

(No Model.)

2 Sheets—Sheet 1.

W. T. BUTLER.

REGISTERING AND CANCELING MECHANISM FOR BALLOT BOXES.

No. 354,180.

Patented Dec. 14, 1886.

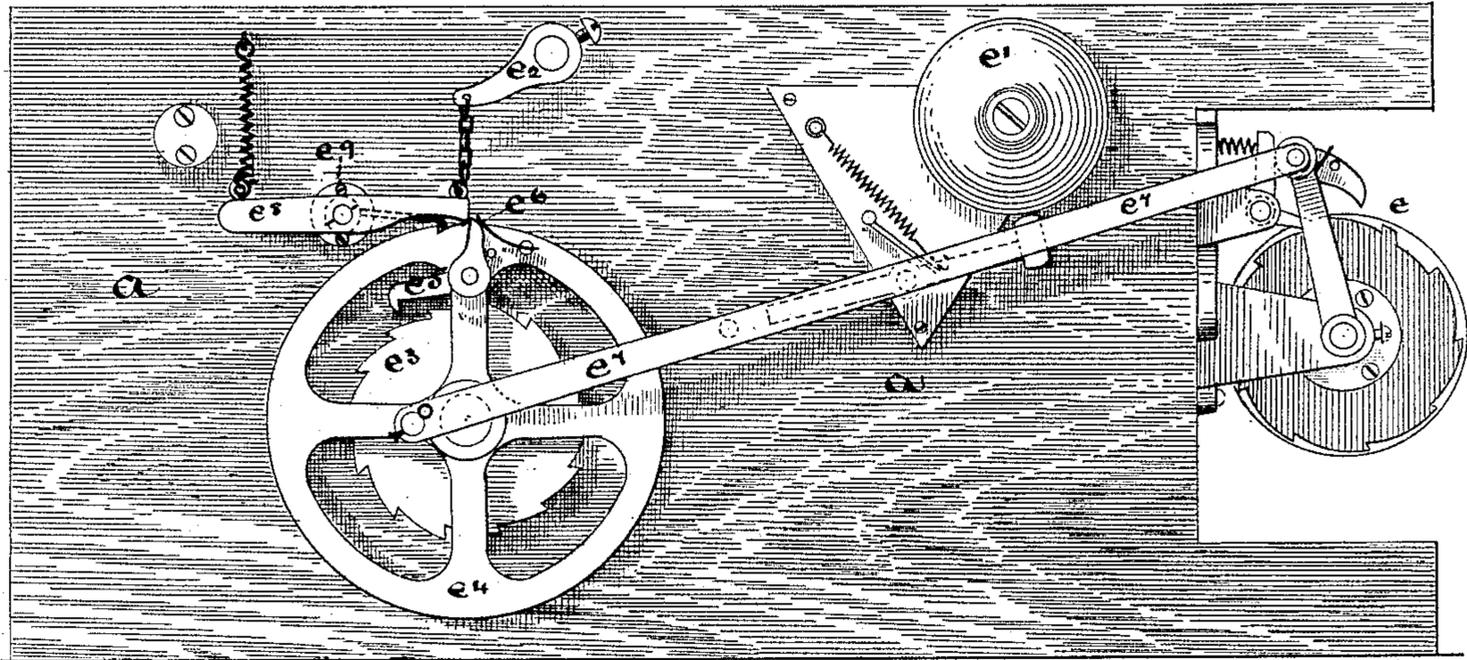


Fig. 1.

