

J. B. BENTON.

REGISTERING AND CANCELING BALLOT BOX.

No. 327,645.

Patented Oct. 6, 1885.

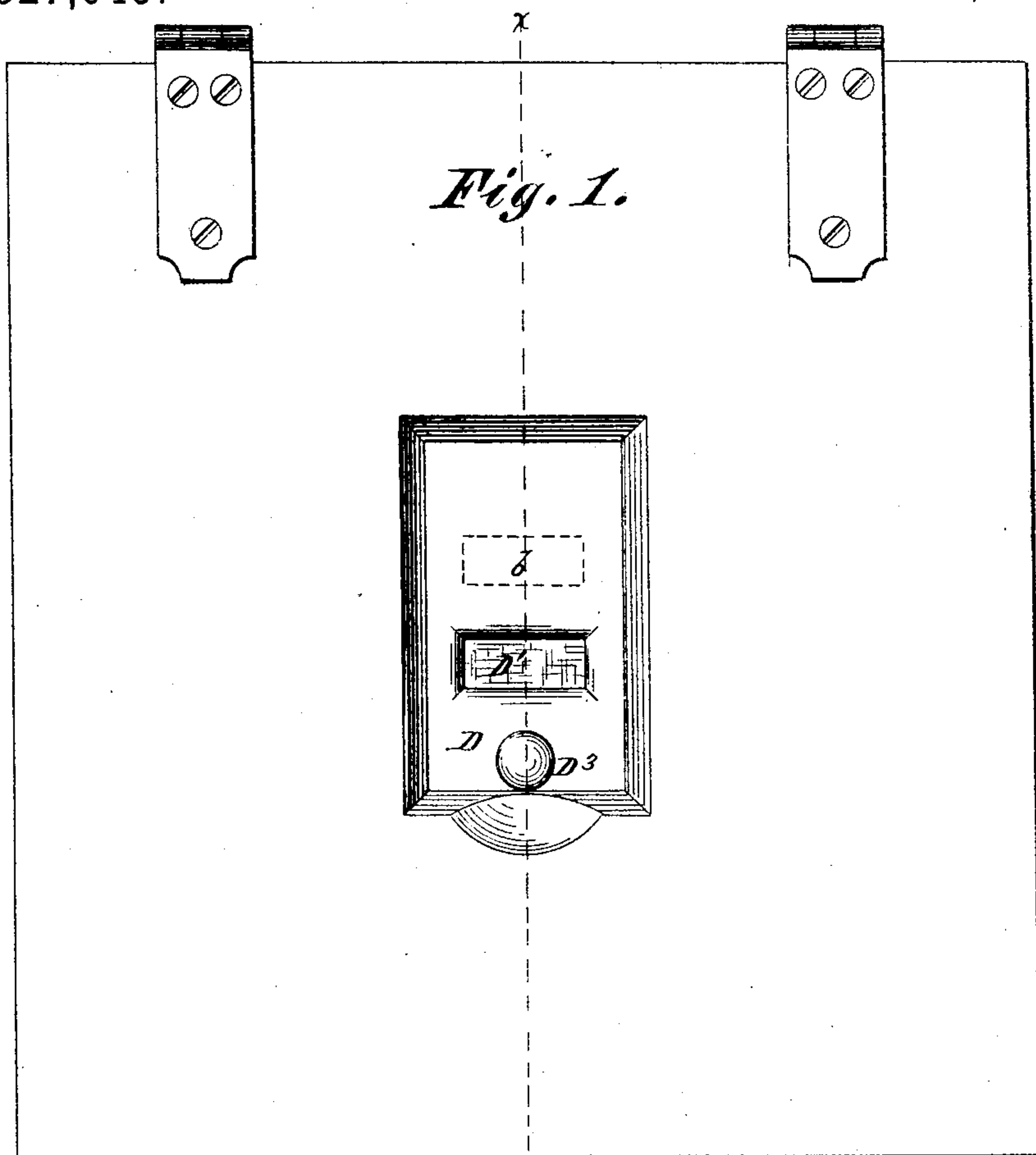
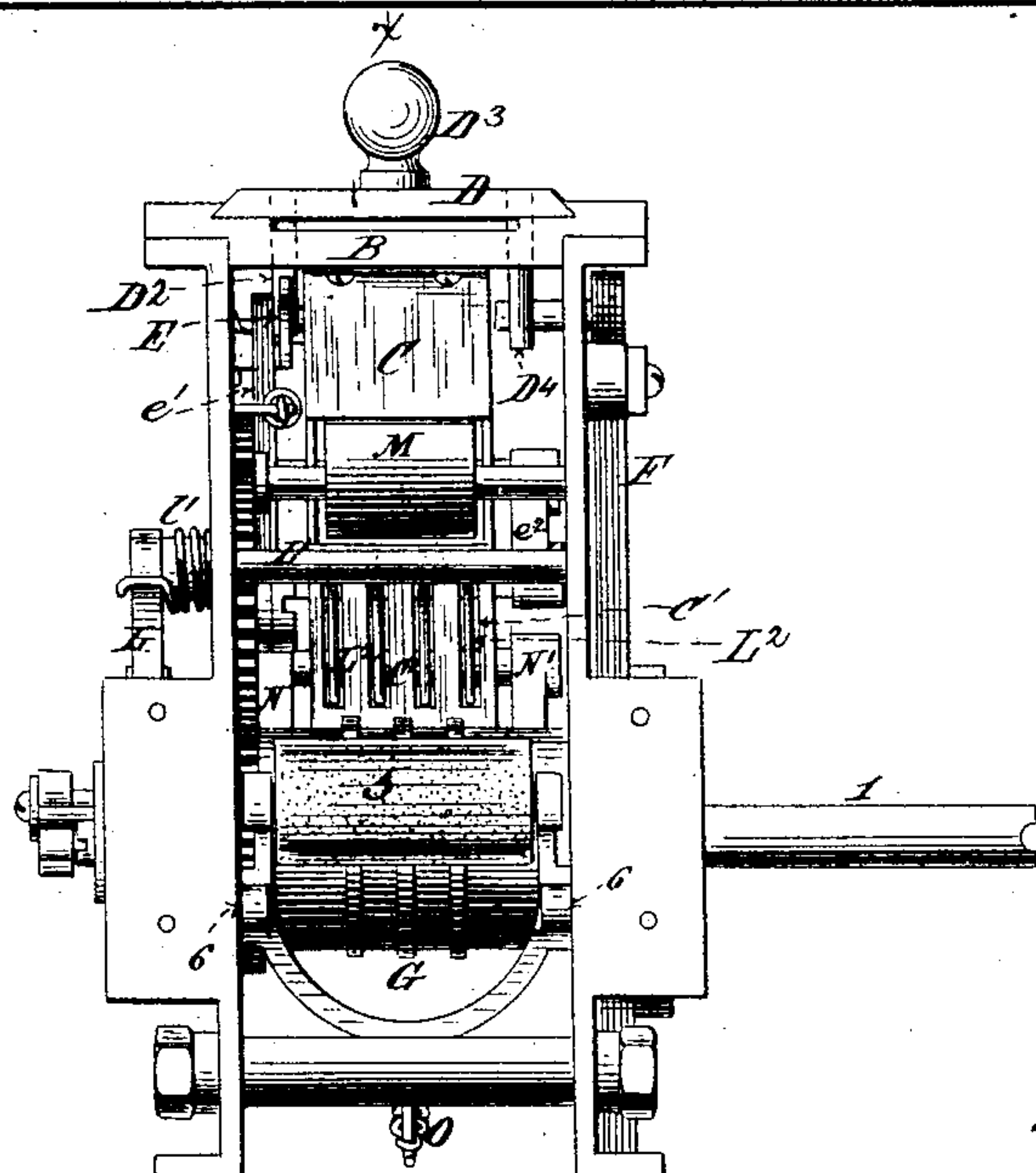


