

(No Model.)

2 Sheets—Sheet 1.

G. F. W. SCHULTZE.
COIN CONTROLLED APPARATUS.

No. 502,891.

Patented Aug. 8, 1893.

Fig. 1.

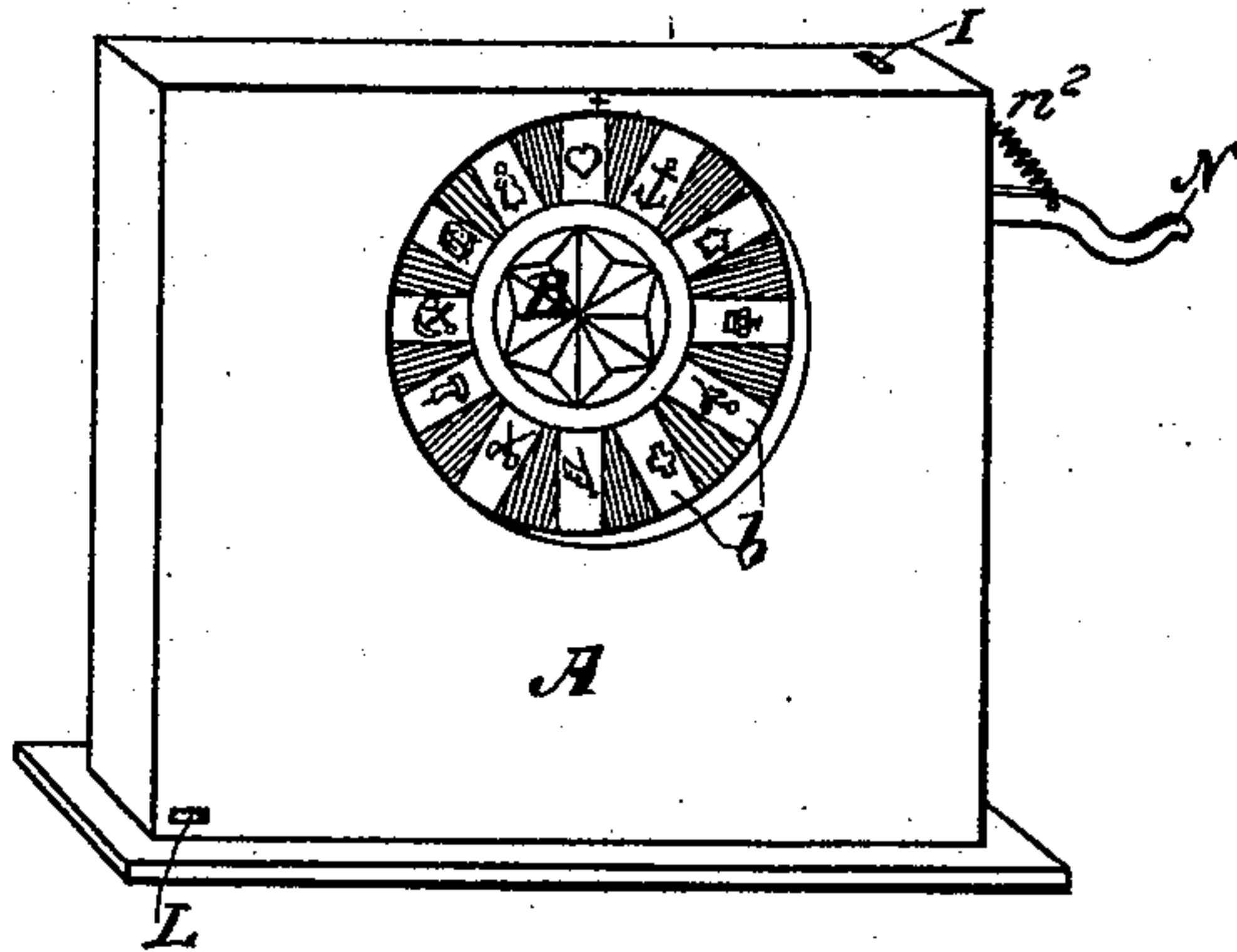
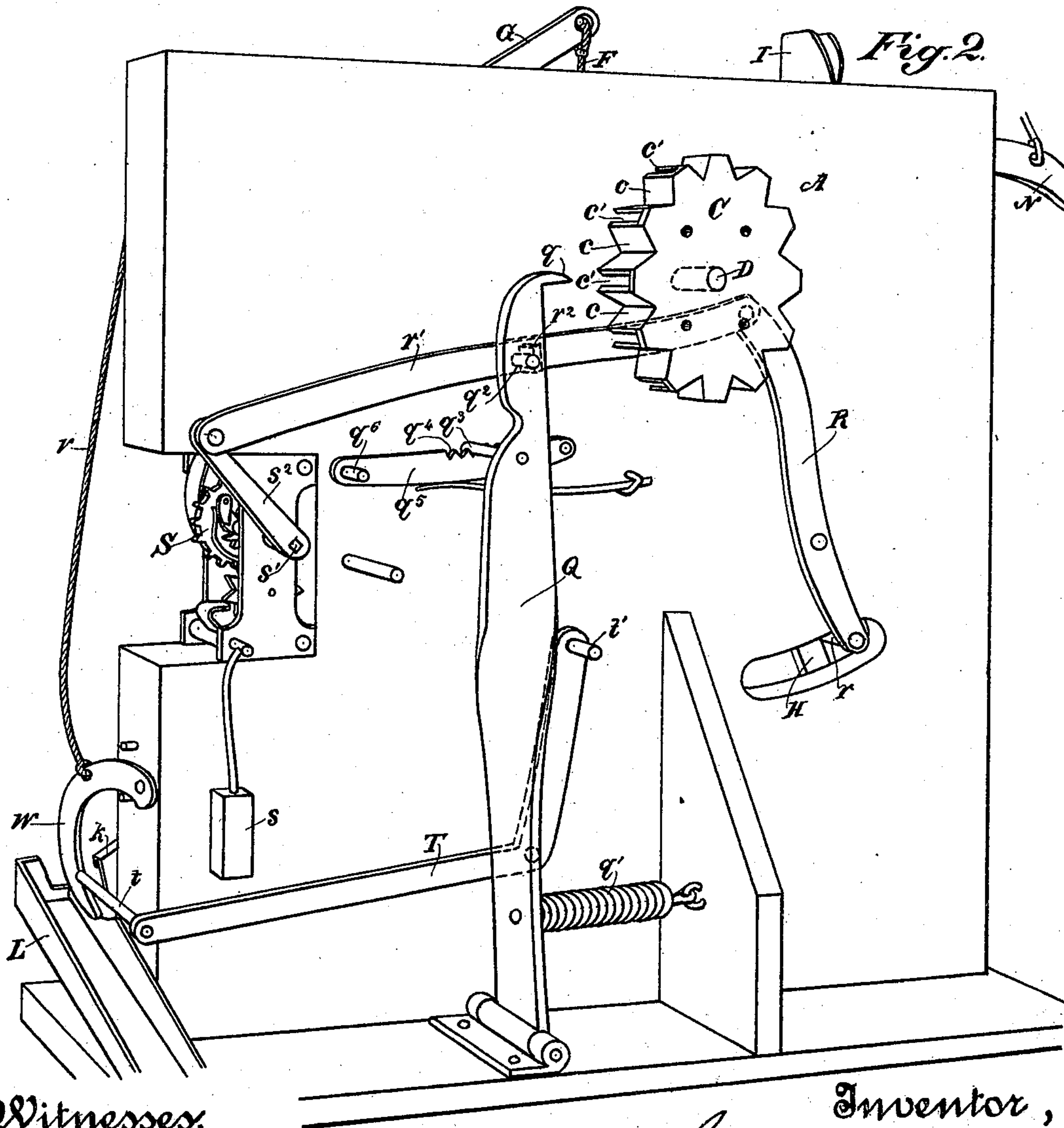


Fig. 2.