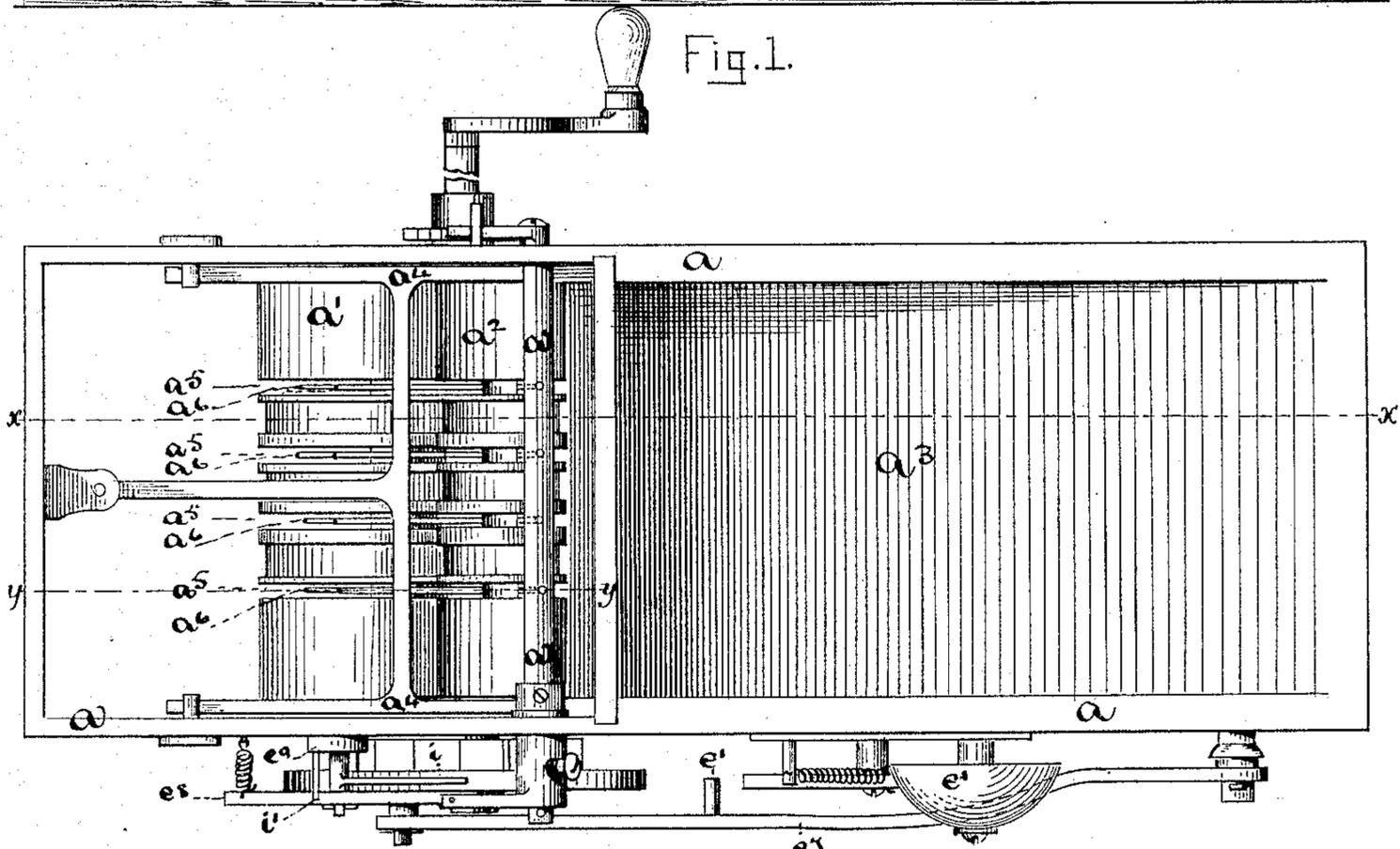


Fig. 2.

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Inventor.

