

(No Model.)

3 Sheets—Sheet 1.

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

No. 540,195.

Patented May 28, 1895.

Fig. 1.

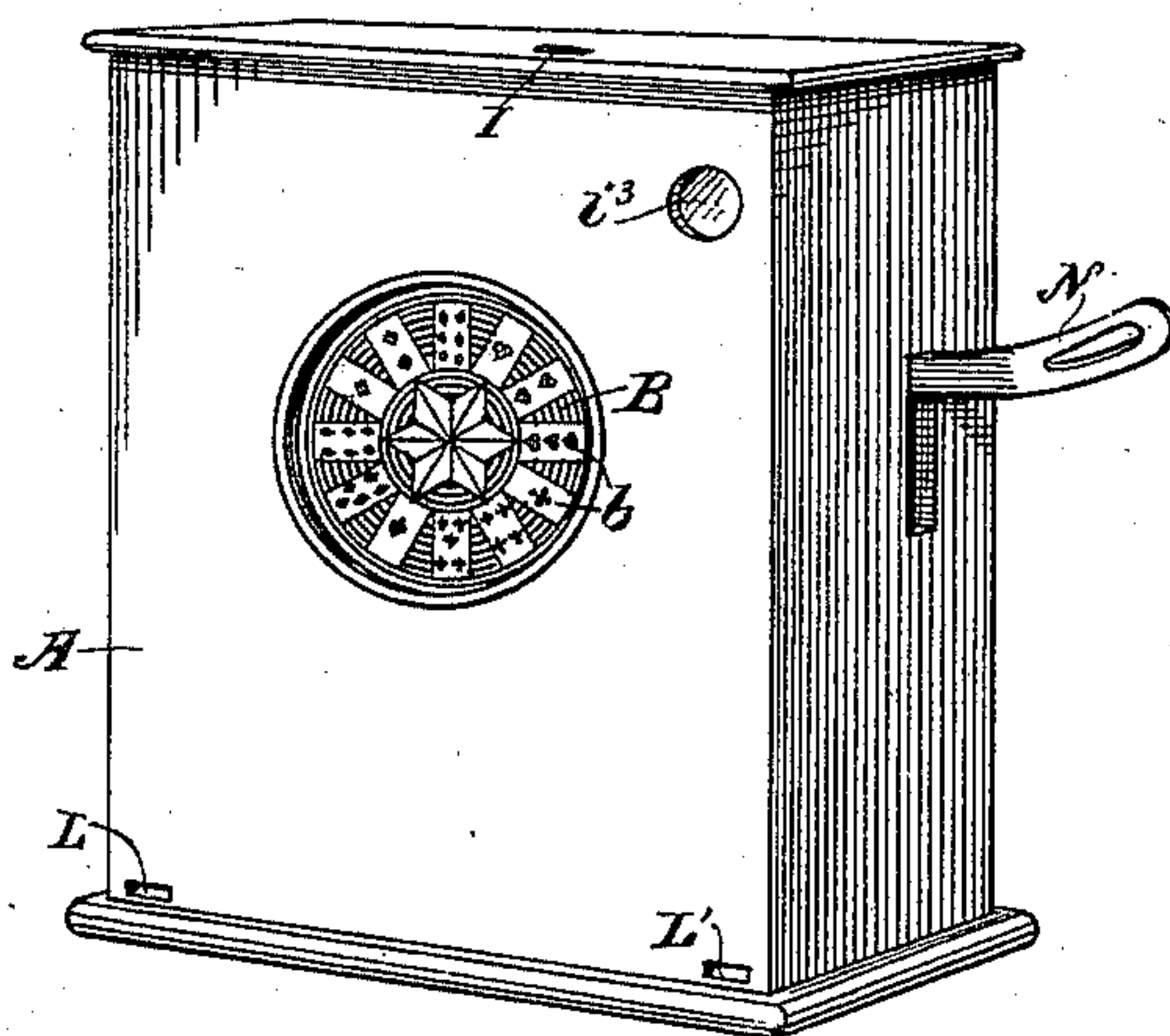
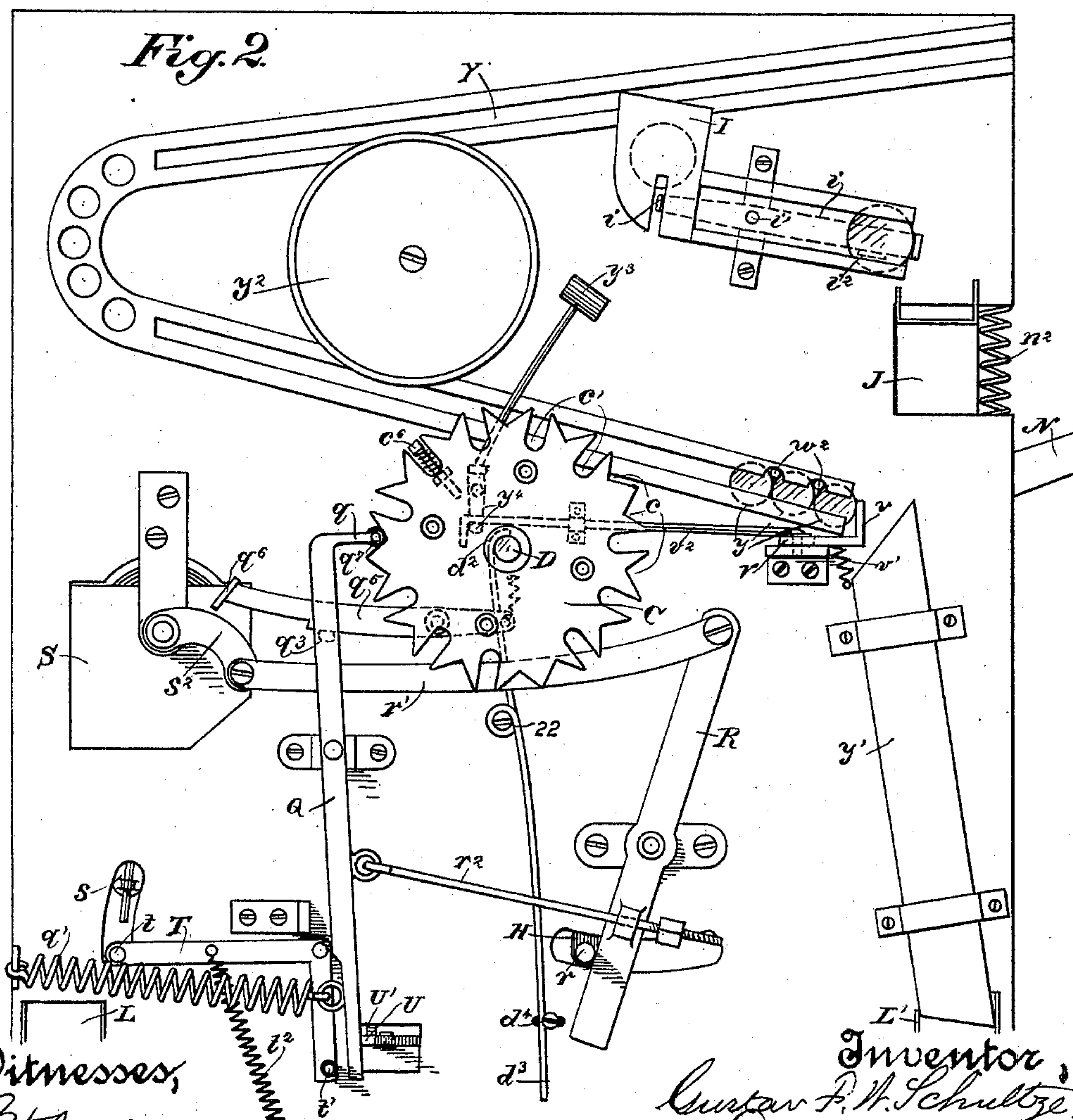