Fig. 7.



Witnesses:

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Inventor.

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(No Model.)

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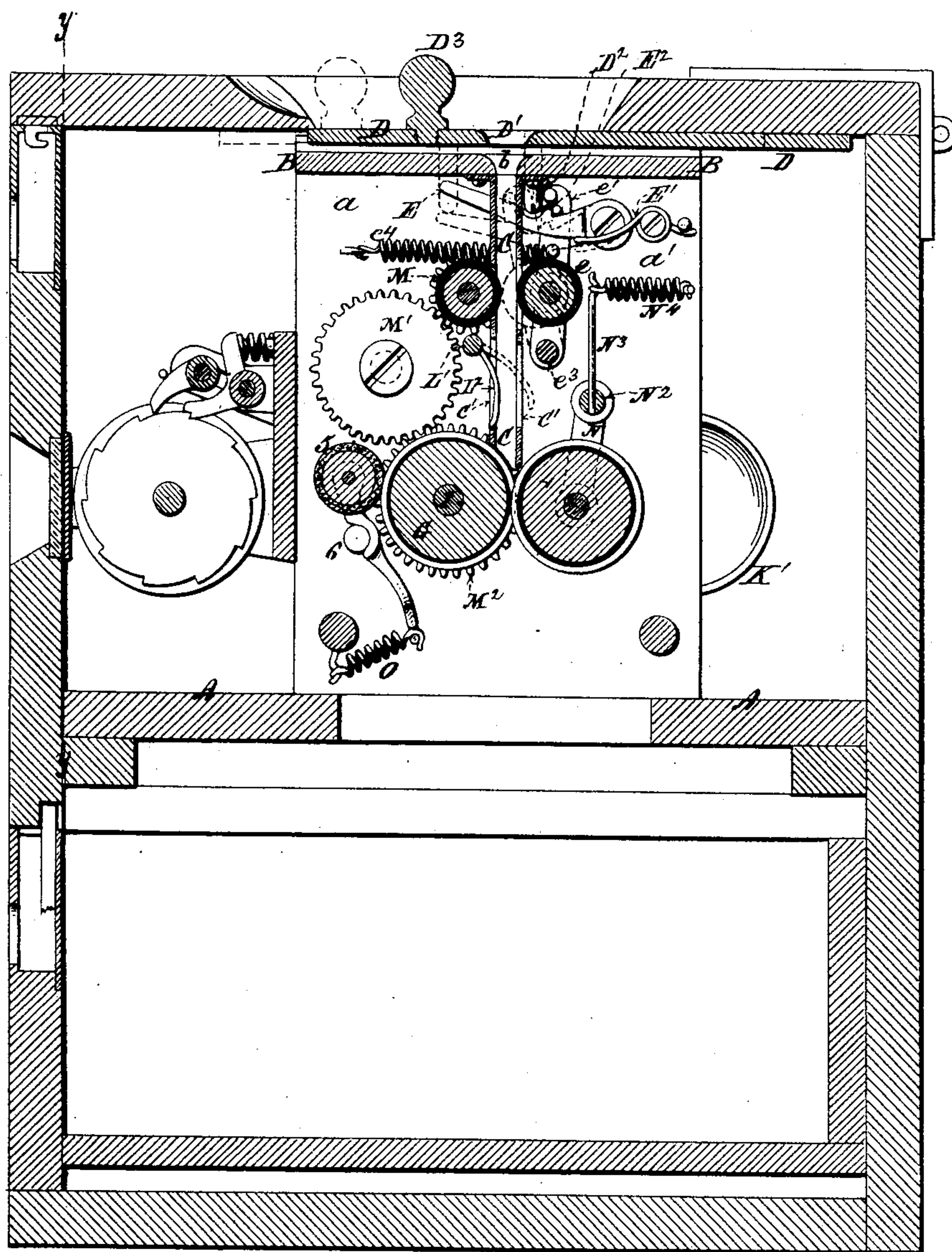
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Fig. 2.