Witnesses:  
Chas. Houghton  
Fred L. Houghton

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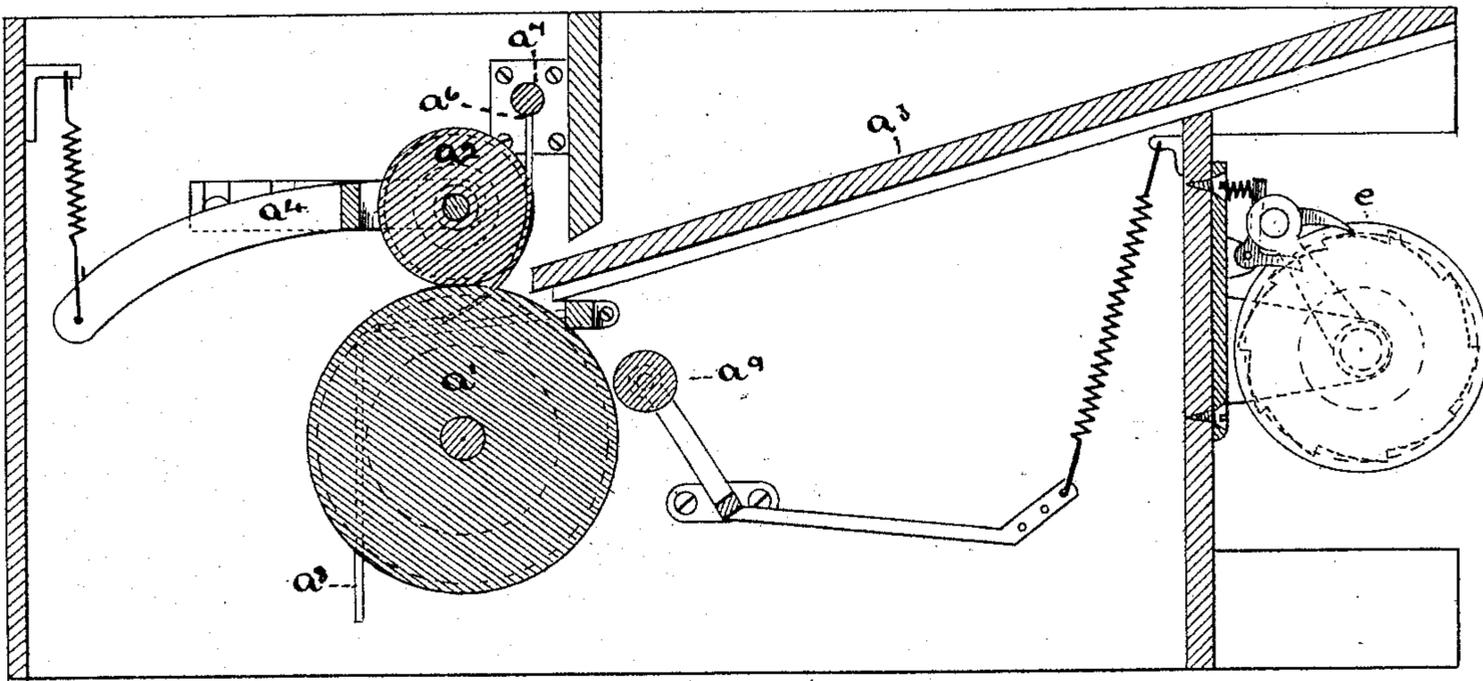


Fig. 3.