Fig. 2.



Witnesses,
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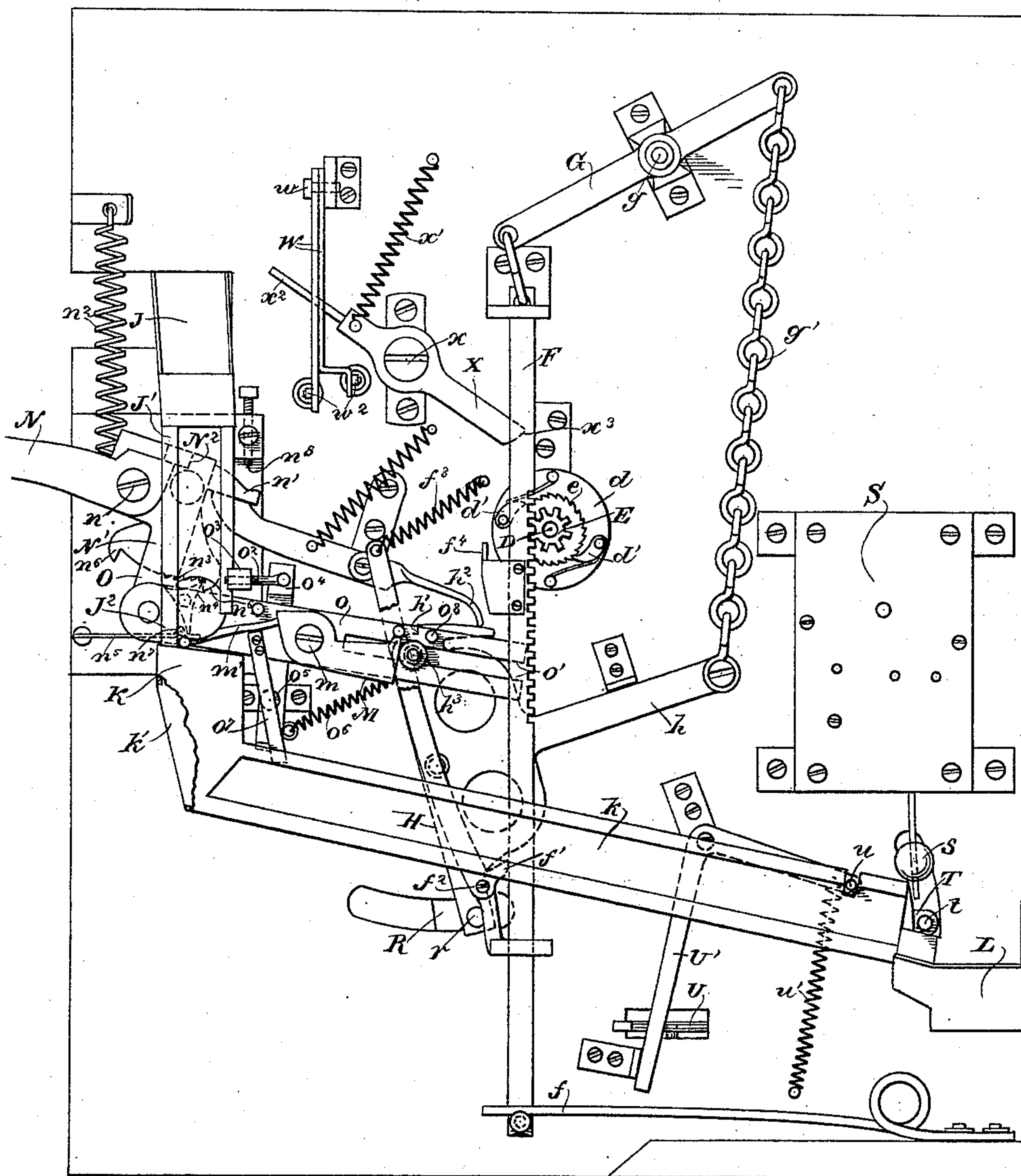
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3 Sheets—Sheet 2.

No. 540,195.

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Fig. 3.



