ring *c*, is capable of rotary motion in order to vary the lateral horizontal direction of the pistol *b*. 80

To the box *b*⁴ is fixed a long guide-tube *b*⁵, within which is mounted a projectile rod or needle *b*⁶, the rear end of which passes into the box *b*⁴ of the pedestal *b*³, and the front end of which is adapted to be more or less projected 90 beyond the end of the guide-tube *b*⁵ at the times desired, a light spring *b*^{6*} returning the projectile rod or needle *b*⁶ to its normal position.

The needle or rod *b*⁶ is by the arrangement 95 of parts hereinbefore described caused to accurately follow the direction given to the pistol *b* by a person taking aim at the visible target *a*^{*}, while in a suitable position opposite the end of the guide-tube *b*⁵ and within the case *a* is arranged an invisible target *j*, which is adapted to be acted upon by the projectile needle or rod *b*⁶ at the time of firing, and to actuate a register adjacent to the mid- 100

dle target a^{**} in the manner hereinafter described.

The firing mechanism is so arranged that in exchange for one coin inserted in the machine the operator has three shots at the target. For this purpose the lock of the pistol consists of a dummy hammer b' , mounted upon an axis of motion B'^* , below which it is notched at b'^{**} to engage a sear or projection b^{**} , projecting from and actuated by the trigger b^2 , as shown more particularly by the dotted lines in Fig. 11, and projecting forward of the axis b'^* of the hammer b' and formed therewith, that is to say, with the hammer is an arm or hook b^{***} , which engages a hook d' , formed upon a rod d , traversing the tubular pedestal b^3 , and having fixed thereon a piston d^2 , upon which bears a coiled spring d^3 , arranged around the rod d and at its upper end taking an abutment against the under side of the pistol b , so that upon the cocking of the pistol b by drawing back the hammer b' until the notch b'^{**} engages the sear b^{**} the piston d^2 will be raised and the spring d^3 compressed.

The lower end of the piston-rod d passes beyond the piston d^2 and is formed with an eye d^4 , which engages and loosely connects with the horizontal arm d^5 of a bell-crank lever mounted upon an axis of motion d^6* , the lower or vertical arm d^6 of which lever impinges upon the rear end of the projectile rod or needle b^6 , so that upon the firing of the pistol by withdrawing the sear b^{**} from the notch b'^{**} of the hammer b' the coiled spring d^3 will, through the lower arm d^6 of the bell-crank lever, give a sudden impulse to the projectile rod or needle b^6 , and, assuming that the aim of the operator is correct, cause it to strike the invisible target j with an accuracy dependent upon the aim of the operator.

The horizontal arm d^5 of the bell-crank lever has pin-jointed thereon at d^7* a clawker d^7 , which engages a series of ratchet-teeth d^{10} , formed upon the vertical face of a block d^9 , mounted with capability of sliding vertically upon a guide-rod d^{11} , so that each time the pistol is cocked the sliding block d^9 will, by the upward movement of the piston-rod d and arm d^5 of the bell-crank lever, be raised a distance equal to one tooth of the rack d^{10} , a dog or detent d^8 preventing the return thereof, except as hereinafter described.

55 The number of ratchet-teeth d^{10} of the sliding block d^9 and the distance of the travel of the clawker d^7 are so regulated that three operations of the pistol will bring the sliding block d^9 to a dead stop against a fixed top b^{4**} , carried by the box b^4 , (in which position it is shown in Fig. 8,) preventing further cocking of the pistol b , and thus the operator is limited to three shots for one payment, but it is obvious that by modifying the number of teeth d^{10} upon the face of the sliding block d^9 the number of such operations per-

mitted might be varied according to circumstances.