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2 Sheets—Sheet 2.

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Fig. 3.

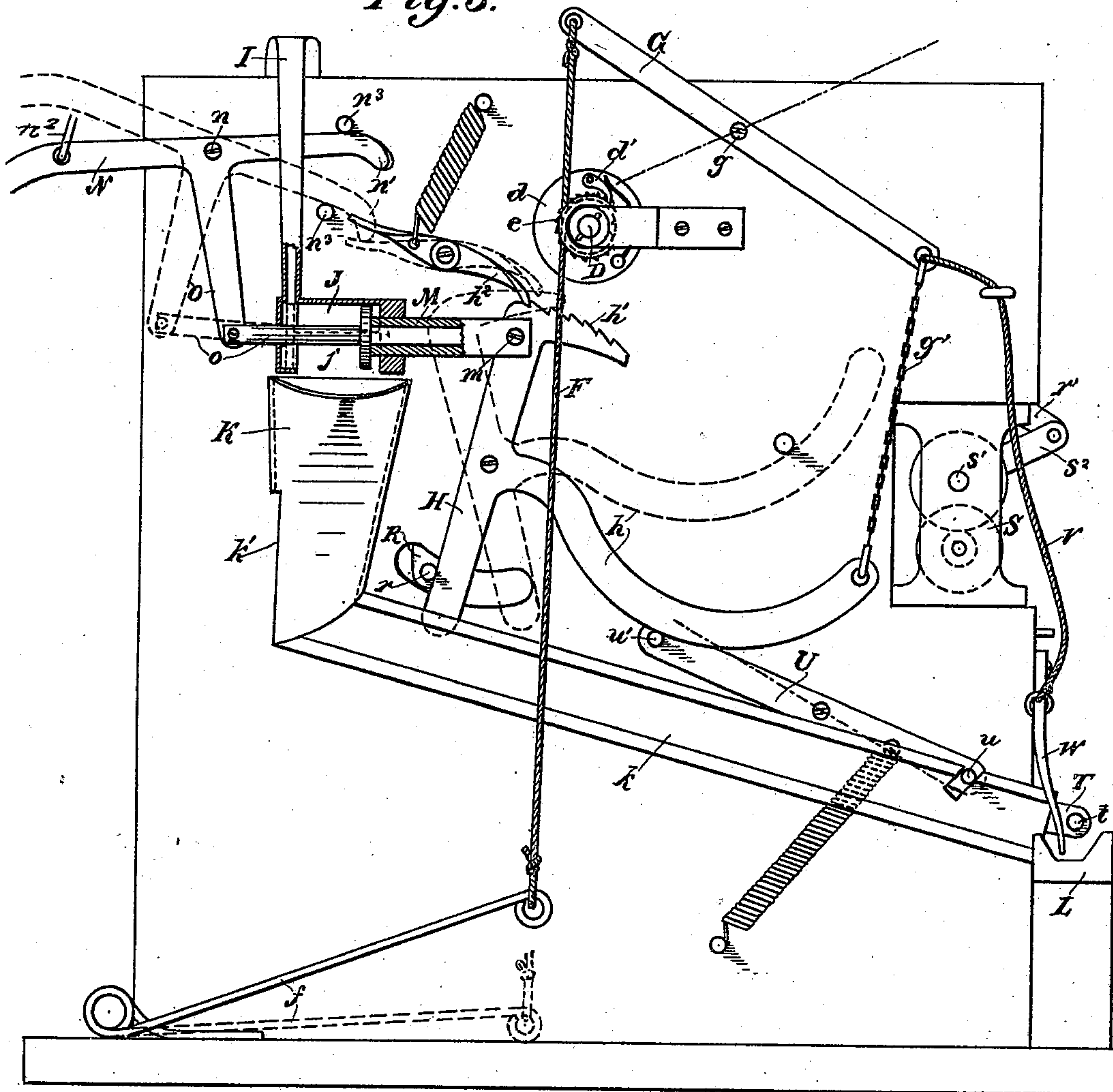
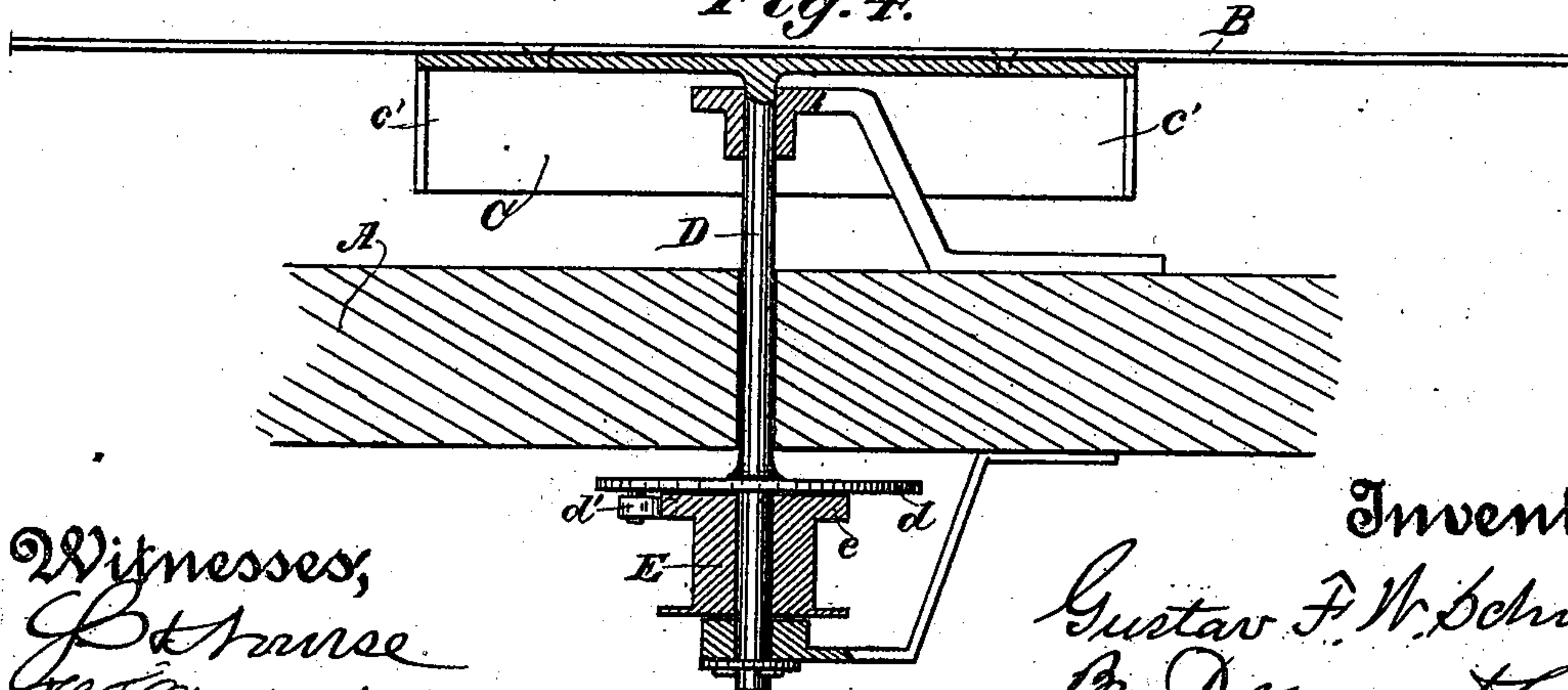


Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAV F. W. SCHULTZE, OF BERKELEY, CALIFORNIA.

COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 502,891, dated August 8, 1893.

Application filed May 22, 1893. Serial No. 475,129. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV F. W. SCHULTZE, a citizen of the United States, residing at Berkeley, Alameda county, State of California, have invented an Improvement in Coin-Controlled Apparatus; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of coin controlled apparatus in which a disk is rotated by the deposit of a coin acting through suitable intervening mechanism, said disk bearing on its face designs of any suitable character, illustrating by their position, upon the stopping of the disk, any desired result, or a failure to reach a result.

My invention consists in the novel connections whereby the deposit of the coin is enabled to rotate the disk, the means controlled by the stopping of the disk for determining by the reaching, or the failure to reach, any determined result, whether the coin shall remain in the apparatus, or an equivalent coin shall be discharged therefrom, and the means for preventing a misuse of the apparatus, whereby its functions are perverted; and in various details of construction and arrangement, all of which I shall hereafter fully describe and specifically claim.

The object of my invention is to provide an interesting machine of this class, in which unless a pre-determined result be arrived at, the coin or an equivalent thereof, deposited by the operator, shall be returned to him. The result may be of any character, as, for example, the telling of fortune, which may be effected by means of a prepared list of statements each of which corresponds to a given position of the disk.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a general view showing the exterior of my machine, with the exposed indicating disk B. Fig. 2 is a view of the mechanism lying just behind the face-plate A on the front of the machine. Fig. 3 is a view of the mechanisms on the back, the dotted lines showing changed positions. Fig. 4 is a horizontal section in the plane of shaft D.

Upon the face A of a suitable frame, is a rotatable disk B having upon it any suitable designs, such as are represented by the cards

or other pictorial illustrations *b* arranged in annular series about its face. This disk is firmly secured to a wheel C, which has in its periphery a series of alternating depressions of different depths, here represented by the notches *c*. and slots *c'*. The wheel C is secured upon a rotating shaft D which carries on its inner end a plate *d* bearing a spring controlled pawl *d'*. Upon the shaft is also mounted loosely a sleeve E having a ratchet *e* which engages the pawl *d'* in one direction, and slips it in the other. Secured to and wound upon this sleeve is a cord F, the lower end of which extends downwardly, and is secured to a spring *f* below, said spring representing any suitable initial power, such as a weight for rotating the shaft. The upper end of the cord is secured to a lever G which is pivoted at *g*, the other end of said lever being connected by a chain or cord *g'* with the extremity of an arm *h* on a pivoted lever H. The upper end of this pivoted lever H has ratchet teeth *h'* with which a spring controlled pawl *h²* engages.

I is a chute for the reception of the coin. The lower end of this chute terminates in a barrel or cylinder J having an opening *j* in its bottom, said opening being directly above a funnel K, the lower end of which is in communication with the runway *k*, the lower end of said runway being in communication with the discharge chute L opening to the outside. The lower end of the funnel K has in its back an opening *k'* into the interior of the machine.

In the barrel J is mounted and adapted to slide a hollow rod M, the inner end of which is open, and the outer end is connected at *m* with the lever H.

N is the operating lever, the outer end of which projects to the outside. It is pivoted at *n*, and its inner extremity *n'* is adapted to bear downwardly upon the pawl *h²* which controls the lever H. A spring *n²* holds the outer end of the lever N up, with its inner extremity normally bearing upon and holding the pawl *h²* out of its engagement with the ratchet lever H. Suitable stops *n³* control the movement of the inner end of the lever N. This lever N has a downwardly extending crank arm O, the lower end of which is connected with the plunger *o* adapted to move into and out of the hollow rod M within the barrel J.