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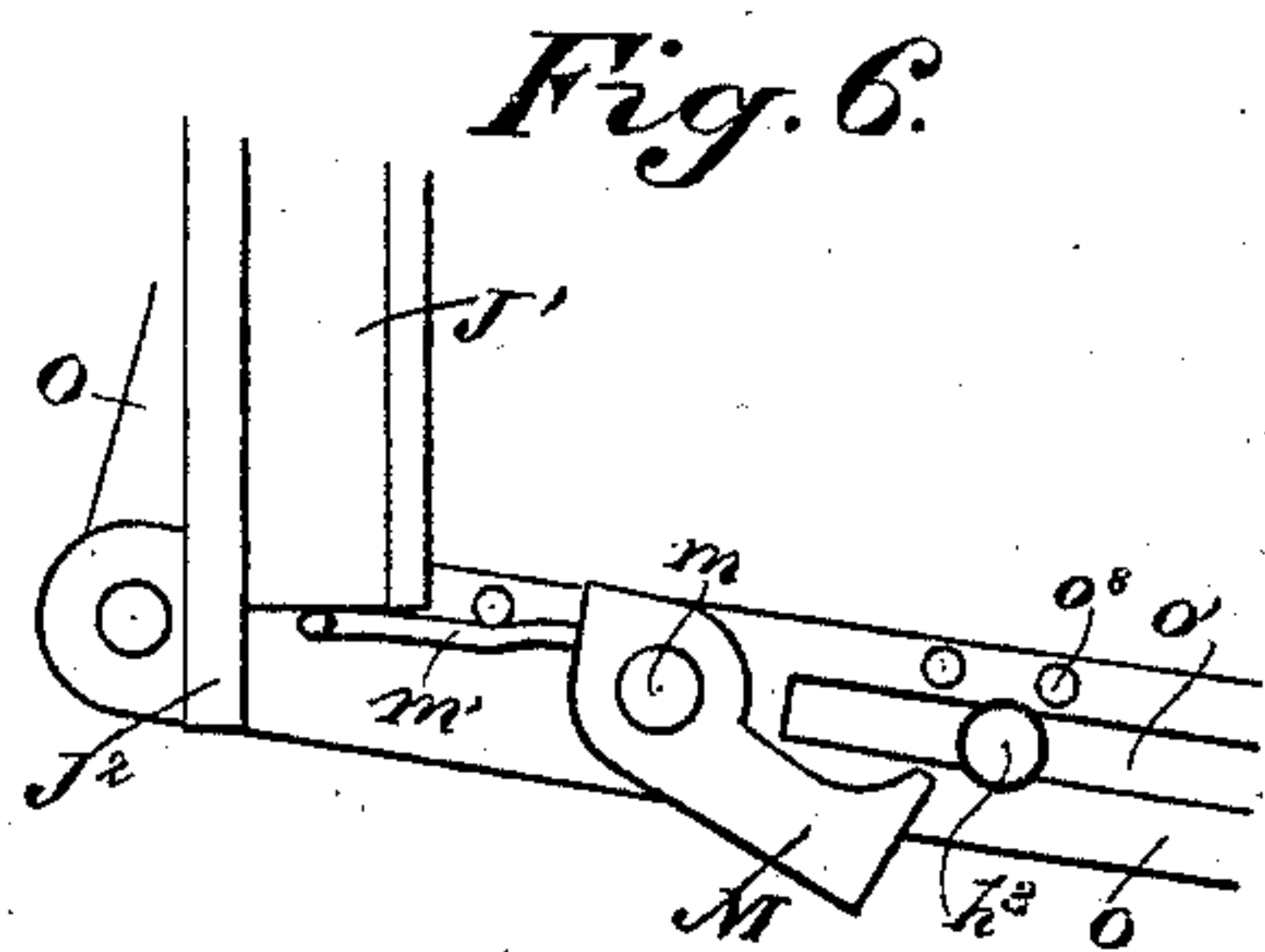
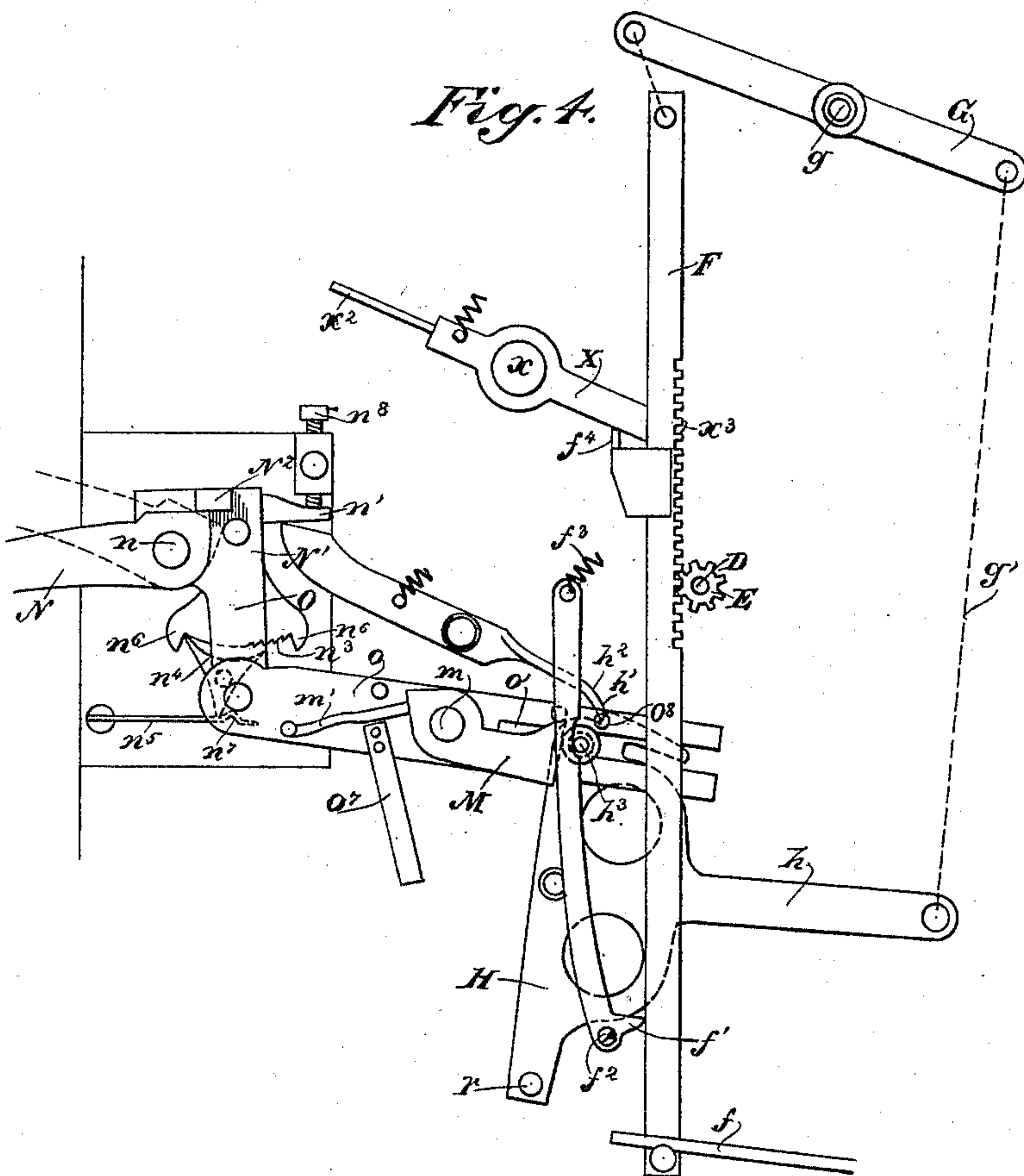
(No Model.)