In order to return the sliding block d^9 to its normal position and thus permit the pistol b to be again fired, the face of the sliding block d^9 is formed with an open-sided slot, recess, or guideway d^{11} therein, extending vertically through the ratchet-teeth d^{10} , within which is mounted with capability of vertical and lateral movement a releasing-bar d^{13} , indirectly connected, as hereinafter described, with the handle or lever, which is actuated to obtain the use of the machine by a person inserting a coin therein, and this releasing-bar d^{13} is formed with two inclined cam-slots d^{14} , through which pass pins d^{12} , fixed with the sliding block d^9 , the direction of the inclination of the slots d^{14} being such that upon the releasing-bar d^{13} being drawn downward it will advance slightly beyond the face of the ratchet-teeth d^{10} , thus disengaging the clawker d^7 and detent d^8 therefrom, as represented by the dotted lines in Fig. 10, while in its continued movement it will carry downward the sliding block d^9 to its normal position, the clawker d^7 and dog d^8 , which are held up to their work by light springs, afterward returning the releasing-bar d^{13} to its normal position within the slot or guideway d^{11} in the sliding block d^9 . By these means each time a coin is inserted into the machine and the coin-operating lever or handle is actuated the mechanism of the piston b will be restored to its normal position in readiness for cocking and firing.

The coin-operating mechanism is arranged in the following manner: A money-slot a^{2**} of the usual character is provided in a hood a^2 , arranged, preferably, on the top of the machine near to the pedestal b^3 of the pistol, and from the coin-slot a^{2**} is arranged a chute a^3 , which conducts the coin into a drum e , provided with a single pocket e' , adapted to receive the same, and the drum e is fixed upon one end of a shaft or axis e^2 , the other end of which passes through the case a and has fixed thereon a coin-operating lever or handle e^* , so that upon the lever e^* being actuated, that is to say, being raised into the position indicated by the dotted lines in Fig. 4, the pocket e' will receive the coin x , and upon the lever being again lowered into the position indicated by the full lines the drum e will be rotated, carrying with it the coin x and causing it to act, through an antifriction-roller f' , upon a lever f to raise the outer end thereof. The lever f in its movement engages and raises the outer end of a lever f^2 , arranged at right angles to the lever f and which is mounted upon an axis of motion f^{2*} , carried by a stud f^{2**} , and the inner end of which lever f^2 embraces the lower end of the releasing-bar d^{13} and acts upon a nut d^* at the lower end thereof to depress the same, and thus restore the mechanism of the pistol to its normal or initial position and permit it to be

cocked and fired, while in the further rotation of the drum e the coin x is discharged into a switch-bar g , mounted upon an axis of motion g^* and counterbalanced by a weight g' , where the coin remains for the time being.

At the next operation of the machine, that is to say, the raising of the lever e^* into the dotted position, the stem g^* , carrying the weight g' , is acted upon by a projection e^{*2} from an arm e^3 , fixed upon the shaft or axis e^2 of the drum e , and by which the switch-bar g is turned upon its axis, with its weight g' in the dotted position indicated by the star in Fig. 4, thus throwing the switch-bar g into a position to discharge the coin x into the money-box m , unless the coin has been previously directed into the chute or channel h , returning it to the operator and terminating in an open tray h' , as hereinafter described.

In order to hold the handle e^* at rest in either of its extreme positions and to insure its full traverse, the shaft e^2 of the drum has fixed thereon a square e^4 , (shown by the dotted lines in Fig. 4 and full lines in Figs. 5 and 6,) against which presses an arm i , mounted upon an axis of motion i^* , and held up to its work with a spring-pressure by a spring i' .

The invisible target j , upon which the projectile rod or needle b^6 strikes, is composed of three longitudinally-movable parts, namely, a "bull's-eye" j , a surrounding ring or sleeve j' , representing an "inner," and a still outer ring or sleeve j^2 , representing an "outer." Each of these parts $j j' j^2$, which is held in its normal position by a spring k^2 , is capable of independent longitudinal movement, and has connected therewith a horizontal rod or bar j^3 , the rods j^3 of the inner and outer sections of the target being connected to their respective sleeves $j' j^2$ through arms or offsets $j^{*2} j^{*2}$, the rods being guided in bearings formed in a bar or girder a^{*2} . Upon the end of each rod or bar j^3 is adjustably fixed a frame j^4 , carrying a ratchet-tooth or detent j^5 , such teeth being kept up to their work by springs k^{*2} , carried by a bar k^4 , and in connection with each ratchet-tooth or detent j^5 and at the visible target end of the apparatus is provided a vertically-movable bar k , each bar k being formed with three separate ratchet-teeth, forming four steps $k^* k^2 k^3$, adapted to engage a corresponding detent-tooth j^5 of one of the sections $j j' j^2$ of the invisible target j . Each of these vertical bars k carries at its upper end an indicating slide or shutter k^4 , which moves vertically behind an aperture a^{*2}, a^{*3} , or a^{*4} in the vertical part a^* of the case, where appears the visible target, the aperture a^{*2} corresponding with the bull's-eye j of the invisible target, the aperture a^{*3} corresponding with the inner j and the aperture a^{*4} corresponding with the outer j^2 thereof.