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Fig. 3.

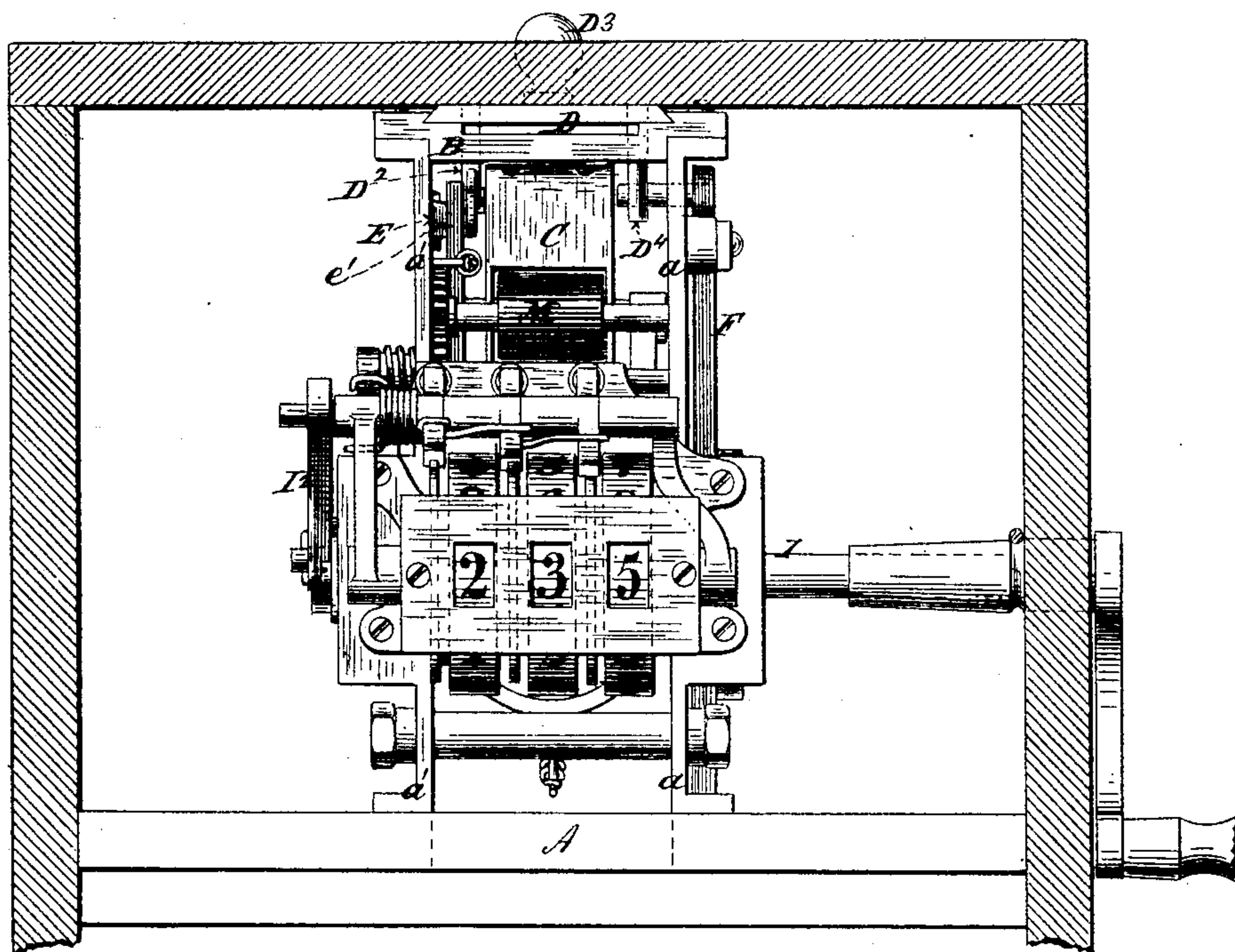
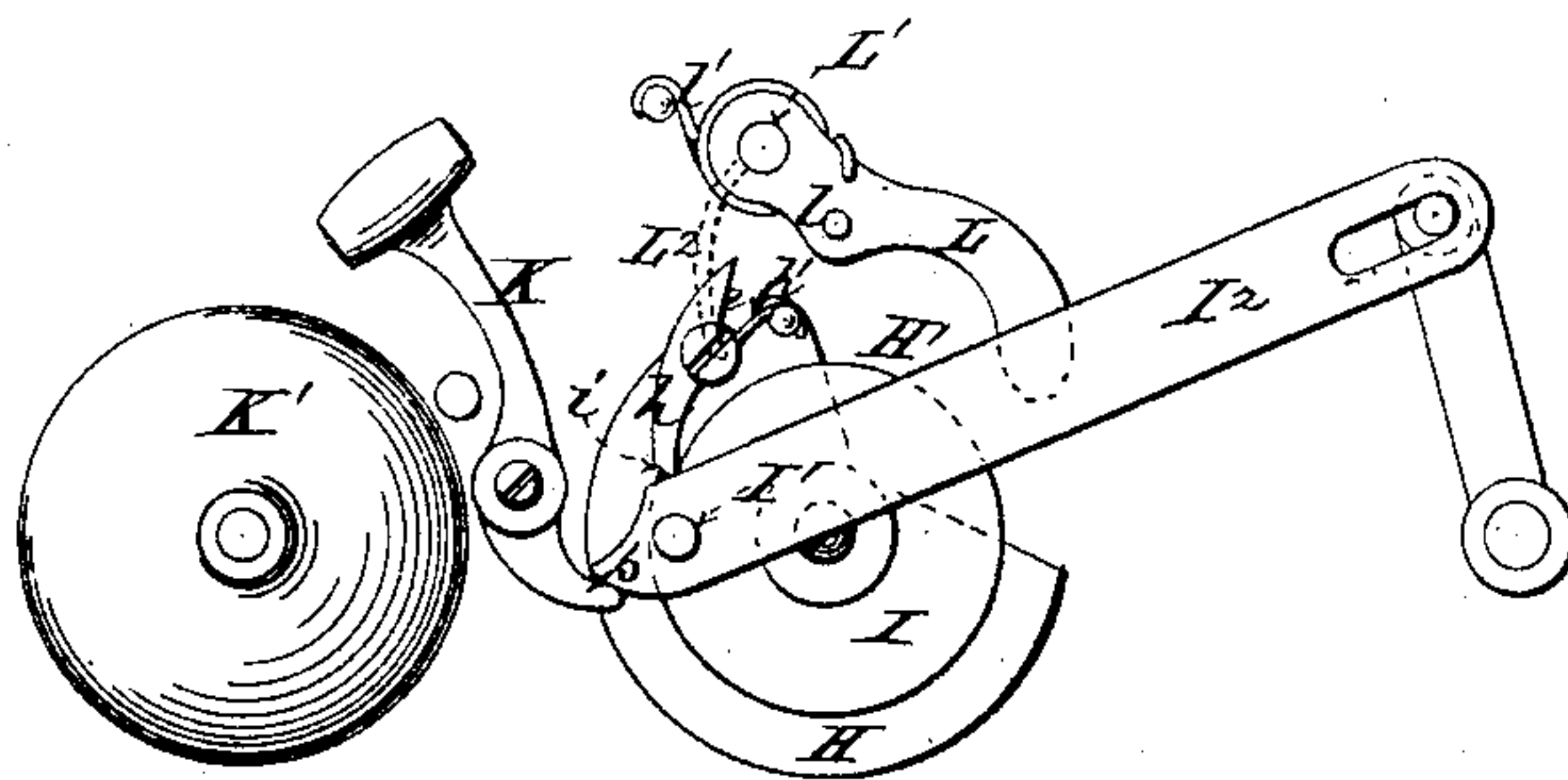


Fig. 6.



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4 Sheets—Sheet 4.

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Fig. 4.