3 Sheets—Sheet 3.

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

No. 540,195.

Patented May 28, 1895.



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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. 540,195, dated May 28, 1895.

Application filed February 27, 1895. Serial No. 539,920. (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, county of Alameda, 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 indicating by its spinning, and coming to a state of rest, a desired result, or a failure to reach such result. This class of apparatus is illustrated by my previous patents, Nos. 502,891 and 514,664, dated August 8, 1893, and February 13, 1894, respectively, and my present invention consists in certain improvements in the details of construction, arrangement and combination of a machine of the character illustrated by said patents, which I shall hereinafter fully describe, and specifically claim, said improvements having for their general object, the greater accuracy and efficiency of the machine, and a capacity to more perfectly defeat attempts to tamper with it, thus preventing a misuse of the apparatus, tending to pervert its functions.

The particular object of each improvement will hereinafter appear, in connection with its description.

In my previous patents, and also in my present invention, the main feature of the machine is the return of the coin deposited in the machine, or an equivalent thereof, or the delivery of a prize, or a token denoting a prize, in case a predetermined result be not arrived at, otherwise to retain said coin.

In describing my present improvements, it will be necessary to describe, with some particularity, the parts of the machine or machines, shown in my previous patents, and which are retained in the present one; and for a better understanding if such be necessary, reference is, hereby, especially made to said prior patents.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is an exterior view of my machine. Fig. 2 is an elevation of the parts on the front of the interior support. Fig. 3

is an elevation of the parts on the back of said support. Fig. 4 is a view of the main parts of Fig. 3, showing them in the position assumed upon the depression of the handle N. Fig. 5 is a side view of the cam-plates W for operating the prize-controlling mechanism. Fig. 6 is a detail of the stop-catch M, showing it out of engagement with pin or stud h^3 .

Upon the face A of a suitable frame (Fig. 1) is a rotatable disk B, having upon it any suitable designs, such as are represented by the cards, or other pictorial illustrations b , upon its face. This disk is secured to the face of a wheel C (Fig. 2) which is adapted, in the present case, as in the former cases, to control the discharge of the coin. The particular construction of this wheel C, is practically similar to that of the corresponding wheel in my earlier patent, No. 502,891, that is to say, its periphery is divided into a series of depressions of different depths, the shallower ones being represented by the notches c and the deeper ones by the notches c' . These may alternate, or two or more shallow ones may be placed side by side or two or more deeper ones, according to the predetermined arrangement of the wheel. This wheel C is secured upon a rotating shaft D, which carries, on its inner end, a plate d , bearing spring-controlled pawls d' (Fig. 3). Upon the shaft is also mounted loosely a sleeve, one portion of which is formed into a pinion E, and the other portion has a ratchet e , which engages the pawls d' in one direction, and slips them in the other (Fig. 3). Engaging the pinion E is a vertical rack bar F, the lower end of which is acted upon by a spring f , representing a suitable power (Fig. 3). The upper end of the rack bar is secured to a lever G, which is pivoted at g , and the other end of said lever is connected by a chain or cord g' with the extremity of an arm h of the centrally pivoted lever H, which latter may be called the main actuating lever of the machine, (Fig. 3.) The upper end of this main lever H has a ratchet tooth h' with which a spring-controlled pawl h^2 engages, (Fig. 3.)

I is a chute for the initial reception of the coin, (Fig. 2.) This chute is composed of a vertical or funnel portion, and an inclined or runway portion.

Working in a slot in the bottom of and exposed to the interior of the vertical or funnel portion of the reception chute, is one extremity of a tilting lever i which is pivoted at i' , and has its other extremity opposite the end of the inclined or runway portion of the reception chute. A suitable stop i^2 on the back of the chute causes the tilting lever i to remain normally with its two extremities in the path of the incoming coin. As the coin is dropped into the funnel portion of the chute, it falls upon, and by its weight depresses the first extremity of the tilting lever, and then immediately rolls off from said extremity, and passes into the runway portion of the chute. Immediately, the first extremity returns, and the second extremity which had been lifted by the depression of the first extremity, returns also, and acts as an obstruction in the path of the coin, which is, thereby, arrested, at the foot of the runway portion. In this position of temporary arrest, it is exposed to view through a suitable aperture i^3 in the face of the machine, (Fig. 1.) In this tilting lever lies an improvement in my present invention, in that its operation is accurate and effective, the incoming coin acting, immediately, to release the one previously put in, and temporarily arrested; for, as the incoming coin falls upon the first extremity of the tilting lever, the second extremity will be thereby raised, and the previous coin arrested will thereupon pass on down by said second extremity, the latter returning in time to catch the second coin.

Communicating with the end of the runway of the initial chute, is a runway J (Fig. 2), passing backwardly into the machine, and terminating in a vertical portion J' (Fig. 3), one of the walls of which, namely, the back wall J², is extended downwardly into the funnel K in the back of the lower portion of which is an opening k' into the interior of the machine, said funnel communicating with the runway k , the lower end of which is in communication with the discharge chute L opening to the outside, (Fig. 1.)

N is the handle by which the machine is operated, Figs. 3 and 4. (See also Fig. 1.) This handle is pivotally connected at n , with a pivoted head piece N', and said handle N is adapted to rock its head piece in one direction only, namely, on the downward movement, being free therefrom wholly on the upward movement; said operation taking place by reason of the inner end of said handle bearing under a lug or shoulder N² on the head piece, (Figs. 3 and 4.) The inner extremity n' of the head piece is adapted to bear downwardly upon the pawl h^2 which controls the main lever H, and said extremity is limited in its upward movement by a stop n^8 which is preferably an adjustable one, here shown in the shape of a screw. This stop also limits the downward movement of the head-piece and the handle. A spring n^2 returns and con-

trols the head-piece, and holds the handle N up (Fig. 3), with the inner extremity n' of said head-piece normally bearing upon and holding the pawl h^2 out of its engagement with the ratchet tooth h' of lever H, (Fig. 3.) The head piece N' has a downwardly extending arm O, the lower end of which is connected with a slide bar o , the inner end of which at o' is slotted freely over a pin or stud h^3 on the lever H, (Figs. 3 and 4.) Pivoted at m , to the slide bar o , is a stop or catch M, to the rear end of which is connected an arm m' which is bent to lie normally under the lower end of the vertical portion J' of the runway J. This stop catch, by its own weight, hangs down with its end out of line with the pin or stud h^3 of the lever H (Fig. 6) and its arm m' directly up under the runway J', but in Fig. 3 I have shown the coin resting upon its arm m' whereby said stop catch is raised to engagement with the stud or pin h^3 .