Each of the slides k^4 is numbered with three sets of numerals, each numeral corresponding with one of the ratchet-teeth $k^* k^2 k^3$ of the sliding bar k , while the three slides k^4 cor-

respond with the three sections $j j' j^2$ of the invisible target, that is to say, the central slide appearing at the aperture a^{*2} relates to the bull's-eye, one of the outer slides, that is to say, the one appearing at the aperture a^{*3} relates to the inner and the other of such outer slides relates to the outer section of the invisible target. By this arrangement of parts upon the projected rod or needle b^6 (which it must be borne in mind is afterward immediately returned by its spring b^{*2}) striking the bull's-eye j of the invisible target the corresponding detent will be disengaged from the lower step k^2 of the ratchet-teeth of the corresponding vertically-sliding bar k , and the latter will fall the distance of one tooth and bring into view at the aperture a^{*2} of that particular slide one of the set of numerals thereon, the first in order of the numerals thereon representing, for example, three points gained, while if the bull's-eye is again struck by the projectile needle or rod b^6 the next higher numeral, that is to say, the figure "6" of the set will be brought into view, and a repetition of this operation will bring the third numeral of the set, namely, the figure "9" into view. The other slides k^4 , relating to the inner and outer parts of the invisible target, are operated in a similar way to that hereinbefore described, so that the record made by the operator or marksman is altogether dependent upon the skill with which he aims the pistol b at the visible target a^* and would in most cases be made up of combinations of numbers displayed by the slides k^4 at the several apertures $a^{*2} a^{*3} a^{*4}$.

In the event of the marksman or operator securing three bull's-eyes the sliding bar k , corresponding with the aperture a^{*2} and with the bull's-eye j of the invisible target, upon descending to its full extent, depresses or acts upon one end of a lever l , mounted upon an axis of motion l^* , and which at its other end is cranked and acts upon an offset or crank g^2 from the switch-bar g , raising the same until the counterweight g' assumes the dotted position indicated by two stars in Fig. 4, thus discharging the coin x (which up to that time had been held by the switch-bar g) into the channel h , which conveys it to the open tray h' , thus returning it to the operator and presenting it to him as a prize for the skill displayed, while the lever l subsequently return it to its normal position by gravity.

In order that the slides k may descend sharply upon being released by a detent-tooth j^5 , each slide k is provided with a weight k^{*2} , which assists to that end, and in the case of the central slide k it is important that the same should have the necessary force in its descent to actuate the lever l .

After each operation of the machine the indicating-slides k^4 which have fallen are raised and returned to their normal positions by means of flexible connections or bands, or they might be cords k^5 , each of which passes from its vertical slide k^4 up over a guide-pul-

ley k^5 and down to a bar k^6 , at one end carried by the horizontal arm of the bell-crank lever k^6 , fixed upon a sleeve k^{6**} , mounted upon an axis motion, and at the other end carried by an arm or offset k^{6***} , and the vertical arm of the bell-crank is by a link k^7 flexibly connected by a pin-joint k^8 with another lever or arm k^8 , which is fixed with the shaft e^2 and receives a rocking motion or partial 10 rotation from the handle of the lever e^* upon its being raised by the operator into the position indicated by the dotted lines in Fig. 4 upon the introduction of the coin into the machine, and thus the flexible connections k^5 15 are tautened at the first operation of the machine and the shutters k^4 raised to their normal positions, and immediately afterward by the return movement of the operating-lever e^* into the position indicated by the full lines 20 in Fig. 4 the link k^7 assumes its normal position and the flexible connections k^5 are slackened, as indicated at Fig. 4, in readiness to allow the slides k^4 falling when the machine is again operated, as hereinbefore described, 25 a light weight k^{5**} being fixed upon each flexible connection k^5 in order to prevent it unduly sagging and running off the guide-roller k^{6**} .