The operation of the mechanism as far as

described is as follows:—A coin being dropped into the receiving chute I falls down into the barrel J, and rests temporarily in an upright position therein, directly in front of the plunger *o*. Now, the operating lever N is pressed down, whereby through its crank arm O, the plunger *o* is moved forwardly into the barrel against the coin, and this coin being between the end of the plunger and the open end of the rod M within the barrel, acts as an obstacle in such a way that as the plunger advances pushing the coin in front of it, the rod is forced outwardly from the barrel by the action of the plunger through the intervening coin. The rod moving outwardly throws the upper end of the lever H over, and the pawl h^2 being relieved of the inner extremity of the operating lever N successively engages the ratchet teeth of lever H, and acts as a retaining pawl therefor. As the lever H moves over, its arm *h* is carried downwardly and through the connecting chain g' , the lever G is actuated, whereby through its cord F, it turns the sleeve E, the ratchet *e* of which now slips the pawl d' and thereby winds up the cord on said sleeve and pulls the spring *f* upwardly, under tension. This continues until the lever N is released, whereby its spring n^2 causes it to return to its normal position. This return, first withdraws the plunger *o* whereby the coin being relieved, drops down into the funnel K and thence into the runway *k*; and, second, the inner extremity of the lever N coming in contact with the pawl h^2 releases it from its engagement with the lever H, and thereupon the spring *f* acting through the cord F turns the sleeve E, the ratchet of which, in this direction, engages the pawl d' and thereby turns the shaft D which, through the wheel C, rotates the disk B on the front of the machine. In this same movement, the cord F rewinding upon the sleeve E, pulls the lever G down, and said lever, through its chain g' acting on the arm *h*, moves the lever H back which thus returns the rod M to its initial position within the barrel, ready for the reception of a succeeding coin.

Now, in order to govern the disposition of the coins within the machine, I have the following mechanism: Just within the face of the machine is a vertical lever Q, the upper extremity *q* of which is adapted to enter, either a notch of the wheel C or one of the slots thereof, according to the position at which said wheel may come to a state of rest. This lever is held to its engagement by a spring q' . R is a pivoted lever having at its lower end an inwardly projecting pin *r* which lies in the path of the lower end of the lever H. The upper end of this lever has connected with it a link r' having a contact lug r^2 which is adapted to come in contact with the pin q^2 on the lever Q. This lever Q also carries a pin q^3 which is adapted to engage the teeth q^4 of a spring controlled pivoted ratchet bar q^5 having in its outer end a contact pin q^6 . The operation of this mechanism is as fol-

lows:—When the lever H is thrown forwardly, as heretofore described, its lower end moving backwardly comes in contact with the pin *r* of the pivoted lever R which has the effect of throwing the upper end of lever R in the opposite direction, whereby its link r' traveling over causes its contact lug r^2 to come to engagement with the pin q^2 on the lever Q. This has the effect of moving the lever Q out of engagement with the wheel C which leaves the latter free, and said lever is held back out of its engagement, by the engagement of its pin q^3 with the teeth of the ratchet bar q^5 . Thus the wheel C with its disk B has full opportunity to spin, and to come to a state of rest.

Now, to relieve the lever Q and allow it to return to its engagement with the wheel, I have the following: S is a spring-actuated clock mechanism, controlled by a pendulum *s*, and proper escapement. The winding or driving shaft s' of this clock-work has a crank arm s^2 , which is connected with the outer extremity of the link r' , and said crank arm when thrown over to its position of rest, is adapted to come in contact with the pin q^6 on the free end of the ratchet bar q^5 . Now, as the link r' moves over, as heretofore described, it throws over the crank arm s^2 and thereby winds up the clock mechanism S, and when the lever R is released by the lever H, the crank arm in returning under the power of its clock mechanism, will return the lever R, and at the end of its stroke and after the wheel C has come to a position of rest, said crank arm, coming in contact with the pin q^6 on the ratchet bar q^5 will force said bar down, thereby relieving the pin q^3 of the lever Q which latter, under the influence of its spring, will return to the wheel C and its extremity will engage said wheel, either by entering one of the notches *c* on the periphery, or one of the slots c' according to the position in which said wheel may have come to a state of rest. This limitation of the lever Q at different distances, determines by its position, the retention or the return of the coins, as I shall now describe. T is a bell crank lever, pivoted at its angle. On one arm it has a pin *t* which lies at the extremity of the coin runway *k* where said runway communicates with the discharge chute L. Its other arm carries a pin t' which lies in the path of movement of the lever Q. Now, if the lever engages one of the notches *c* of the wheel C, it does not come in contact with the pin t' , as it is stopped short thereof, so that the lever T remains, by gravity, in a position of rest with its pin *t* directly in the line of the end of the runway *k*, and said pin thus holds the coin back; but if the lever Q engages one of the slots c' of the wheel C, it will move far enough over by this engagement, to come in contact with the pin t' , whereby the bell crank lever T will be raised, and its pin *t* will be lifted from in front of the coin, which will thereupon pass out into