The operation of the mechanism, as far as described, is as follows:—A coin being dropped into the receiving chute I, is temporarily held, as I have previously described, until the following coin is dropped into the machine. The first coin being thereby released, as above mentioned, passes down through the runway J and J', and resting upon the arm m' , by its own weight depresses said arm, so that the stop catch M is raised up directly behind the pin or stud h^3 of the main lever H. (This I have shown in Fig. 3.) Now, the operating handle N is pressed down, whereby, through the crank arm O of the head-piece N', the slide rod o is moved forwardly, and its stop catch M, acting against the pin or stud h^3 , throws the upper end of the main lever H over, and the pawl h^2 , being relieved of the inner extremity n' of the head-piece N', drops into engagement with the ratchet tooth h' of the lever H, and serves to hold said lever. (This position is seen in Fig. 4.) As the lever H moves over, its arm h is carried downwardly and through the connecting chain g' the lever G is actuated, whereby the rack bar F is raised, and through its engagement with the pinion E, the ratchet e is turned, and in this direction slips the pawls d' . The rack bar F rising, pulls the power spring f upwardly under tension. (See Fig. 4.) This continues until the handle N is released, whereupon the spring n^2 causes the return of the head-piece N' to its normal position, and also of the handle N (Fig. 3). This return brings back the slide rod o ; and the inner extremity n' of the head-piece N' coming in contact with the pawl h^2 releases it from its engagement with the lever H, and, thereupon, the spring f pulls down the rack bar F which, through its engagement with the pinion E, returns the ratchet e and in this direction the ratchet engages the pawls d' and, thereby, turns the shaft D, which, through the wheel C rotates the disk B on the front of the machine, and this rotation is ef-

fectured with sufficient force to cause the continued spinning of the wheel after the rack bar F has returned to its normal position (Fig. 3). In the forward movement of the slide bar *o* the arm *m'* moves forwardly from under the coin, which had rested upon it, and said coin drops down into the funnel K, and thence passes down the runway *k* to its arresting stops which I shall hereinafter describe.

The features of novelty to be noticed in this portion of the apparatus are these: Secured to the head-piece N' is a ratchet segment *n*³ (Figs. 3 and 4) with which engages the forward point of a triangular pawl *n*⁴, the lower point of which is acted upon by a spring *n*⁵, so that its forward point remains in normal engagement with the teeth of the segment and serves as a retaining pawl therefor, (Fig. 3.) The segment has, at each end, a trip lug *n*⁶, adapted to alternately come in contact with the forward and rear points of the triangular pawl, whereby said pawl is alternately shifted as I shall describe. The spring *n*⁵ which acts upon the lower point of the pawl is provided with a double incline *n*⁷ over which said lower point is adapted to rise in shifting. The object of this construction, together with the pivoting of the handle N to its head-piece N', is that, as the handle N is pressed downwardly, thereby operating to swing the head-piece and begin the operations of the machine, the ratchet segment *n*³ will be engaged by the pawl *n*⁴, and will, thereby, hold the head-piece as it is pressed down, at any point; and the handle, itself, by being pivoted to the head-piece may be raised again, without affecting any part. Thus the operator is prevented from vibrating the mechanism, or producing an operation between small limits, of any of the mechanisms, by simply moving the handle up and down for short distances and attempting to produce any jar or improper operation of the machine; and the parts will not return from the position in which they are held unless the handle is pressed all the way down to the lower limit; in which case one of the trip lugs *n*⁶ of the ratchet segment *n*³ coming in contact with the rear point of the triangular pawl *n*⁴, will throw its forward point from engagement with the segment, (Fig. 4.) and will also throw its lower point to the opposite side of the incline *n*⁷ of the spring *n*⁵ so that said spring will hold the engaging point from its engagement, and will thus enable the ratchet segment to turn backwardly again and permit all the parts to return, without obstruction, to their normal position, (Fig. 4.) When this is reached the other trip lug of the ratchet segment, coming in contact with the forward point of the pawl, rocks said pawl, so that its lower point returns to the other side of the incline of the spring, and said pawl is thus placed in its normal position, ready to engage the ratchet segment again, (Fig. 3.)

Another point of novelty lies in the sliding slotted bar *o* passing freely over the pin or stud connection with the main lever H, so that when there is no coin deposited, the stop catch M remains out of engagement with the stud *h*³ (Fig. 6), and, therefore, the operation of the handle N simply acts to push the slotted bar *o* back and forward over its lever connection, without affecting said lever H at all. It is only when there is a coin deposited (Fig. 3) that the operation is possible, because of the weight of said coin on the arm *m'*, thereby raising the stop catch M into the path of the stud *h*³ of the lever H, (Figs. 3 and 4.)

In my previous machines, I showed a plunger rod operating within a hollow barrel and adapted to move said barrel only by the interposition of the coin, serving as an obstruction to the plunger entering the barrel.

I find, by experience, that if the coin should not drop away from the open end of the barrel when the plunger withdraws, but should remain there, the plunger returning, will again operate the barrel through the same coin, and the machine will thereby be operated without the deposit of another coin. My present construction is an improvement in this respect in that it cannot be operated unless a coin be deposited, and by reason of the withdrawal of the arm *m'* from under the coin, said coin cannot stay in the position to hold the stop catch up, but the latter will positively drop down, and throw the mechanism out of gear, unless another coin be deposited.

In order that an operator shall not lose his money by moving the handle N too soon after depositing his coin, thereby removing arm *m'* from the runway, I have a means for temporarily obstructing said runway. This consists of a rod *o*² operating through a socket *o*³, into the runway J' just above its lower extremity, (Fig. 3.) This rod *o*² is carried by the upper end of a lever *o*⁴ pivoted at *o*⁵ and having a controlling spring *o*⁶ which tends to hold said rod projected into the runway. An arm *o*⁷ on the sliding bar *o* is adapted to come in contact with the lower end of the pivoted lever *o*⁴ and thereby hold the rod normally withdrawn; but when the sliding bar *o* is moved forwardly, as heretofore described, its arm *o*⁷, moving away from the lever *o*⁴, allows the spring of said lever to operate upon it, and thereby to immediately project its rod *o*² into the coin runway; and said rod thereupon obstructs the runway and will retain the coin, when otherwise it would have dropped right through because of the removal of arm *m'*. Upon the return of the slide bar *o* the arm *o*⁷ comes in contact with and swings the lever *o*⁴ and the rod is, thereupon, withdrawn from the runway and the coin can drop down to the arm *m'* whereupon the full operation of the machine may be had.