In the example given at Figs. 13 and 14 a hammerless pistol is employed, and in this case the hook b^{***} is formed upon a lever b' , mounted upon a center of motion b^{**} , and in lieu of the notch an offset or sear b^{**} from the lever b' is acted upon by the part 30 b^{**} of the trigger b^2 to raise the lever b' and with it the rod d , the offset or sear b^{**} slipping off the then inclined face of the part b^{**} of the trigger and allowing the lever b' to suddenly fall, the sear or offset b^{**} , which is 35 controlled by a spring b^* , giving way to the part b^{**} of the trigger and in the return motion thereof restoring the parts to their normal positions, as indicated by the full lines 40 in Fig. 13. This arrangement possesses the 45 advantages that there is no possibility of the operator accidentally nipping his fingers with the hammer, as might possibly happen in the case of an inexperienced person operating the arrangement previously described, but a disadvantage 50 of the arrangement is that the pull upon the trigger is longer than is desirable; but it is obvious that by a different arrangement of mechanism this can be more or less modified.

55 By means of this invention a very interesting pistol practice may be obtained, the same accuracy of aim being required as with ordinary firearms, while the hits are automatically indicated or registered, the register adjacent to the visible target, and thus the necessity for keeping a score is avoided.

Having now fully described said invention, we declare that what we claim is—

1. In a coin-operating machine, the combination of a pedestal mounted with capability of universal movement within certain limits, a 60 pistol rigidly fixed with the upper end of the

pedestal parallel with the pistol, a projectile-rod carried by the tubular guide, an invisible target for the projectile-rod, a visible target 70 for the pistol, means for forcibly projecting the projectile-rod upon the firing of the pistol and means for inserting a coin and for preventing the use of the machine without pre-payment, substantially as herein shown and 75 described.

2. In a coin-operating machine, the combination of a tubular pedestal mounted with capability of universal movement, a pistol rigidly connected with the upper end of the 80 pedestal, a tubular guide connected with the pedestal, parallel with the pistol, a projectile-rod carried by the tubular guide, a simple lock within the pistol consisting of a hammer controlled by a trigger, a rod within the pedestal at its upper end loosely connected with the hammer, a spring surrounding the rod and acting to depress it, and a bell-crank lever, one arm of which is acted upon by the 85 lower end of the rod and the other arm of which acts upon the projectile-rod, substantially as herein shown and described.

3. In a coin-operating machine, the combination of a tubular pedestal mounted with capability of universal movement, a pistol 90 rigidly connected with the upper end of the pedestal, a tubular guide connected with the pedestal, parallel with the pistol, a projectile-rod carried by the tubular guide, a simple lock within the pistol consisting of a hammer controlled by a trigger, a rod within the pedestal at its end loosely connected with the hammer, a spring surrounding the rod and acting to depress it, a bell-crank lever one arm of which is acted upon by the lower end 95 of the rod, and the other arm of which acts upon the projectile-rod, and means for preventing the pistol being fired more than three times without resetting the apparatus, substantially as herein shown and described. 100

4. In a coin-operating machine, the combination of a tubular pedestal mounted with capability of universal movement, a pistol rigidly connected with the upper end of the pedestal, a tubular guide connected with the 115 pedestal, parallel with the pistol, a projectile-rod carried by the tubular guide, a simple lock within the pistol consisting of a hammer controlled by a trigger, a rod within the pedestal at its end loosely connected with the hammer, a spring surrounding the rod and acting to depress it, a bell-crank lever one arm of which is acted upon by the lower end 120 of the rod and the other arm of which acts upon the projectile-rod, a vertically-sliding block formed with ratchet-teeth upon one face, a clawker carried by that arm of the bell-crank lever connected with the rod and engaging the ratchet-teeth of the sliding block and a detent for engaging such teeth 125 and preventing the accidental descent of the sliding block so that each time the pistol is cocked the sliding block will be raised the distance of one tooth, until it comes against 130

a stop and means for disengaging the clawker and detent from the ratchet-teeth in order to return the sliding block to its normal position substantially as herein shown and described.