the chute L, and will be delivered clear of the machine. Therefore, according to the position in which the wheel C, with its attached disk B, comes to a state of rest, the lever Q will by this movement to different distances, operate or will not operate the lever T which will release or detain the coin, and thus the object will be subserved of retaining the coin if the disk comes to rest at certain points, or returning it if it comes to rest at other points. As the runway *k* is full of coins, it is necessary to control the discharge of only such coin or coins as it may be desired to return, and for this purpose there is a pivoted lever U, the lower end of which carries a stop pin *u*, adapted to traverse the passage of the runway, near its lower end, said lever being spring-controlled and having at its upper end a pin *u'* lying in the path of movement of the arm *h* of lever H. The lever U lies with its stop pin *u* normally in the path of the coins in the runway, and the coins are thereby arrested, but as the arm *h* moves downwardly and comes in contact with the pin *u'*, the pin *u* is raised, and the coins pass down to the limiting pin *t* at the lower end. Now, when operated, as heretofore described, and the arm *h* rises, the lever U will immediately return, and its stop pin *u* will come in front of succeeding coins, allowing only one or more, as the case may be, to remain below it, and to be held there by the pin *t* or relieved as the case may be.

In order to prevent tampering with the apparatus, I have the following mechanism: It may be possible for the operator by pressing down gently on the lever N, to effect the disengagement of the lever Q from a notch of the wheel C but very slightly, and then by jarring the machine, to allow said lever to return and enter one of the slots of the wheel which would have the effect of releasing all the coins without permitting the full operation of the apparatus. To avoid this I have connected by a cord V with one end of the lever G, a gravity stop W which lies down in front of the extremity of the runway *k*. This stop W, as the parts are wound up, as before described, descends by gravity, by the movement of the lever G and stops in front of the runway, and as the disk spins the lever G returning will, through the cord V pull and hold up the stop W out of the way. But when the wheel C and its disk B are not allowed to spin, the lever G does not move, and, consequently, the pivoted stop W will hang in front of the coins, and will not allow them to come out.

The coins in the runway may be regarded as a working fund, for said runway must first be filled and remain so, before succeeding coins will pass permanently into the interior of the apparatus. When the runway *k* is full, then upon the next operation of the machine, if the disk stops in a position to retain the coins, the coin just deposited being unable to get into the full runway will pass directly out through the opening *k'* in the back of funnel

K and fall into the machine, a proper receptacle being provided. This begins the permanent profit. But if the disk stops successively in position to deliver a coin exteriorly, the row of coins in the runway will gradually diminish and this must be replenished by successive spinings reaching a result, before profits will begin again.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a coin controlled apparatus, the combination of a rotatable disk, a power device, a connection between said device and the disk whereby the latter is rotated, connections controlled by the insertion of a coin for setting and tripping the power device, and a means comprising a wheel with depressions of different depths, and a lever to engage the same controlled by the position of said disk when in a state of rest for retaining or returning a deposited coin, substantially as herein described.

2. In a coin actuated apparatus, the combination of a rotatable disk, a shaft on which it is mounted, a sleeve loosely mounted on said shaft and having a pawl and ratchet connection therewith, a power device and a cord or line connecting said device with the sleeve whereby they are reciprocally operated, an operating lever, and intervening mechanism comprising a ratchet lever and means for operating and controlling it and a second lever connected with an arm of the ratchet lever and with the cord or line, said mechanism being controlled by the deposit of a coin for winding up and tripping said sleeve, whereby the disk is rotated, substantially as herein described.

