

C. M. STINER.
COIN OPERATED DEVICE.

Patented Feb. 27, 1894.

Fig. 4.

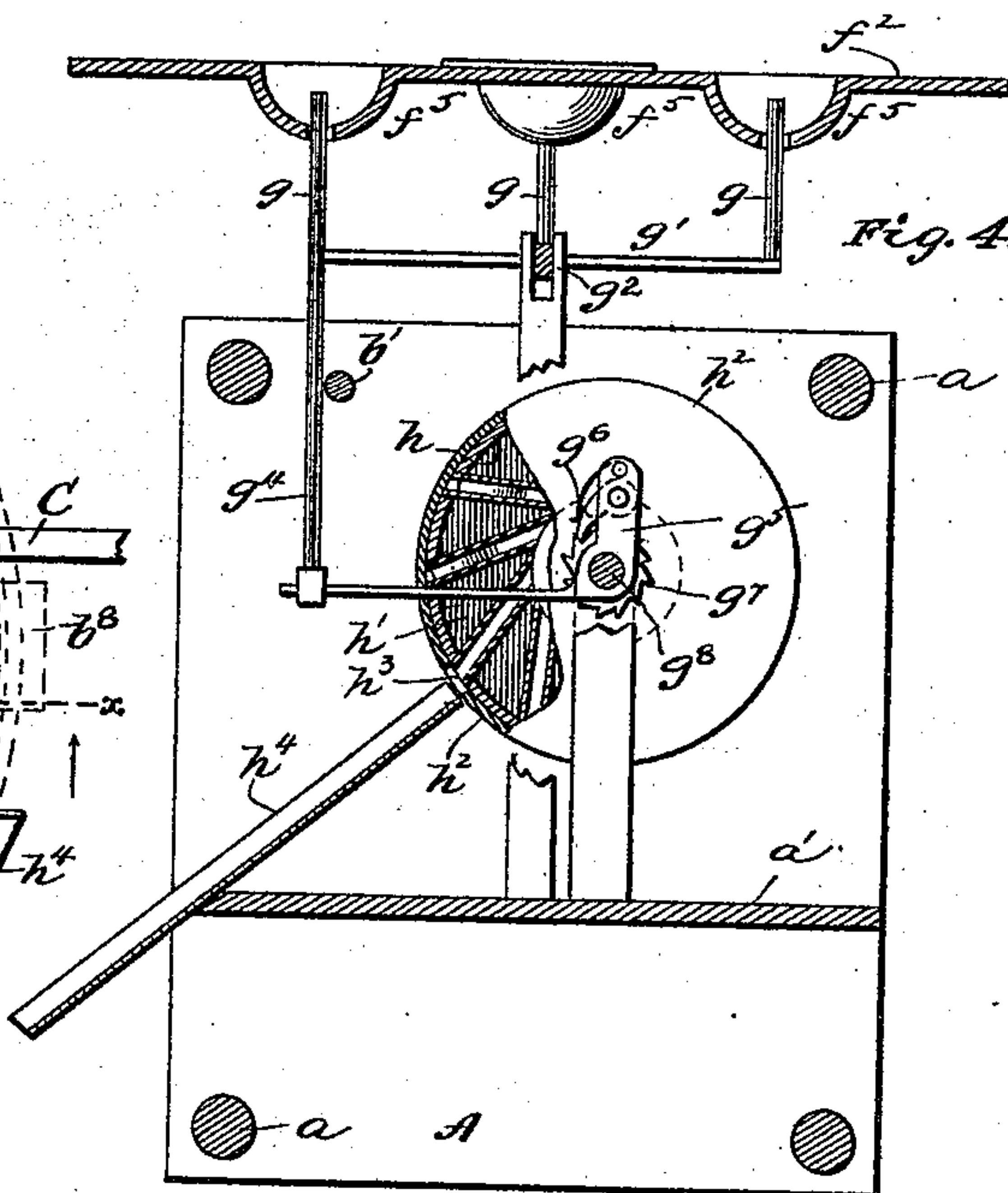
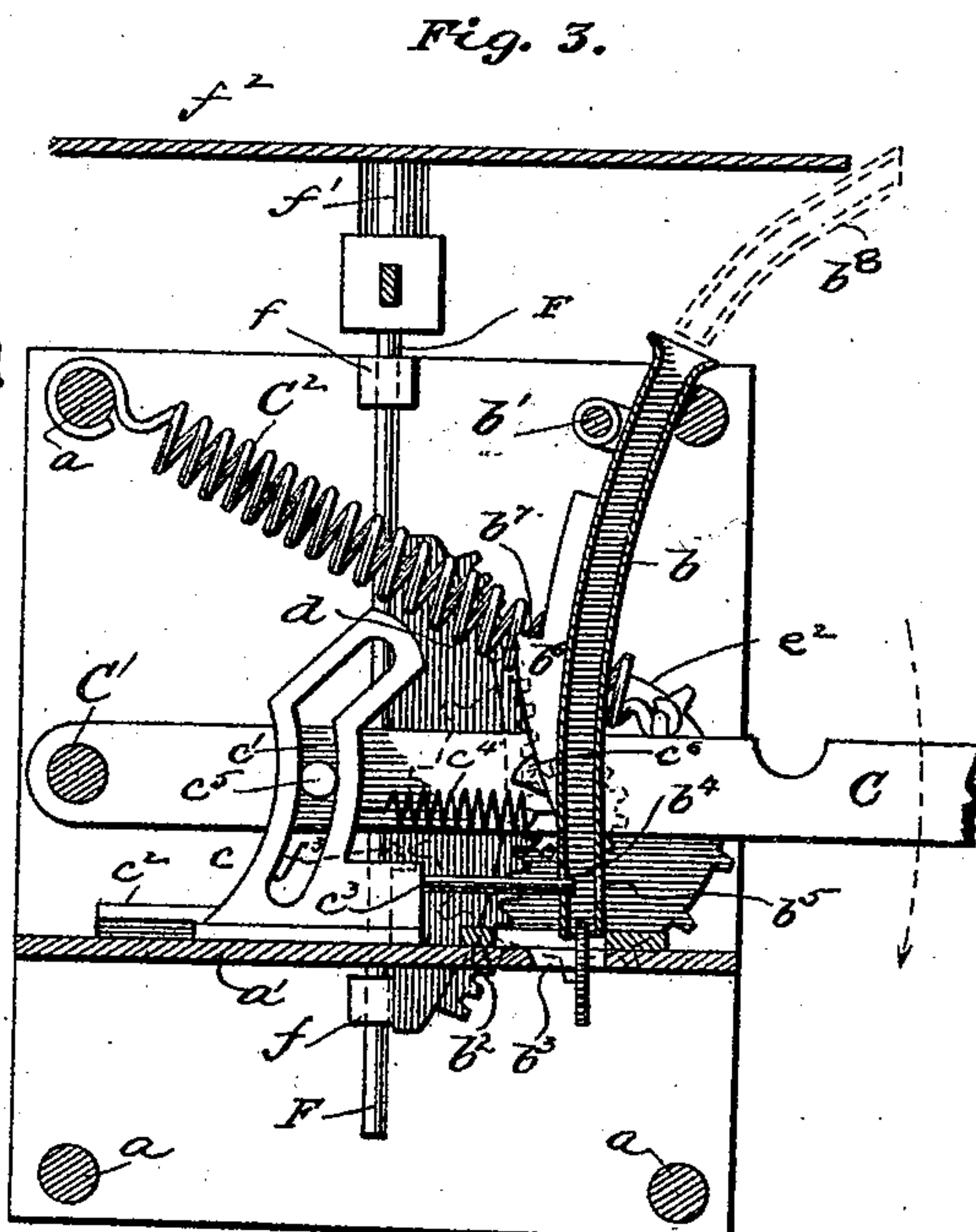