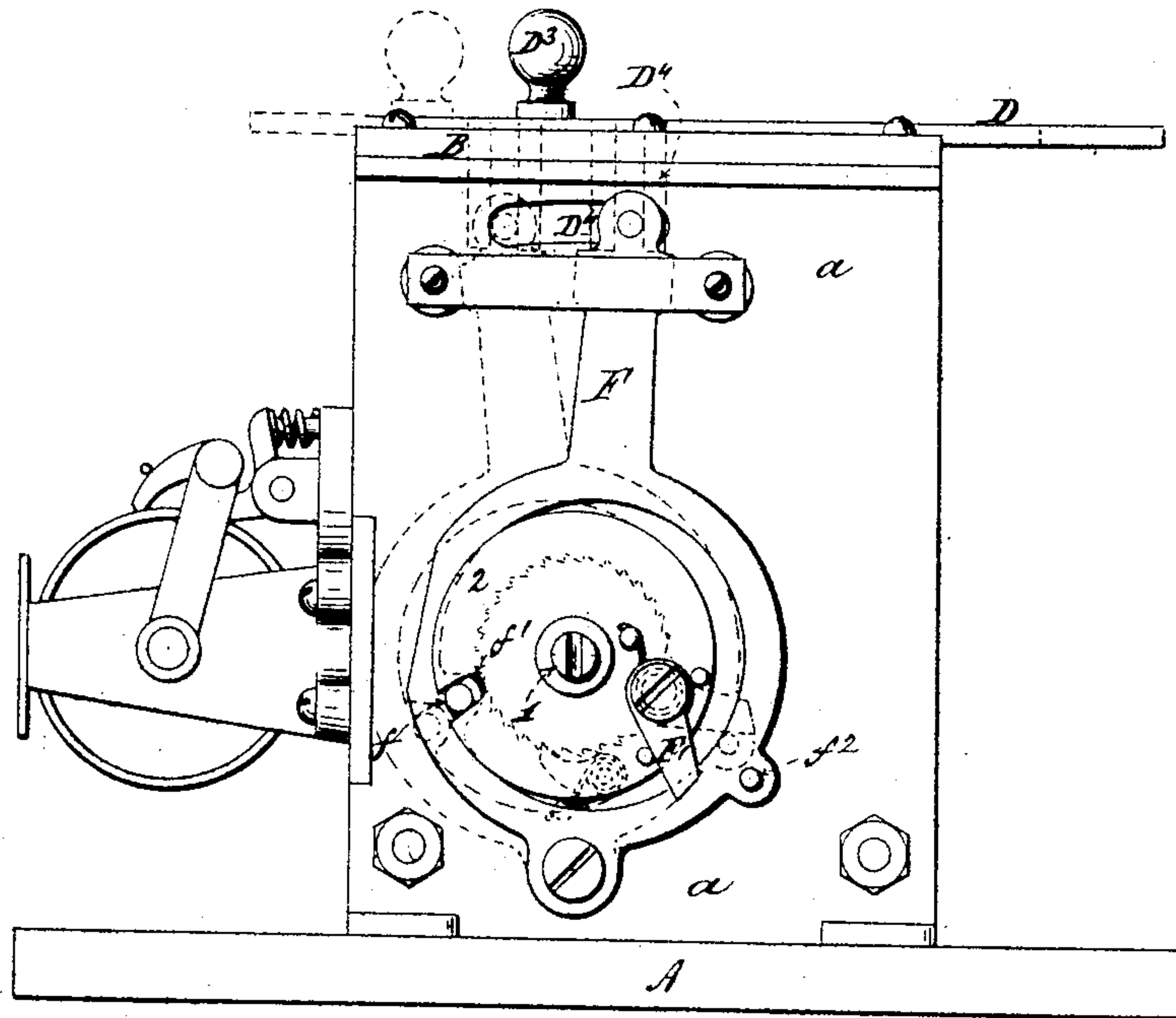
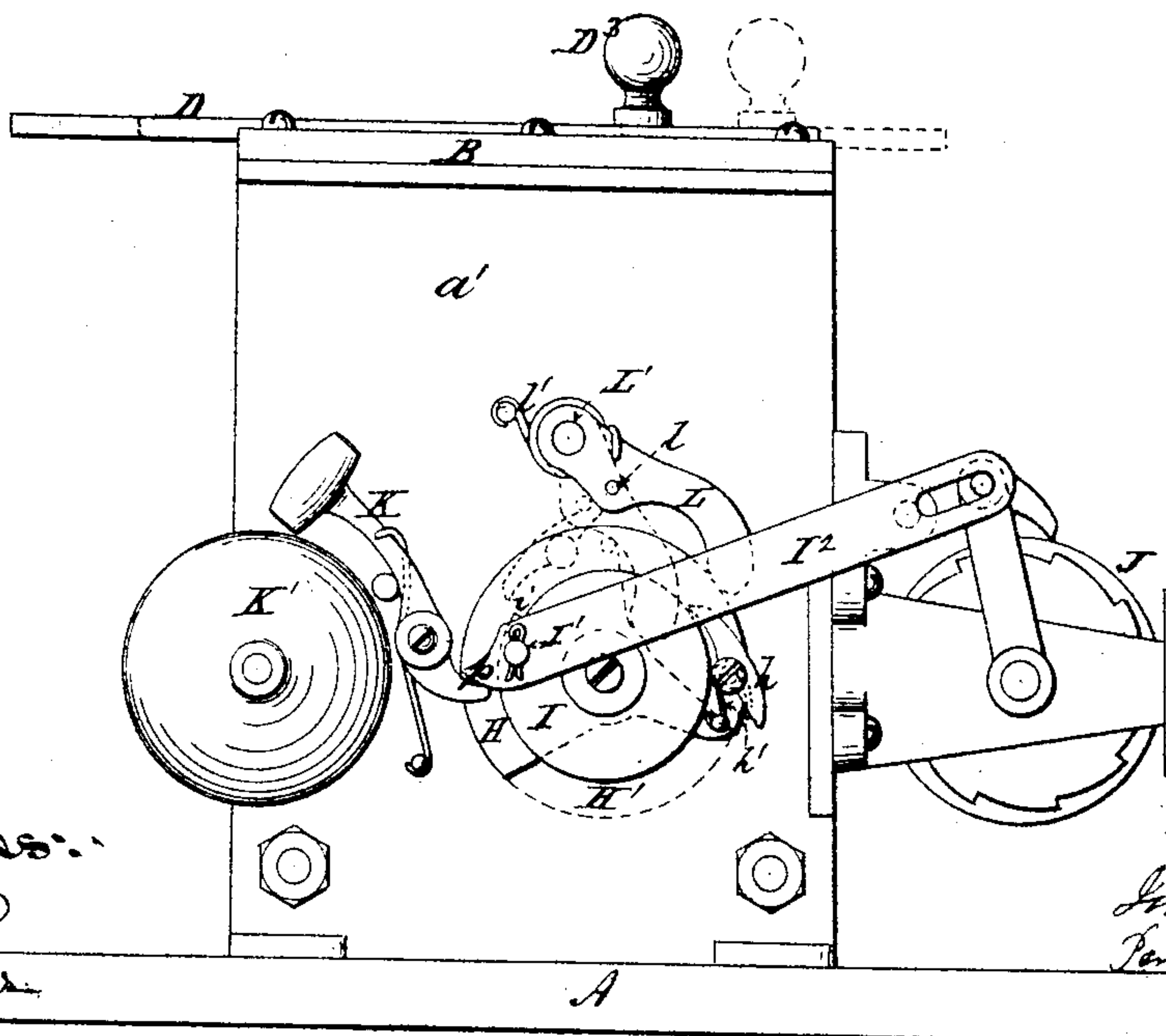