3. In a coin actuated apparatus, the combination of a rotatable disk, a shaft on which it is mounted, a sleeve loosely mounted on said shaft and having a pawl and ratchet connection therewith, a power device and a cord or line connecting said device with the sleeve whereby they are reciprocally operated, an operating or main lever and intervening mechanism controlled by the deposit of a coin for winding up and tripping said sleeve, consisting of a ratchet lever, a plunger and hollow rod receiving an intervening coin whereby the ratchet lever is operated by the main lever, a pawl for controlling said ratchet lever and operated by the main lever, an arm of said ratchet lever and a pivoted lever connected with said arm and with the cord or line of the sleeve, substantially as herein described.

4. In a coin controlled apparatus, the combination of a rotatable wheel carrying an indicating disk, said wheel having annular series of alternating depressions of different depths, a lever adapted to enter and to be limited at different distances by said depressions according to the position in which the wheel comes to a state of rest, a coin runway, and a stop operated by the lever according to its po-

sition of engagement with the wheel to retain or discharge the coin from said runway, substantially as herein described.

5. In a coin controlled apparatus, the combination of a rotatable wheel carrying an indicating dial, said wheel having annular series of alternating depressions of different depths, a lever adapted to enter and to be limited at different distances by said depressions according to the position in which the wheel comes to a state of rest, a coin runway and a stop operated by the lever according to its position of engagement with the wheel, to retain or discharge the coin from said passage, consisting of the bell crank lever having the pin in the path of the coins and the pin in the path of the lever, substantially as herein described.

6. In a coin-controlled apparatus, the combination of a rotatable disk with carrying wheel having series of alternating depressions of different depths in its periphery, a coin runway having an exterior discharge, a stop controlling said discharge, a lever Q adapted to engage the depressions of the carrying wheel and to be limited thereby at different distances, means for holding the lever away from its engagement while the plate is rotating, means for tripping said lever to allow it to return to its engagement when the wheel is in a state of rest, and means operated by the lever for actuating the stop controlling the coin runway only when the lever engages the deeper depressions of the carrying wheel, substantially as herein described.

7. In a coin-controlled apparatus, the combination of a rotatable disk with carrying wheel having series of alternating depressions of different depths in its periphery, a coin receptacle and setting and tripping means for rotating the disk through the deposit of a coin, a coin runway having a discharge to the exterior, a stop controlling said discharge, a lever Q adapted to engage the depressions of the carrying plate and to be limited at different distances thereby, means operated by the setting and tripping mechanism for forcing back said lever from its engagement previous to the rotation of the disk and wheel, a spring-

controlled shaft of a clock-work mechanism operated by the setting and tripping mechanism, a ratchet bar for holding the lever Q withdrawn while the wheel is rotating, a means operated by the clock-work mechanism in exhausting, for tripping the ratchet bar to allow the lever to return to its engagement after the wheel and disk have come to a state of rest, and means operated by the said lever in returning for actuating the stop controlling the coin runway only when the lever engages the deeper depressions of the carrying wheel, substantially as herein described.

8. In a coin-controlled apparatus, the combination of the rotating disk and the notched and slotted carrying wheel C, the lever Q engaging it, the coin runway with exterior discharge, the stop controlling said runway, and the lever T actuated by the lever Q for operating the stop, means for rotating the wheel C, including the lever G, the gravity safety stop W, at the end of the coin runway and the cord connecting it with the lever G, substantially as herein described.

9. In a coin-controlled apparatus, the combination of the rotating disk, the coin runway having the exterior discharge, a setting and tripping mechanism for rotating the disk, including the lever H with its swinging arm *h* and the swinging lever U operated by the arm *h* and having a stop pin controlling the passage of the coin through the runway, substantially as herein described.

10. In a coin-controlled apparatus, the combination of the coin runway having the exterior discharge and an automatic stop controlling said discharge and the funnel communicating with the head of the runway and having a back discharge to the interior of the apparatus through which the coins drop when the runway is full, substantially as herein described.

In witness whereof I have hereunto set my hand.

GUSTAV F. W. SCHULTZE.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.