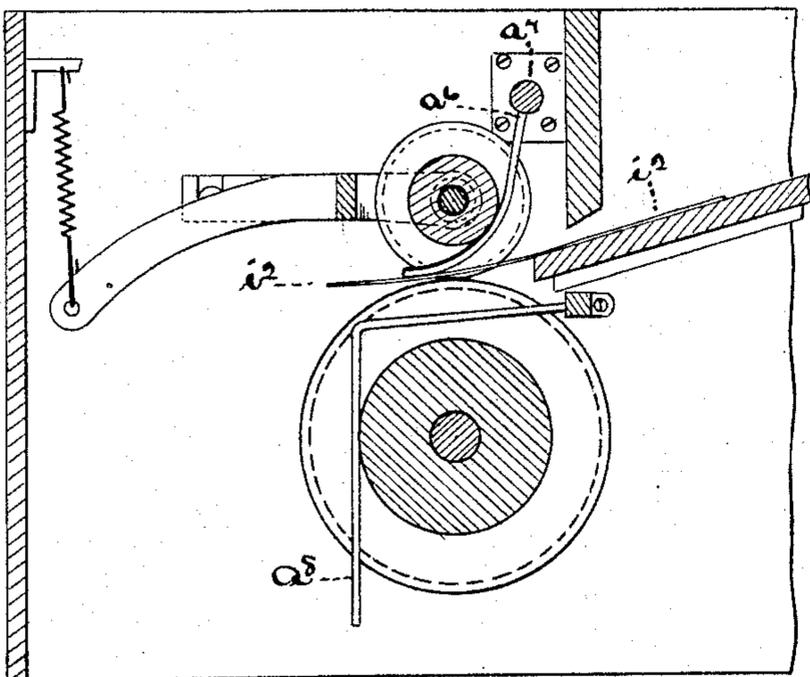


Fig. 4.

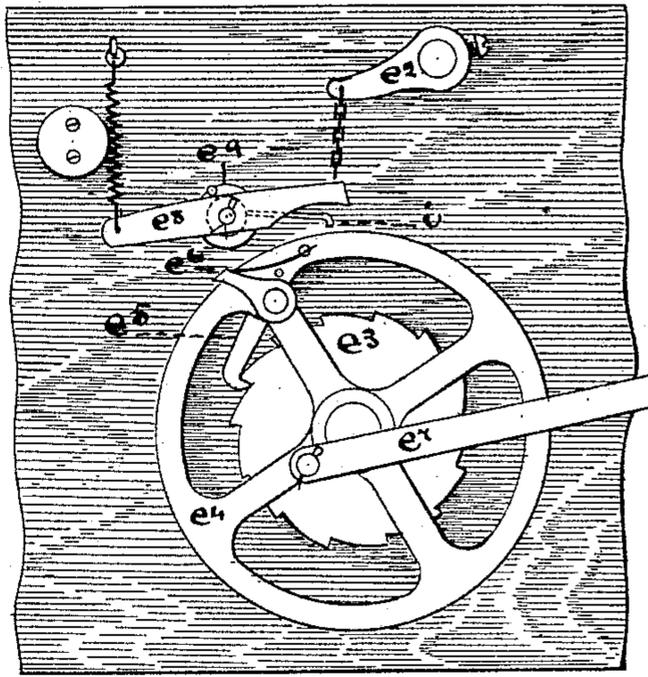


Fig. 5.

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# UNITED STATES PATENT OFFICE.

WARREN T. BUTLER, OF CHELSEA, ASSIGNOR TO THE STANDARD CANCEL-  
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REGISTERING AND CANCELING MECHANISM FOR BALLOT-BOXES.

SPECIFICATION forming part of Letters Patent No. 354,180, dated December 14, 1886.

Application filed August 17, 1886. Serial No. 211,159. (No model.)

*To all whom it may concern:*

Be it known that I, WARREN T. BUTLER, of Chelsea, in the county of Suffolk and Commonwealth of Massachusetts, have invented a new and useful Improvement in Mechanisms for Marking, Registering, and Gong-Sounding Ballot-Boxes, of which the following is a specification.

My invention relates to devices for giving motion to the registering and gong-sounding mechanism, the object of it being to provide a simple and effectual apparatus that will mark, register, and announce by sounding a gong the passage of each ballot into the ballot-box, and which will not mark, register, or announce unless there is a ballot passing.