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN B. BENTON, OF ROSELLE, NEW JERSEY, ASSIGNOR TO THE STANDARD
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REGISTERING AND CANCELING BALLOT-BOX.

SPECIFICATION forming part of Letters Patent No. 327,645, dated October 6, 1885.

Application filed February 12, 1885. Serial No. 155,663. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. BENTON, of Roselle, New Jersey, have invented certain Improvements in Canceling and Registering
5 Ballot-Boxes, of which the following is a specification.

My improvements relate to the type of ballot-box in which the feeding of the ballot into the box is effected by the actuation of an external handle, and in which the actual introduction of a ballot is a necessary condition to the transmission from the actuating-handle, or the mechanism with which the actuating-handle is immediately connected, of the
15 power required to actuate a register or an alarm-bell, or both.

The especial form of machine which I have selected for illustrating my present improvement is that in which the passage of a ballot into the ballot-box prevents the operation of a tripping device, which, but for the presence of the ballot, would throw the register or alarm mechanism, or both, out of gear with the main actuating mechanism.

25 My improvement is equally applicable to a machine in which the tripping device is employed to throw the registering mechanism into gear with the main actuating mechanism.

A canceling and registering ballot-box of the type above referred to is shown and described in my pending application, serially
30 numbered 148,875, filed November 26, 1884, to which the present application is subordinate.

35 In the present illustration of my improvement I employ for controlling the tripping device an instrumentality which I call a "detector," which, at a certain stage in the operation of the actuating mechanism is automatically moved in a path which intersects the path through which a ballot is fed into the machine. If a ballot is being fed into the machine, the movement of the detector is arrested by collision with such ballot, and the
40 detector being thus brought to rest holds the tripping device out of action.

If a ballot is not present, the detector continues its movement until when brought to rest it has carried the tripping device into
50 position to trip out of engagement with its

shoulder an impelling-pawl, by means of which the rotatory movement of the prime shaft is transmitted to a disk mounted loosely upon the prime shaft, from which disk motion is taken to actuate the registering mechanism, and also, if desired, to actuate alarm mechanism.

Another feature of my present improvement relates to a mode of organization adapting the machine for use in the canceling and
60 registration of folded ballots.

In carrying out this part of my improvement I provide a sliding cover for the narrow opening through which the folded ballot is dropped endwise into the receiving-cell. This cover is so combined with the actuating mechanism that the latter cannot be moved when the mouth of the receiving-cell is uncovered, and when moved is automatically brought to rest at the completion of each
70 revolution, and is prevented from being again actuated until the cover has been slid backward to uncover the mouth of the receiving-cell and forward again to close it.

The accompanying drawings, illustrating a
75 ballot-box containing my improvements, are as follows: Figure 1 is a top view. Fig. 2 is a central vertical section through the line xx on Fig. 1. Fig. 3 is a vertical section of the upper part of the box, taken through the line
80 yy on Fig. 2. Fig. 4 is an elevation of the crank side of the registering and canceling machine. Fig. 5 is an elevation of the opposite side of the machine, showing the position in which the parts are left at the end of each
85 revolution of the handle when no ballot has been placed in the receiving-cell. Fig. 6 is an elevation of the parts shown in Fig. 5, showing the position of the parts soon after the commencement of the actuating move-
90 ment when a ballot is present in the receiving-cell. Fig. 7 is an end elevation of the machine, with the register-wheels removed in order to exhibit parts of the interior mechanism which are screened from view in Fig. 3.

95 The machine shown in the drawings has certain general characteristics in common with the machine shown and described in my application for Letters Patent therefor serially numbered 148,875, filed November 26, 1884; 100

and my present invention is limited to those features of the machine in which it differs from my said application.

The differences between my present machine and that described in my said application arise chiefly from the substitution of a sliding cover, instead of a hinged cover, for the opening through which the ballots are introduced into the box, and from the employment of a receiving-cell adapted for the endwise introduction of folded ballots.