5. In a coin-operating machine, the combination of a tubular pedestal mounted with capability of universal movement, a pistol rigidly connected with the upper end of the pedestal, a tubular guide connected with the pedestal and parallel with the pistol, a projectile-rod carried by the tubular guide, a simple lock within the pistol consisting of a hammer controlled by a trigger, a rod within the pedestal at its end loosely connected with the hammer, a spring surrounding the rod, and acting to depress it, a bell-crank lever, one arm of which is acted upon by the lower end of the rod, and the other arm of which acts upon the projectile-rod, a vertically-sliding block formed with ratchet-teeth upon one face, a recess in such face, a clawker carried by that arm of the bell-crank lever connected with the rod and engaging the ratchet-teeth of the sliding block, and a detent for engaging such teeth, and preventing the accidental descent of the sliding block, so that each time the pistol is cocked, the sliding block will be raised the distance of one tooth, until it comes against a stop, a releasing-bar mounted in the recess of the sliding block, angular slots in the releasing-bar, corresponding pins in the sliding block, and means for depressing the releasing-bar at the times desired so that it will come forward beyond the ratchet-teeth and disengage the clawker and detent therefrom while the sliding block descends to its normal position, substantially as herein shown and described.

40. 6. In a coin-operating machine, the combination of a tubular pedestal mounted with capability of universal movement, a pistol rigidly connected with the upper end of the pedestal, a tubular guide connected with the pedestal and parallel with the pistol, a projectile-rod carried by the tubular guide, a simple lock within the pistol consisting of a hammer-controlled by a trigger, a rod within the pedestal at its end loosely connected with the hammer, a spring surrounding the rod and acting to depress it, a bell-crank lever one arm of which is acted upon by the lower end of the rod, and the other arm of which acts upon the projectile-rod, a vertically-sliding block formed with ratchet-teeth upon one face, a recess in such face, a clawker carried by that arm of the bell-crank lever connected with the rod and engaging the ratchet-teeth of the sliding block and a detent for engaging such teeth and preventing the accidental descent of the sliding block so that each time the pistol is cocked the sliding block will be raised the distance of one tooth until it comes against a stop, a releasing-bar mounted in the recess of the sliding block, diagonal slots in the releasing-bar, corresponding pins in the sliding block, a drum formed with a

pocket therein adapted to receive a coin, a coin slot and chute adapted to deliver the coin into the pocket of the drum leaving the same projecting beyond the periphery thereof, an operating-handle fixed with the axis of the drum and adapted to turn the same part of a revolution, a lever adapted to be acted upon by the coins in the rotation of the drum and means for conveying the movement of the lever to the releasing-bar so that upon the introduction into the machine of a coin and the required movement of the operating-handle, the sliding block will be brought down to its normal position, substantially as herein shown and described for the purposes stated.

7. In a coin-operating machine, the combination of a pedestal mounted with capability of universal movement within certain limits, a pistol rigidly connected with the upper end of the pedestal, a tubular guide connected with the pedestal and parallel with the pistol, a projectile-rod carried by the tubular guide, means for forcibly projecting the projectile-rod upon the firing of the pistol and a target for the projectile-rod, substantially as herein shown and described.

8. In a coin-operating machine, the combination of a pedestal mounted with capability of universal movement within certain limits, a pistol rigidly connected with the upper end of the pedestal, a tubular guide connected with the pedestal, and parallel with the pistol, a projectile-rod carried by the tubular guide, means for forcibly projecting the projectile-rod, upon the firing of the pistol, a visible target for the pistol, an invisible target for the projectile-rod consisting of several sections or diameters each capable of longitudinal movement, a visible indicator connected with each section, means for connecting the indicator therewith, and means for preventing the use of the machine without prepayment, substantially as herein shown and described.