Ballot-boxes to which my improvement is applicable have the same general features as those which have heretofore been made under James L. Savage's patents, Nos. 142,124 and 8,535, viz: an outer case made to be opened and closed, and secured, when closed, against all not authorized to open it; an inner frame to be inclosed in the outer case, in and upon which the working mechanism is affixed; rollers with elastic surfaces, to be revolved by a shaft having a crank-handle outside the outer case, which carry the ballot into the box and mark it as it passes, and devices for registering and sounding a gong. The usefulness of ballot-boxes containing mechanism for marking each ballot properly voted and registering its consecutive number and sounding a gong as each ballot is passed in is to detect fraudulent voting and stuffing of ballot-boxes.

My invention consists in a combination of mechanical devices placed partly on the outside and partly within the inner frame of the ballot-box, which, actuated by the passage of a ballot between the rollers when they are revolving, move the registering and gong-sounding mechanism, causing both to perform their functions. This mechanism will only act when a ballot is passing, and the rollers may be revolved indefinitely when there is no ballot between them without altering the number indicated on the register or striking the gong.

It is not deemed necessary to illustrate the outer case or shell of the ballot-box.

In the drawings annexed, Figure 1 shows a

side view of the inner frame of the ballot-box, upon which the mechanism embodying such of my improvements as are located on the outside of the frame are shown, and also a side view of the registering apparatus. Fig. 2 shows a top plan of the inner frame of the ballot-box and so much of the mechanisms within and on the outside of it as is visible from the point of view directly over it. Fig. 3 shows a longitudinal section of the inner frame and mechanism on line *x* in Fig. 2. Fig. 4 shows a longitudinal section of the inner frame on the line *y* in Fig. 2. Fig. 5 shows a side elevation of the loose wheel and the circular ratchet and pawl acting as a clutch.

*a* marks the inner frame of the ballot-box, within and upon which are placed the mechanical devices by which the several functions of the ballot-box are performed.

*a'* marks the larger or main roller of the ballot-box, which is located within the inner frame, supported by, affixed to, and revolved with a shaft extending across and through both sides of the inner frame, and through the outer case on one side to secure a crank-handle. On the circumferential surface of this roller, in lines extending entirely around it, are set the types or blocks which are to mark the passing ballot. In the circumferential face of this roller, between the lines of types or marking-blocks, there are cut several deep grooves, extending around the roller. This roller is made of wood and the face between the grooves covered with vulcanized rubber.

*a*<sup>2</sup> is a small roller, which may be called the "friction-roller," as its function is to press the ballot against the main roller, and in connection with that carry it forward into the box. This roller is on a shaft the bearings of which are in a vibrating frame, which is controlled by a spring to keep its surface in contact with the surface of the main roller. This roller is made of wood, with a face of elastic rubber, and has in it several deep grooves, extending entirely around its circumference, and a series of shallower grooves, which are opposite to the rolls of type on the main roller, just deep enough so that the type will not strike the bottom of the grooves when the rollers are revolved without a ballot between

them. Thus if the rollers are revolved without a ballot between them there will be no ink deposited on the friction-roller.

$a^3$  marks a table, which, with the sides of the inner frame projecting above it, forms a hopper, upon and in which the ballot to be voted is placed to be passed between the rolls  $a^1$  and  $a^2$  into the box, the width of which is about equal to the length of the rolls, with length sufficient to allow a ballot to be spread out upon it. This table is generally placed at an angle of about fifteen degrees, sloping toward the rollers, the lower end of it being on a line with and close into the line of contact of the rollers.

$a^4$  marks the vibrating frame, in which the roller  $a^2$  is supported, and the spring by which it is controlled.

$a^5$  marks the series of grooves in the main roller. These grooves receive each of them a lever of wire, which has one end affixed in an oscillating shaft across the inner frame above and a little to the rear of the friction-roller.

$a^6$  marks the wire levers, which lie in the grooves  $a^5$  in the main roller.