The various moving parts of my machine are supported upon two parallel vertical standards, a a' , which are secured to a substantial bed, A , and are united to the top plate, B , in which is formed the rectangular opening, b , which constitutes the mouth of the receiving-cell C , into which the ballots are dropped endwise.

Over the top plate is a sliding cover, D , which is provided with the rectangular opening D' , corresponding in size and shape with the mouth of the receiving-cell, and adapted to coincide therewith when the cover is pushed forward. The sliding cover is provided near one edge with the downwardly-projecting pin D^2 , which extends through a suitable slot in the top plate and bears upon the upper edge of the arm E , at one end pivoted to the inner side of the standard a' , and having its opposite end held up by the spring E' .

The upper edge of the arm E is provided with the notch E^2 , which serves to catch the lower end of the pin D^2 when the sliding cover is pushed forward, and to thus hold the cover in its forward position.

The forward movement of the cover swings the horizontal idler-roller e out of the receiving-cell C . This is effected by the collision of the pin D^2 with the upper end of one of the side arms, e' , of the frame in which the idler-roller has its bearings. The arm e' and a shorter arm, e^2 , are affixed to the rock-shaft, e^3 .

A retracting spiral spring, e^4 , is affixed at one end to the arm e' and at the other end to the standard a' . When the cover has been pushed forward, a slight pull backward upon the knob D^3 serves to disengage the pin D^2 from the notch E^2 in the arm E , and thus permits the sliding cover to be drawn back by the retraction of the spring e^4 .

Two pins, D^4 D^4 , projecting downward from the opposite side of the sliding cover D , embrace a horizontal pin inserted in the upper end of a swinging frame, F , pivoted at the bottom to the exterior of the standard a and surrounding the prime shaft 1 upon the crank side of the machine.

The swinging frame F performs the same function as the similar frame described in my application No. 148,875—that is, it carries on one side a laterally-projecting pin, f , which bears upon the periphery of the disk 2 on the prime shaft 1 and prevents the cover from being moved forward except when the prime shaft has completed its revolution, and has

thereby brought opposite the pin f a notch, f' , in the periphery of the disk 2.

Upon its opposite side the frame F carries the pin f^2 , which, by its collision with the pawl F' , pivoted to the disk 2, arrests the movement of the prime shaft at the conclusion of each revolution, and does not permit the repetition of the actuating movement until the sliding cover has been pushed forward and thereby carried the pin f^2 away from the disk 2 and disengaged it from the end of the pawl, after which, when the cover has been pushed back and thereby carried the pin f out of the notch f' , the prime shaft can be again rotated.

The prime shaft 1 carries the type-wheel G and extends through the standard a' , and has mounted on it, outside the standard a' , the cam-wheel H , which is pivoted to an impelling-pawl, h , provided with a spring, h' , which presses the nose of the impelling-pawl upon the periphery of the disk I , which is loosely mounted upon the prime shaft, and which is provided with a notch, i , for engaging the nose of the impelling-pawl h . The disk I is provided with a crank-pin, I' , upon which is hung the pitman I^2 , for transmitting the motion required for operating the unit-register wheel J . The pin I' , or another pin, as the case may be, may also be employed to vibrate the bell-hammer arm K and cause it to strike the bell K' at every revolution of the disk I . The impelling-pawl remains in engagement with the shoulder i , unless tripped out of engagement by the collision of its curved end with the pin l projecting laterally from the arm L affixed to the rock-shaft L' . The free end of the arm L curves toward the prime shaft, and is held against the periphery of the cam-wheel H by the spring l' .

Soon after the commencement of the actuating movement of the prime shaft the depression H' in the periphery of the cam-wheel H is brought opposite the free end of the arm L , which, under the influence of the spring l' , is thereupon permitted to swing toward the center of the cam-wheel and thus carry the pin l across the path of the impelling-pawl h . Collision with this pin, as has been described, trips the impelling-pawl, and, by disengaging its nose from the shoulder i , prevents it from continuing to impart rotary movement to the disk I .

The peculiarity of this mechanism consists in the employment of the cam-wheel H for controlling the position of the arm L during all parts of its movement when no ballot has been introduced into the receiving-cell. The presence of a ballot in the receiving-cell shortens the range of rocking movement of the arm L , and thus holds the pin l sufficiently distant from the cam-wheel H to prevent it from tripping the impelling-pawl. To effect this result, the rock-shaft L' , to which the arm L is affixed, also has affixed to it the curved fingers L^2 . The planes in which these fingers swing intersect the receiving-cell C , the oppo-

site side walls of which are each provided with a number of slots, C' , equal to the number of fingers L^2 , thus permitting the fingers L^2 when no ballot is contained in the receiving-cell to swing entirely across the cell and acquire the position in which one of them is indicated by dotted lines in Fig. 2. At the commencement of the actuating movement the fingers L^2 occupy the position in which one of them is represented in solid lines in Fig. 2.

If a ballot has been introduced into the receiving-cell, the fingers L^2 are brought into collision with the ballot before they have completed their rocking movement, and their motion thus being arrested the arm L is held in the position in which it is represented in Fig. 6, in which position the pin l , as will be seen, is held away from the path of the impelling-pawl h . Accordingly the impelling-pawl engages its shoulder i , as shown in Fig. 6, and transmits to the disk I the rotary motion of the cam-wheel H , to which the impelling-pawl is pivoted.