Another and important point of novelty to be noted in the present construction, is the substitution of the rack bar F for the cord F

of my previous patents, by which, through the drum or winding sleeve E of said patents, the wheel C was caused to rotate.

In my previous machines, by the use of the cord and windings sleeve, it was not practicable to hold, at any point, the uprising of the cord, and, therefore, it was not uncommon for an operator to work the handle back and forth within very slight limits, and thus to cause the windings sleeve E to oscillate very slightly, and this, in connection with and following a gradual and gentle movement of the handle in the first place, to remove the controlling lever Q from its engagement with the notches of the wheel C, was sufficient to turn said wheel with one of its deeper notches or one of its operating notches, into position to receive the lever Q, returning under a jar, thereby reaching a result without permitting the machine to operate. My present improvement obviates this possibility, by permitting me to hold the uprising rack F at any point, so that it cannot come down again, until it has been released, at the proper time. This I may accomplish in any suitable manner, by a pawl, or a clutch, or other such device adapted to engage and to relieve said bar. The form I have here shown consists of a clutch f' pivoted at f^2 and adapted to be held in contact with and in operative impingement upon the rack bar F by means of a spring f^3 . The upper end of the clutch lies back of a pin o^8 on the sliding bar o, and also immediately behind the pin or stud h^3 of lever H, said upper end being notched out at this point to receive said pin or stud, (Fig. 4.) Now, when the slide bar o is moved forwardly, as heretofore described, its pin o^8 and the pin or stud h^3 advancing from the upper end of the clutch f' allows said clutch to be pulled over by the spring f^3 into engagement with the rack bar F (Fig. 4), and as said bar rises, the clutch will let it slip up, but will not let it move down a particle, and will thus hold the bar up to any position to which it has been moved so that it cannot be quickly or otherwise moved up and down short of its full operation. When the slide bar o returns, its pin o^8 coming in contact with the upper end of the clutch, throws the latter out of engagement and allows the rack bar F to descend immediately and effect the spinning of the wheel and its disk.

The location of the pin o^8 on the sliding bar o as a means for releasing the clutch, requires the provision of another safeguard. The operator may release the handle and permit the sliding bar o to return and the rack bar F to descend, and thus spin the wheel C; but before these parts can complete their movement, he may quickly depress the handle again, thereby throwing the sliding bar o forwardly, and this bar, by removing its pin o^8 from in front of the clutch will allow the clutch, under the power of its spring, to return to the rack bar F, and catch and hold the latter before it moves all the way down. He may

catch it at such a point as to check the wheel C in a position to allow the returning lever Q, presently to be described, to enter such notch of the wheel as he may choose. To avoid this, I place the upper end of the clutch behind the pin or stud h^3 or an extension thereof, and this pin or stud, on the positively returning main lever H, will trip the clutch under all circumstances.

In order to govern the disposition of the coins within the machine, I retain the lever Q (Fig. 2) the upper extremity q of which is adapted to enter the notches of the wheel C, either a shallow notch or a deep notch 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 its lower end lying in the path of a pin r on the lower end of the lever H (Fig. 2). The lever R, below its pivotal point is connected loosely by a link r^2 with the lever Q, below the latter's pivotal point. The lever Q has an inwardly projecting pin q^3 with which a notch or tooth of a spring-controlled pivoted retaining bar q^5 is adapted to engage, said bar having at its outer end a contact head q^6 , (Fig. 2.) Now, when the lever H is thrown forwardly, as heretofore described, the pin r at its lower end moves the lower end of lever R in the opposite direction, which movement of the lever R, through its link r^2 , will withdraw the extremity q of lever Q from its engagement with wheel C; and in this backward movement of the lever Q, its pin q^3 is engaged by the notch or tooth of the bar q^5 , and said lever is thus held back out of its engagement, and the wheel C, with its disk B, has full opportunity to spin and to come to a state of rest. These parts are substantially similar to those of the corresponding parts of my previous patents, and the only point of novelty to which attention is called in connection therewith, is that I provide the extremity q of the lever Q with an anti-friction roller q^7 whereby the tendency of said extremity to stick or catch upon the points of the notches in wheel C is avoided, and said lever is directed with greater accuracy into a notch of the wheel, thereby effecting the results which are dependent upon it.

To relieve the lever Q, I have a mechanism substantially similar to that in my previous patents, to wit: a spring-actuated clock mechanism S (Fig. 2) controlled by a pendulum s and proper escapement. The winding or driving shaft of this clock-work has a crank arm s^2 , which is connected by a link r' with the upper end of the lever R, (Fig. 2.) Now, as the lever R moves, as heretofore described, it winds up the clock mechanism through the crank arm s^2 , 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, said crank arm, coming in contact with the head q^6 of the holding bar q^5 will lift said bar,

thereby releasing 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 enter one of the notches in the periphery of said wheel. This limitation of the lever Q, at different distances, determines, by its position, the retention or return of the coins as in my first patent. Means for effecting this are as follows:

10 T (Fig. 2) 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 (Fig. 3) where said runway communicates with the discharge chute L. Its other arm
15 carries a pin t' which lies in the path of movement of the lever Q (Fig. 2). The bell crank lever is controlled by a spring t^2 which so holds it that its pin t lies normally in the path of the coins. If, now, the lever Q engages one
20 of the shallow notches of the wheel C, its lower end does not come in contact with the pin t' as it is stopped short thereof, so that said lever T is not operated, and its pin t continues to hold the coin back; but if the lever Q en-
25 gages one of the deeper slots of the wheel C, its lower end will move far enough over to come in contact with the pin t' whereby the lever T will be rocked, and its pin t will be
30 thereupon, pass out into the chute L, and will be delivered clear of the machine. This mechanism is similar to the corresponding parts of my first patent, as are also the means for dis-
35 charging the profits of the machine interiorly. When successive spinings occur reaching a result and consequently failing to return coins, the runway k gets full, and succeeding coins will drop through the opening k' into the interior of the machine.