Fig. 2.



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UNITED STATES PATENT OFFICE.

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COIN-OPERATED DEVICE.

SPECIFICATION forming part of Letters Patent No. 515,375, dated February 27, 1894.

Application filed April 5, 1892. Serial No. 427,814. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE M. STINER, a citizen of the United States, residing in New York, in the county and State of New York, have invented certain new and useful Improvements in Coin-Operated Apparatus, of which the following is a specification.

My invention relates to coin operated apparatus, the object being to provide a machine which will have as few parts as possible and which shall be adapted for vending, games and other purposes.

The principal feature of the invention consists in the initial mechanism controlled by the coin and this feature may be applied to various kinds of coin operated devices.

The invention consists in the apparatus hereinafter described and claimed.

In the accompanying drawings: Figure 1 represents a plan of the apparatus, the case being shown in dotted lines and portions of the apparatus near the top of the machine broken away. Figs. 2 and 3 represent vertical sections of the apparatus taken on line x of Fig. 1, with the case removed and showing the apparatus in two different positions; and Fig. 4 represents a vertical section of the apparatus taken at about the line xx of Fig. 1 but looking in the opposite direction to that from which Figs. 2 and 3 were taken.

The apparatus is mainly supported between two plates A, A, connected together by rods a located at the corners of the plates. A horizontal shelf a' is arranged between the plates above which the apparatus is mounted and below which a coin receptacle is located.

b represents a coin chute, the mouth piece b^8 of which extends outside of the case A'. This chute is pivotally supported upon a cross rod b' and its lower end rests normally against a stop b^2 on the shelf a' in which position its lower end is closed by the shelf; but when the chute is swung away from the stop its lower end is caused to pass over a hole b^3 in the shelf which is of sufficient size and shape to permit anything in the chute to fall through it. At opposite points above the lower end of the tube, a distance about equal to the radius of the coin which is to pass through the tube, are located two holes b^4 b^5 , respectively. When there is no coin in the lower end of the chute, there is a free straight

passage through these two holes, but the coin closes this passage and intercepts the movement of any body through these holes in a transverse direction. Below the pivot of the chute there is attached to it a lug b^6 having a shoulder or notch b^7 for a purpose which will hereinafter appear.

Upon the shelf and in the rear of the chute is a bracket c provided with an upwardly projecting arm having a cam groove c' . The lower end of this bracket is fitted into guides c^2 in which it is adapted to slide toward and away from the chute. The forward side of the bracket carries a push rod c^3 which is in direct line with the holes b^4 b^5 in the chute. A spring c^4 connects the chute with the bracket, the tendency of which is to hold the lower end of the chute against the stop b^2 . The rear end of the spring may be connected with any fixed point, but the bracket is the most convenient point of attachment.

C represents the hand-lever by means of which the machine is operated after it is freed by the coin. This lever is pivoted to the shaft C' back of the bracket and extends upwardly in a diagonal direction and protrudes through a slot in the outer case in which it works. The normal position of this lever is shown in Fig. 2 and it is held in that position by spring C² which retracts it after it has been swung downward to an opposite angle when the machine is operated. The lever is provided with a pin c^5 which works in the cam groove c' of the bracket. The lower end of this cam groove is concentric with the lever, but the upper end is inclined forward so that the downward movement of the lever will cause the bracket to slide toward the chute until the pin runs into the lower part of the cam groove, after which the bracket remains stationary until the lever is lifted to its normal position, when it is moved backward or away from the chute. The lever C also carries a lug c^6 which stands in the same plane with the shoulder b^7 on the lug b^6 of the chute, so that when the lever is swung downward, the lug will strike the shoulder unless it is removed out of its path.

d represents a segment of spur gear attached to or moving with the lever C'. It is concentric with the pivot of the lever and engages with a pinion e tight on a stud e' in

the lower part of the frame. This stud also has a larger wheel e^2 having radial projections or teeth spaced some distance apart. The pinion and wheel are caused to turn by reason of the engagement of the segment with the pinion when the lever moves.

F represents a vertical rod mounted freely in suitable bearings f in the frame. At its upper end it passes into a hole in the bottom of a box f' attached to the under side of a table f^2 . Inside of the box the rod has a cross-head which engages with the bottom of the box when the rod is pulled down. The table f^2 is of spring metal and secured at one side or point only, as indicated in dotted lines at i , so that if the free portion of it is distorted and instantly freed, it will rebound and vibrate. The rod F carries a lug f^3 which stands in the path of movement of the teeth of wheel e^2 . The table f^2 has three cup shaped depressions f^5 in its surface, the bottoms of which have openings through which freely pass rods g, g, g , all connected to a frame g' pivoted at g^2 to a suitable part of the frame of the apparatus and counterbalanced by a weight g^3 on the opposite side of the pivot. The frame has attached to it a rod g^4 extending downward and connecting with one arm of the bell-crank lever g^5 , the other arm of which carries a pawl g^6 engaging with a ratchet-wheel g^7 on the shaft g^8 mounted in a suitable support. On this shaft is also mounted a cylinder h having a number of chambers h' which open at the periphery of the cylinder. This cylinder is surrounded by a stationary case h^2 having an opening h^3 beneath which is a delivery trough h^4 leading to the outside of the case. The chambers in the cylinder may contain any article of sale or a token of any kind which will drop out through the opening h^3 into the trough h^4 whenever a chamber registers with said opening h^3 .

On top of the table f^2 I place three heavy balls indicated in dotted lines in Fig. 2 which are preferably made of metal and of such size as to fit into the sockets f^5 in the table; the balls are free to move about the surface of the table and the space above the table is covered by a glass bell indicated in Fig. 2 so that the position of the balls may be observed at all times. The counter weight g^3 is adjustable on the arm of the frame g' so that it may be placed at a point where the combined weight of the three balls when resting upon the ends of the rods g in the three sockets f^5 will overcome the weight and cause the frame to tilt and move the bell-crank lever g^5 .