$a^7$  marks an oscillating shaft, located in and across the inner frame, above and a little in the rear of the friction-roll  $a^2$ , which is supported in bearings affixed in the sides of the frame, one end of which extends through the frame and carries on it a short arm, with a chain at the end of it, extending downward to a lever, hereinafter described. In this oscillating shaft one end of the levers  $a^6$  is inserted and firmly fixed. These levers extend from the oscillating shaft  $a^7$  downward vertically through the groove in the friction-roll a short distance below the line of contact of the two rollers, and thence across the main roller above its center in the grooves cut in it to receive them.

$a^8$  marks a series of clearing-fingers, which are firmly fixed in a transverse part of the inner frame,  $a$   $a$ , a little above and in the rear of the main roller, from whence they extend horizontally across about two-thirds the diameter of the main roller above its central shaft through the grooves  $a^5$ , and thence downward vertically a little beyond the outer surface of the roller. The function of these fingers is to separate the ballot from the surface of the main roller if it sticks to it.

$a^9$  marks a device for inking the type or marking-blocks set in the surface of the main roller. A roller of suitable substance is hung in a vibrating frame controlled by a spring which will keep its surface in contact with the type.

$e$  marks the location and outline of the mechanism for registering the consecutive number of each ballot passed between the roller into the box.

$e'$  marks the gong and the mechanism for sounding it when a ballot passes between the rollers into the box.

$e^2$  marks the finger and chain attached to it on the end of the oscillating shaft  $a^7$ , which

reaches to and connects with a trip-lever below it.

$e^3$  marks a circular ratchet affixed on the shaft of the main roller outside of the inner frame, which revolves with the main roller.

$e^4$  marks a wheel which is loose on the shaft of the main roller outside of the circular ratchet  $e^3$ , which does not revolve with the main roller except when it is clutched to it by a pawl on it, which is made to engage one of the teeth of the circular ratchet  $e^3$ . A stud on the outside of this wheel, a little distance from its center, makes a crank, which, when the wheel is revolving, gives a reciprocating motion to an arm or bar which reaches to the registering and gong-sounding mechanism and actuates it.

$e^5$  marks the pawl on the loose wheel, which engages one of the teeth of the circular ratchet  $e^3$ , and clutches the loose wheel to the main roller, so that it revolves with it until the pawl is released. This pawl is on the inside of the loose wheel on a pin which goes loosely in a hole through the arm of the loose wheel, to which it is affixed, and with which it vibrates.

$e^6$  marks a finger which is affixed on the end of the pin which carries the pawl  $e^5$  outside of the loose wheel  $e^4$ , standing at a right angle with the pin and at right angles with the pawl  $e^5$ . This finger is held to its work by a spring at the back of it, and a stud in the side of the loose wheel prevents it from moving backward much beyond a vertical position. The function of this finger is to engage against the end of a trip-lever, which the finger and chain  $e^2$  connect with, and release the pawl  $e^5$  from the circular ratchet  $e^3$ , and stop the revolving of the loose wheel  $e^4$  and the action of the registering and gong-sounding devices.

$e^7$  marks a bar or arm, one end of which is connected with a stud on the outside of the loose wheel  $e^4$ , the other end extending to the registering and gong-sounding mechanism. When the loose wheel  $e^4$  is clutched to the main roller and revolves with it, the stud on the side of the loose wheel, to which this bar is connected, forms a crank and pushes the bar out against the registering mechanism and moves that one number, and at the same time a stud on the inside of this bar strikes one end of a pivoted spring-lever, which carries a hammer on the other end, bears it down, and, as the crank moves, slips over the end, releasing it, when the spring throws the hammer against the gong.

$e^8$  marks the trip-lever, which has a fulcrum at about the middle of its length on a stud affixed to the outer side of the frame of the box above and a little forward of the loose wheel  $e^4$ . The rear end of this lever engages the finger  $e^6$  and holds it in a vertical position, which raises the pawl  $e^5$  out of the tooth of the circular ratchet, which leaves the loose wheel unclutched from the main roll, in which condition it will remain until a ballot passes between the rollers  $a^1$   $a^2$ . The other end of this trip-

lever is controlled by a spring, which holds it in position to engage the finger  $e^6$  until a superior force is applied to the other end through the finger and chain  $e^2$ .