40 The means for controlling the discharge of only such coin or coins as it may be desired to return are as follows: U is a pivoted lever having its outer end lying normally in contact with the lower end of the lever Q, (Fig. 2) and its inner end in contact with the longer
45 arm of a bell crank lever U' pivoted at its angle, (Fig. 3) and having a stop pin u normally in the path of the coins in the runway and adapted to arrest said coins. The bell
50 crank lever U' is controlled by a spring u' . Now as the lever Q is moved backwardly from its engagement with the wheel C, its lower end, coming in contact with the lever U, swings said
55 lever so that the inner end of the lever bears against the bell crank lever U' and causes it to remove its pin u from the path of the coins in the runway, and said coins are thus enabled to pass on down to the limiting pin t at the lower end of said runway. When the operation of
60 the machine takes place, and the lever Q returns to its engagement, it will relieve the levers U and U' and the pin u of the latter will come in front of the succeeding coins allow-
65 ing 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. This mechanism differs from those of my previous patents in that the stop pin u is operated from the movement of the lever Q, whereas in my first patent, the corresponding stop pin
70 was operated by the movement of the arm h of the lever H, and in my second patent the entire mechanism for discharging the coins was of an essentially different character.

I have found it an improvement in the ma-
75 chine to cause the re-engagement of the pawl Q with the wheel C as near as possible at the moment that said wheel C comes to a state of rest, in order that no time is given for any attempt to change the position of the parts.
80 In order to effect this I have a friction brake d^2 (Fig. 2) which bears upon the shaft D in such a manner as to control the time of its rotation and the consequent time of spinning of the wheel C. This brake consists of a
85 spring rod or wire suitably fulcrumed at 22, the lower portion d^3 of which is carried downwardly, and, by means of a movable stop d^4 , is adapted to have its tension increased, whereby the degree of pressure or friction of
90 the brake d^2 upon the shaft D is adjusted. This regulation of the length of time of rotation of the shaft D, and its wheel C, taken in connection with the proper regulation or ad-
95 justment of the clock mechanism, through its pendulum s , provides for the engagement of the lever Q with the wheel C at the moment of the latter coming to rest.

In my present machine I employ the fea-
100 ture of my second patent, consisting of the delivery, upon certain rare conditions of a prize or a token, which is the equivalent of a prize. The main features of this mechanism are similar to those of said previous patent, and consist of a runway Y (Fig. 2) which is
105 accessible only to the owner of the machine, and this runway is to be filled with a supply or store of prizes or tokens for prizes, such as I have here represented by y . The lower end of this runway is in communication with a
110 guide passage y' , the lower end of which communicates with a discharge chute L' to the exterior of the machine, Fig. 2. (See also Fig. 1.) The means for controlling the discharge of these prizes or tokens are also similar to those
115 of my previous patent, and consist of the following devices: Across the lower end of the runway Y is the extremity v of a pivoted elbow lever V, said extremity being normally held across and closing the discharge end of
120 the runway Y by means of a spring v' , (Fig. 2.) To the other arm of this elbow lever V is connected a slide rod v^2 , the inner end of which lies in the path of movement of a spring-controlled pin c^6 which is located in one of the
125 notches of the wheel C, (Fig. 2.) Now, if the wheel C should come to a state of rest in a position to have this pin c^6 struck by the lever Q, said pin will, through the slide rod v^2 , operate the lever V, and will withdraw the stop
130

extremity v of said lever from the end of the runway Y , whereupon a prize or token will be delivered from the machine.

To give notice of the delivery of a prize, I have a gong Y^2 adapted to be struck by a hammer y^3 operated by the contact of the slide rod v^2 with a pivoted or swinging head y^4 of said hammer, (Fig. 2.)

The means for restraining the succeeding prizes or tokens from following the one discharged are different from those of my previous patent, and consist of the following devices: Pivoted upon a horizontal pivot w are two plates W (Figs. 5 and 3) having in their lower portions oppositely inclined cam slots w' (Fig. 5). The lower extremity of each of these swinging plates is provided with a pin w^3 which project one in front and the other behind the token or prize next to the foremost one, the former pin being normally in such projected position whereby it restrains the column of prizes or tokens other than the one to be discharged, while the latter pin is normally in a state of withdrawal. Pivoted at x is a swinging lever X (Fig. 3) controlled by a spring x' and having a pin x^2 , which projects through and engages both of the cam slots of the swinging plates W . The other extremity x^3 of the lever X lies in the path of a contact arm f^4 on the vertically moving rack bar F . Now, when said bar rises its arm f^4 coming in contact with the extremity x^3 of the lever X vibrates said lever, so that its pin x^2 moving downwardly in the oppositely inclined cam slots of the plates W , cause said plates to move in opposite directions, whereby the pin of one, which before had been projected, is withdrawn, and the pin of the other, which before had been withdrawn, is projected, thereby permitting the column or row of prizes or tokens to move down one place, in order to supply a foremost prize or token to take the place of one previously delivered from the extremity of the runway. This device is accurate in its operation and is not subject to accidental movement by jar of the machine, as the plates will not move except by the movement of the pin x^2 traveling in their cam slots.

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 means for causing a coin last deposited to start upon its course a temporarily arrested coin previously deposited, consisting of a single inclined lever pivotally mounted between its opposite extremities having its second extremity arranged to normally obstruct the path of the coin, and its first extremity arranged to receive an incoming coin, the weight of which is adapted to tilt the lever, and cause its second extremity to relieve the previous coin.

2. In a coin-controlled apparatus, the means for causing a coin last deposited to start upon

its course a temporarily arrested coin previously deposited, consisting of a single inclined lever pivotally mounted between its extremities having its second extremity arranged to normally obstruct the path of the coin, and its first extremity arranged to receive an incoming coin, the weight of which is adapted to tilt the lever and cause its second extremity to relieve the previous coin, and the reception chute for the coins consisting of a receiving portion in the base of which the first extremity of the tilting lever lies and operates, and a runway portion at the end of which the second extremity of said lever lies.

3. In a coin-controlled apparatus, the combination of a swinging main lever by which the mechanism is operated, a sliding bar normally operating free of said lever, an exterior handle for operating said sliding bar, and a swinging stop catch adapted to connect and disconnect said main lever and sliding bar, said stop catch having an arm or portion extending into the path of travel of the coin deposited whereby the weight of the coin is adapted to cause the stop catch to connect the lever and bar.