The operation of the device is as follows: The apparatus is shown in its normal position in Fig. 2. It is understood that by placing a coin of a certain denomination in the slot a certain article, such as a postage stamp, a piece of confectionery, a check or token of a certain kind will be passed out by the machine. The coin is deposited in the fixed mouth-piece b^8 , thence it slides into the pivoted mouth-piece b and is supported at the

lower end thereof by the shelf a' in which position it closes the passage through the openings b^4 and b^5 . The lever is then pushed down by hand and the pin c^5 forces the bracket c forward causing the push rod on the bracket to pass through the opening b^4 striking the penny and forcing it together with the lower end of the chute forward over the opening b^3 , as shown in Fig. 3, when the penny drops out of the chute into a receptacle below. The chute is held in this forward position by the lug c^6 , which slides along the back of the lug b^7 . When the handle goes back to its first position, the bracket and the chute return to the position shown in Fig. 2. As the handle travels downward, the segment d causes the wheel e^2 to turn in the direction of the arrow and the teeth of this wheel successively strike the upper side of the lug f^3 on the rod F, causing it to move downward and pull the table f^2 with it. After each projection leaves the lug f^3 , the table springs back pulling the rod with it, so that during the downward throw of the lever the table partakes of a jerky vibratory movement. While the lever is traveling back to its normal position the direction of the movement of the wheel e^2 is of course reversed, but the reciprocations of the rod F caused thereby, do not affect the table. The vibratory movement of the table throws the three balls around upon its surface promiscuously, and in case they should all three roll respectively into the three depressions f^5 and upon the upper ends of the rods g , their combined weight would cause the frame g' to tilt and move the ratchet wheel g^7 a space of one notch, which would rotate the cylinder h and present one of the chambers h' containing a token to the opening h^3 when it would fall out into the trough h^4 and be conveyed to the outside of the apparatus. In case only one or two of the balls come to rest in the depressions f^5 , their weight would not be sufficient to tilt the frame and so the token would not be delivered.

In order to prevent the operation of the device in case no coin is deposited in the slot, it will be seen that the movement of the lever will cause the push rod on the bracket to pass freely through the holes b^4 and b^5 . Consequently the chute will not be swung on its pivot as the lug c^6 will engage with the shoulder b^7 and prevent an extended movement of the lever. The lever is free of course to make a short movement which is necessary on account of the time required to swing the chute so that the shoulder b^7 will be clear of the lug b^6 .

The swinging of the chute and its combination with the lever whereby the lever is locked or released, is regarded by me as the principal feature of this invention. The mechanism which is controlled by the weight of the balls, &c., are secondary matters and may be varied at will, although I herein claim the details shown and described. The advantage in swinging the chute is that it eliminates

one element from the ordinary apparatus of this kind.

Having thus described my invention, I claim—

5 1. In a coin freed apparatus, the combination with a movable coin chute, of an operating device or lever, a stop on the chute to prevent the movement of the lever and a device operated by the lever and cooperating
10 with the coin to move the chute and allow the lever to be moved.

2. In a coin freed apparatus, the combination of a movable coin chute open at the bottom but normally closed by an exterior plate,
15 *a'*, a hand lever and push rod operated thereby, the chute being provided with an opening through which the push rod passes in the absence of a coin and a gate or passage, as *b*³
20 chute has been moved from its normal position.

3. The combination with a movable chute of a hand lever and a sliding bracket or frame, *c*, provided with a cam groove *c'*, a pin on the lever moving in said cam groove and a push
25 rod carried by the bracket and acting upon the chute to move it for the purpose set forth.

4. The combination of a lever freed by the coin, of a table caused to move or vibrate by the movement of the lever, a plurality of depressions or seats in said table, a number of
30 weights loosely placed upon said table and fitting said depressions or seats, a reservoir or magazine provided with a gate and a system of levers, one end of which is connected to the gate and the other exposed in each of
35 said depressions or seats to the said weights substantially as and for the purpose set forth.

5. In a coin freed apparatus, the combination with a movable coin chute, of an operating device or lever, a stop to prevent the
40 movement of the lever and a device operated by the lever and cooperating with the coin to move the chute and allow the lever to be moved.

In witness whereof I have hereunto signed
45 my name in the presence of two subscribing witnesses.

CLARENCE M. STINER.

Witnesses:

FRANK S. OBER,

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