5  $e^9$  marks the stud affixed on the side of the inner frame, which supports the fulcrum of the trip-lever  $e^8$ . Upon this stud there is also a spring-finger with a claw on the end of it, which falls into a notch in the outer circumference of the loose wheel  $e^4$ , and secures the loose wheel when a ballot has passed; and its forward motion is arrested by lifting the pawl out of the teeth of the circular ratchet, against a possible motion backward. On the base of  
10 this stud there is a pin which checks the vibration of the trip-lever  $e^8$ .

$i$  marks the spring-finger and claw on the stud  $e^9$ .

$i'$  marks the pin on the stud  $e^9$ , which checks  
20 the vibration of the trip-lever  $e^8$ .

$i^2$  marks a ballot passing from the hopper-table between the rollers on the way into the ballot-box, with the wire lever  $a^6$  raised by it out of the groove in the main roller.

25 It is not deemed necessary to give a detailed description of the several devices which constitute the registering and gong-sounding mechanism, as I make no claim on them as my invention.

30 In a ballot-box constructed as described the inner frame, with the mechanism in and on it securely locked in the outer case, is so made that the table or ballot-hopper is accessible to place a ballot on it, and the shaft of the main  
35 roller protrudes beyond the wall of the outer case to receive a crank-handle.

A ballot being placed in the hopper-table and advanced to contact with the rollers, the main roller is revolved by the handle, and the  
40 ballot is carried by it and the friction-roller, which revolves by its contact with the main roller, forward and into the ballot-box. As it passes it is marked on the side next to the main roller by the type or other devices set in  
45 it. If two ballots are passed in at once, only one will be marked, showing that the other is improperly in the box. As the ballot passes between the rollers, when it comes to the wire

levers  $a^6$ , which cross the line of its passage, which is the line of contact between the two  
50 rollers, they are raised up by and remain above and ride over it while it is passing and until it is passed by them, when they fall back into the groove in the main roller. The motion thus given to the levers  $a^6$  turns the oscillating  
55 shaft  $a^7$ , in which they are affixed, partly around, and the finger and chain  $e^2$  on the oscillating shaft are correspondingly moved. The trip-lever  $e^8$  is raised, the finger  $e^6$  is released, and the pawl  $e^5$  falls into the teeth of  
60 the circular ratchet  $e^3$ , when the loose wheel  $e^4$  is clutched to the main-roller shaft and revolves with it, giving a reciprocating motion to the bar  $e^7$ , thereby actuating the registering and gong-sounding mechanism, and causing  
65 them to perform their functions.

It is obvious that if no ballot passes between the rollers the levers  $a^6$  will remain in the groove in the main roller and not be raised. The oscillating shaft and finger and chain on  
70 it will not be moved, the trip-lever will not be raised, the finger  $e^6$  will not be released, the loose wheel  $e^4$  will not be clutched to the main roller, and the handle may be turned indefinitely without giving motion to the registering  
75 and gong-sounding mechanism.

I claim as new and my invention—

1. In a ballot-box, in combination with the rollers having grooves in the face of them, the levers  $a^6$ , the oscillating shaft  $a^7$ , the finger and  
80 chain  $e^2$ , the circular ratchet  $e^3$  and pawl  $e^5$ , the loose wheel  $e^4$ , the trip-lever  $e^8$ , the spring-finger and claw  $i$ , and the finger  $e^6$ , all substantially as described, and for the purposes specified.  
85

2. In a ballot-box, in combination with the roller  $a^1$ , the oscillating shaft  $a^7$ , the finger and chain  $e^2$ , the clutch made by the circular ratchet  
90  $e^3$  and pawl  $e^5$ , the loose wheel  $e^4$ , and the reciprocating bar  $e^7$ , all substantially as described.

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Witnesses:

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