4. In a coin-controlled apparatus, the combination of a main operating lever, having the stud or pin, a sliding bar freely slotted over said stud or pin, an exterior handle for operating the sliding bar, and the pivoted stop catch normally out of engagement with the stud or pin of the operating lever, said stop catch having an arm projecting into the path of travel of the deposited coin, whereby said coin, through its weight, is adapted to throw the stop catch into engagement with the stud or pin of the operating lever, and effect a rigid connection between the sliding bar and said operating lever.

5. In a coin-controlled apparatus, the combination of a main operating lever having a stud or pin, a sliding bar freely slotted over said stud or pin, an exterior handle for operating the sliding bar, the pivoted stop catch normally out of engagement with the stud or pin of the operating lever, said stop catch having an arm projecting into the path of travel of the deposited coin whereby said coin, through its weight, is adapted to throw the stop catch into engagement with the stud or pin of the operating lever and effect a rigid connection between the sliding bar and said operating lever, a spring-controlled pawl for holding said operating lever in the position to which the sliding bar moves it, and means, operated by the exterior handle, for releasing the pawl.

6. In a coin-controlled apparatus, the combination of a main operating lever, a sliding bar and connection between the two whereby the main operating lever is operated, a pivoted spring-controlled head-piece connected with the sliding bar for operating the latter, an exterior handle pivoted to the head-piece and engaging a stop or lug thereon whereby

it is adapted to move said head-piece in one direction and to be free therefrom in the other direction, and means for holding said head-piece in the position to which it is moved by the handle.

7. In a coin-controlled apparatus, the combination of a main operating lever, a sliding bar and connection between the two whereby the main lever is operated, a pivoted spring-controlled head-piece connected with the sliding bar for operating the latter, an exterior handle pivoted to and adapted to move the head-piece in one direction only, a ratchet on the head-piece, a pawl engaging said ratchet and adapted to hold said head-piece, and a means adapted to trip said pawl only at the end of the movement of said piece.

8. In a coin-controlled apparatus, the combination of the exterior handle, the spring-controlled pivoted head-piece to which said handle is pivoted, a connection between the two whereby the handle moves the head-piece in one direction only, connections from the head-piece for setting the machine in operation, the ratchet segment of said head-piece having the trip lugs at each end, the triangular pawl engaging said ratchet segment and adapted to be thrown into and out of action by the trip lugs of said segment, and the spring with its incline controlling the lower point of said pawl on different sides to hold it to and from its engagement.

9. In a coin-controlled apparatus, the coin runway thereof, the sliding bar *o* having the stop catch *M* with its arm *m'* for temporarily restraining the coin, in combination with the means for temporarily obstructing the coin runway, consisting of the rod adapted to pass into the coin runway above its extremity the spring-controlled lever carrying said rod and connections from the sliding bar for operating said lever.

10. In a coin-controlled apparatus, the combination of a rotatable wheel, a normally inactive power device, connections therefrom including a rack bar and its engaging pinion to rotate the wheel, an exterior handle and connections therefrom to call the power device into action, and a clutch engaging the rack bar for checking and holding the connections between the wheel and power device to render them inoperative at any point in the movement of the handle short of its full operation.

11. In a coin-controlled apparatus, the combination of the rotatable wheel with its shaft and pawl plate, the connected pinion and ratchet loosely mounted on said shaft, said ratchet engaging the pawl plate in one direction only, the vertically movable spring-controlled rack bar engaging said pinion, means operated by an exterior handle for operating the rack bar, a means engaging said rack bar to check and hold it from returning during its upward movement, and means for tripping it upon the completion of its movement and full operation of the handle.

12. In a coin-controlled apparatus, the combination of the rotatable wheel, with its shaft and pawl plate, the connected pinion and ratchet loose on said shaft, said ratchet engaging the pawl plate in one direction only, the vertically movable spring-controlled rack bar engaging the pinion, an exterior handle and devices including a sliding bar *o* for operating said rack bar, a clutch engaging said rack bar for holding it from returning at any point in the movement of the handle short of its full operation and a pin on the sliding bar *o* to trip said clutch as said bar returns after the full operation of the handle, whereby the rack bar is released and may move down to effect the rotation of the wheel.

13. In a coin-controlled apparatus, the combination of the rotatable wheel, with its shaft and pawl plate, the connected pinion and ratchet loose on said shaft, said ratchet engaging the pawl plate in one direction only, the vertically movable spring-controlled rack bar engaging the pinion, an exterior handle and devices including the sliding bar *o* and main lever *H* for operating said rack bar, a clutch engaging said rack bar for holding it from returning at any point in the movement of the handle short of its full operation, a pin on the bar *o* to trip said clutch, and a pin or stud on the lever *H* to supplement the pin on said bar *o*, substantially as and for the purpose herein described.

14. In a coin-controlled apparatus, the combination of the rotatable shaft having the rotatable wheel controlling by the position at which it comes to a state of rest, the result to be attained, the spring-controlled lever *Q* adapted, in connection with said wheel, to determine said result, and the adjustable brake device applied to the rotating shaft of the wheel for regulating the length of time of its rotation.

15. In a coin-controlled apparatus, the combination of the rotatable shaft having the rotatable wheel controlling by the position at which it comes to a state of rest, the result to be attained, the spring-controlled lever *Q* adapted, in connection with said wheel, to determine said result, the adjustable brake device applied to the rotating shaft of the wheel for regulating the length of time of its rotation, a regulatable clock-work mechanism, and means whereby it controls the time of engagement of the lever *Q* with the wheel.

16. In a coin-controlled apparatus having a coin runway and delivery, the means for controlling the column of coins and permitting the lowermost to take a place ready to be discharged, consisting of the pivoted horizontal lever *U*, the main determining lever *Q* of the machine coming in contact with said pivoted lever, the spring-controlled vertically disposed bell-crank lever *U'* and the limiting pin of said bell crank lever.

17. In a coin-controlled apparatus, the means for controlling the column of coins or prizes or tokens, consisting of the swinging

plates having the oppositely arranged cam slots, each plate being provided with a retaining pin adapted to be alternately projected and withdrawn from the path of movement
5 of the coins, prizes or tokens, a swinging spring-controlled lever adapted to be operated by a moving part of the machine, and a pin of said lever projecting into the oppositely in-

clined cam slots of the plates, whereby they are moved in opposite directions. 10

In witness whereof I have hereunto set my hand.

GUSTAV F. W. SCHULTZE.

Witnesses:

S. H. NOURSE,

H. F. ASCHECK.