9. In a coin-operating machine, the combination of a pedestal mounted with capability of universal movement, a pistol rigidly connected with the upper end of the pedestal, a tubular guide connected with the pedestal and parallel with the pistol, a projectile-rod carried by the tubular guide, means for forcibly projecting the projectile-rod upon the firing of the pistol, a visible target for the pistol, an invisible target for the projectile-rod consisting of several sections or diameters each capable of independent movement, several apertures in a vertical screen, several vertical slides arranged at the back thereof, and having numerals marked thereon, several vertically-sliding bars carrying the slides and formed with ratchet-teeth thereon, a detent in connection with each vertical slide for engaging the ratchet-teeth, and connections from each detent to a section of the invisible target, substantially as herein shown and described and for the purposes stated.

10. In a coin-operating machine, the combination of a pedestal mounted with capability

of universal movement within certain limits, a pistol rigidly connected with the upper end of the pedestal, a tubular guide connected with the pedestal and parallel with the pistol, 5 a projectile-rod carried by the tubular guide, means for forcibly projecting the projectile-rod, upon the firing of the pistol, a visible target for the pistol, an invisible target for the projectile-rod, consisting of several sections or 10 diameters each capable of independent movement, several apertures in a vertical screen, several vertical slides at the back thereof, and having numerals marked thereon, several vertically-sliding bars carrying slides and formed 15 with ratchet-teeth thereon, a detent in connection with each vertical slide, for engaging the ratchet-teeth, and connections from each detent to a section of the invisible target, a flexible band attached to each vertical slide 20 and passing over a guide-pulley, the lower ends of the several flexible connections, being fixed to one arm of a bell-crank lever, an arm or offset fixed with the shaft of the pocketed 25 money-drum and a link flexibly connecting the other arm of the bell-crank lever with such arms or offsets so that upon the partial rotation of the drum the indicating-slides of the register will be raised to their normal positions, substantially as herein shown and 30 described.

11. In a coin-operating machine, the combination of a pedestal mounted with capability of universal movement within certain limits, a pistol rigidly connected with the upper 35 end of the pistol, a tubular guide connected with the pedestal parallel with the pistol, a projectile-rod carried by the guide, means for forcibly projecting the projectile-rod upon the firing of the pistol, a visible target 40 for the pistol, an invisible target for the projectile-rod, such target being formed in several sections or diameters each capable of independent movement, several apertures in a vertical screen, several vertical slides arranged 45 at the back thereof and having nu-

merals marked thereon, several vertically-sliding bars carrying slides and formed with ratchet-teeth thereon, a detent in connection with each vertical slide for engaging the ratchet-teeth, and connections from each detent to a section of the invisible target, and a money-slot in suitable position, a chute connected therewith, a pocketed drum, arranged beneath the money-slot, a switch-bar arranged beneath the drum into which the coin 50 is discharged therefrom, a chute for conducting the coin back to the operator at certain times, an arm from the axis of the drum for delaying the switch-bar and discharging the coin into the money-box under normal circumstances, and a lever at one end arranged in the path of the vertical slide of the bull's-eye aperture, and at the other end adapted to tilt the switch-bar so that the coin is discharged into the money-chute returning it to 55 the operator upon a succession of bull's-eyes being obtained, substantially as herein shown and described and for the purpose stated.

12. In a coin-operating machine, the combination of a target consisting of several sections or diameters, each capable of independent movement, a vertical screen formed with several apertures, several slides arranged at the back of the apertures and having figures or signs thereon, several vertically-sliding 75 bars carrying the slides and provided with ratchet-teeth, a detent in connection with the teeth of each slide, and connections from each detent to a section of the target, substantially as herein shown and described.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 30th day of April, 1895.

VINCENT ROBBINS.
EDGAR CHARLES ROBBINS.

Witnesses:

EDMUND STANHOPE SNEWIN,
PERCY EBENEZER MATTOCKS.