When the cover D has been pulled back so as to close the mouth of the receiving-cell, a ballot, which has been previously dropped into the cell, is caught between the periphery of the idler-roller e and the feed roller M . The latter is rotated by means of the intermediate gear, M' , from the spur-wheel M^2 affixed to the prime shaft 1.

The printing-roller G is also affixed to the prime shaft 1, and the ballot is fed from the lower end of the receiving-cell between the periphery of the printing-roller G and the yielding pressure-roller 4, having its bearings in two arms, N and N' , affixed to the rock-shaft N^2 , which is also affixed to the radius-bar N^3 , connected at its free end to one end of the contracting spiral spring N^4 , the other end of which is affixed to the standard a' .

The inking-roller 5 is mounted in a frame rocking upon the shaft 6, and is held against the periphery of the printing-roller by the contracting spiral spring O , as shown in Fig. 2.

The register may be of any of the well-known types of registers, the motion to actuate the register being taken from the disk I . In the machine shown in the drawings this motion is transmitted by means of a pitman, I^2 , hung upon the crank-pin I' affixed to the face of the disk I .

If desired, a bell, K , may be employed, and the bell-hammer arm K' may be vibrated by collision with the end p of the pitman I^2 , as illustrated in Figs. 5 and 6.

In considering the operation of this mechanism it will be seen that at the conclusion of each actuating movement of the prime shaft the impelling-pawl occupies the position in which it is shown in Fig. 5, and if a ballot has been introduced into the machine prior to the preceding movement of the actuating-shaft the disk I occupies the position to which it has been carried by the rotary movement of the impelling-pawl h , and hence its shoulder

i remains in engagement with the impelling-pawl.

If, without introducing a ballot, the actuating movement is then repeated, the disk I is carried partly around into the position in which it is represented in Fig. 5, and there remains at rest, because of the tripping of the impelling-pawl by collision with the pin l affixed to the arm L , the cam-wheel H , the arm L , and the impelling-pawl h then occupying the positions in which they are represented in dotted lines in Fig. 5. If, now, a ballot is introduced into the receiving-cell, and the actuating movement is repeated, the impelling-pawl moves from the position in which it is represented in Fig. 5 to the position in which it is represented in Fig. 6 without producing any effect upon the disk I ; but in completing the remainder of its revolution it carries the disk I around, and thus at first completes the unfinished backward movement of the pitman I^2 , and then imparts to it the forward movement required to drive the register, and at the same time trips the bell-hammer arm K' .

I designate that portion of the mechanism consisting of the rock-shaft L' and the fingers L^2 , affixed to the rock-shaft and swinging in planes intersecting the path of a ballot, as a detector because it detects the presence of a ballot which is being fed into the machine, and permits the operation of the register which counts the ballot, and, if desired, permits the sounding of the alarm-bell, which audibly signals that a ballot is being fed into the machine.

In view of my pending application serially numbered 148,875, I do not herein claim, broadly, either the combination in a ballot-box of a canceling mechanism and a registering mechanism with an instrumentality for rendering the concurrent actuation of both mechanisms dependent upon the introduction of a ballot or the combination of an actuating-handle and a movable cover with means for rendering the successive actuations of the handle dependent upon the movements of the cover.

I claim as my invention—

1. In a ballot-box provided with canceling and registering apparatus, and with a receiving-cell for receiving a ballot preparatory to its being fed to the canceling apparatus, the combination, substantially as herein set forth, of the sliding cover D for the said receiving-cell, the swinging frame F , provided with the stop-pins f and f^2 , the disk 2, affixed to the shaft 1, and provided with the notch f' in its periphery, and having pivoted upon its face the retaining-pawl F' , as and for the purposes described.

2. The receiving-cell C , having each of its side walls provided with a series of parallel slots, C' , in combination with a detector for detecting the presence of a ballot in the cell, consisting, essentially, of a series of fingers, L^2 , having a common support, and means for mov-

ing the said fingers to and fro in parallel planes intersecting the receiving-cell, whereby, when a ballot is present in the receiving-cell, the collision of the fingers L^2 therewith diminishes their range of movement, and hence varies the position of a tripping device connected and moving concurrently with the detector, for the purpose of preventing the transmission of power to operate the registering apparatus when no ballot is present in the receiving-cell, and for permitting the transmission of such power when a ballot is present in the receiving-cell.

3. The arm L , affixed to the detector rock-shaft L' , provided with the fingers L^2 , adapted to swing in planes intersecting the path through which a ballot is fed into the apparatus, in combination with the spring Z , and

the cam-wheel H , as and for the purposes set forth.

4. In combination with a detector consisting, essentially, of the fingers L^2 , having a common support and adapted to move to and fro in planes intersecting the path by which the ballot is fed into the apparatus, a suitably-recessed rotating cam driven by the actuating or prime shaft 1 of the machine for moving the fingers L^2 out of the path by which the ballot is fed into the machine, and a spring for moving the fingers into the said path when the position of the recess in the said rotating cam permits such movement.

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Witnesses:

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