

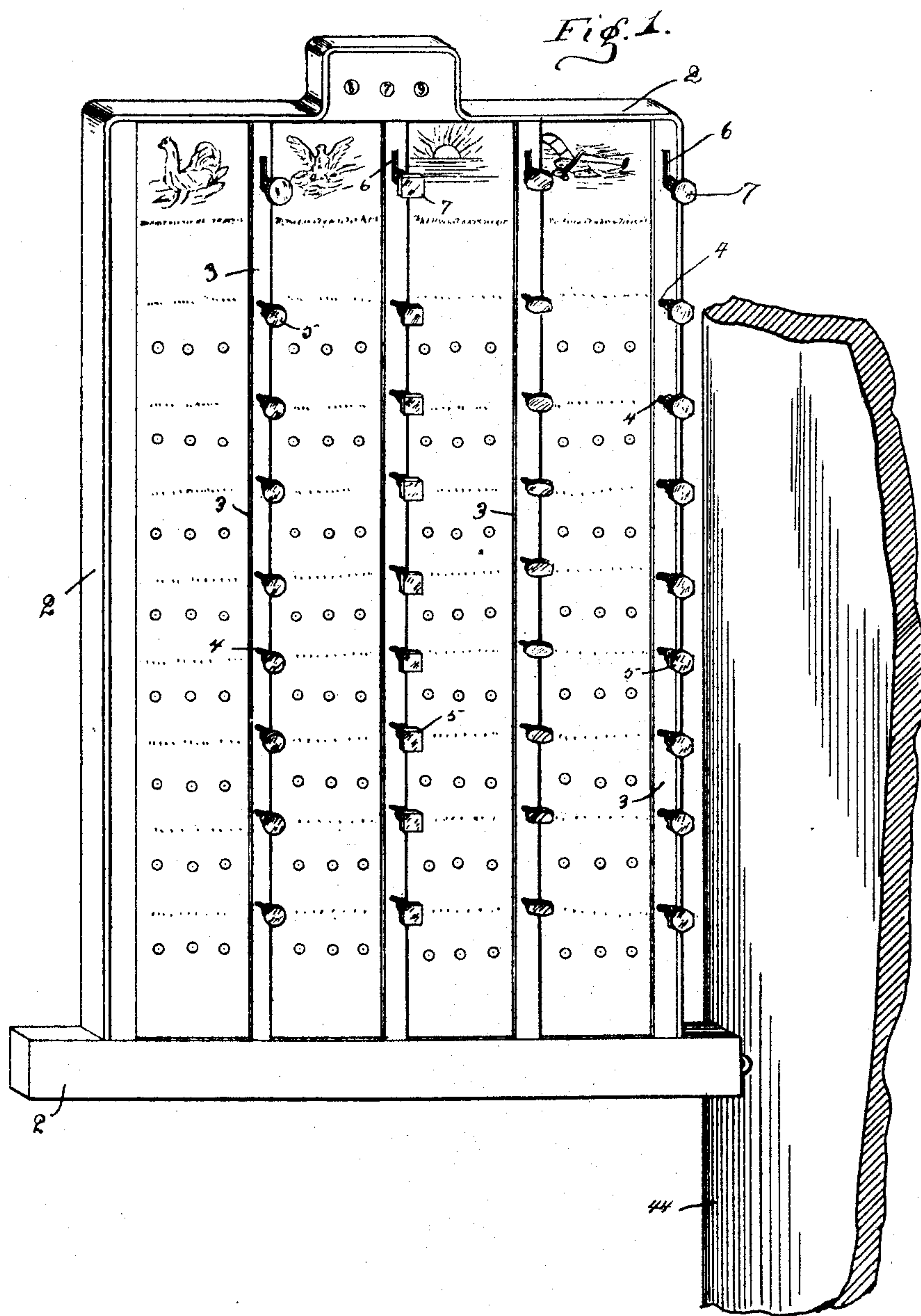
(No Model.)

3 Sheets—Sheet 1.

E. B. CUMMINGS.
VOTING MACHINE.

No. 585,742.

Patented July 6, 1897.



Witnesses

Geo. C. Conner

L. A. Monroe

Inventor

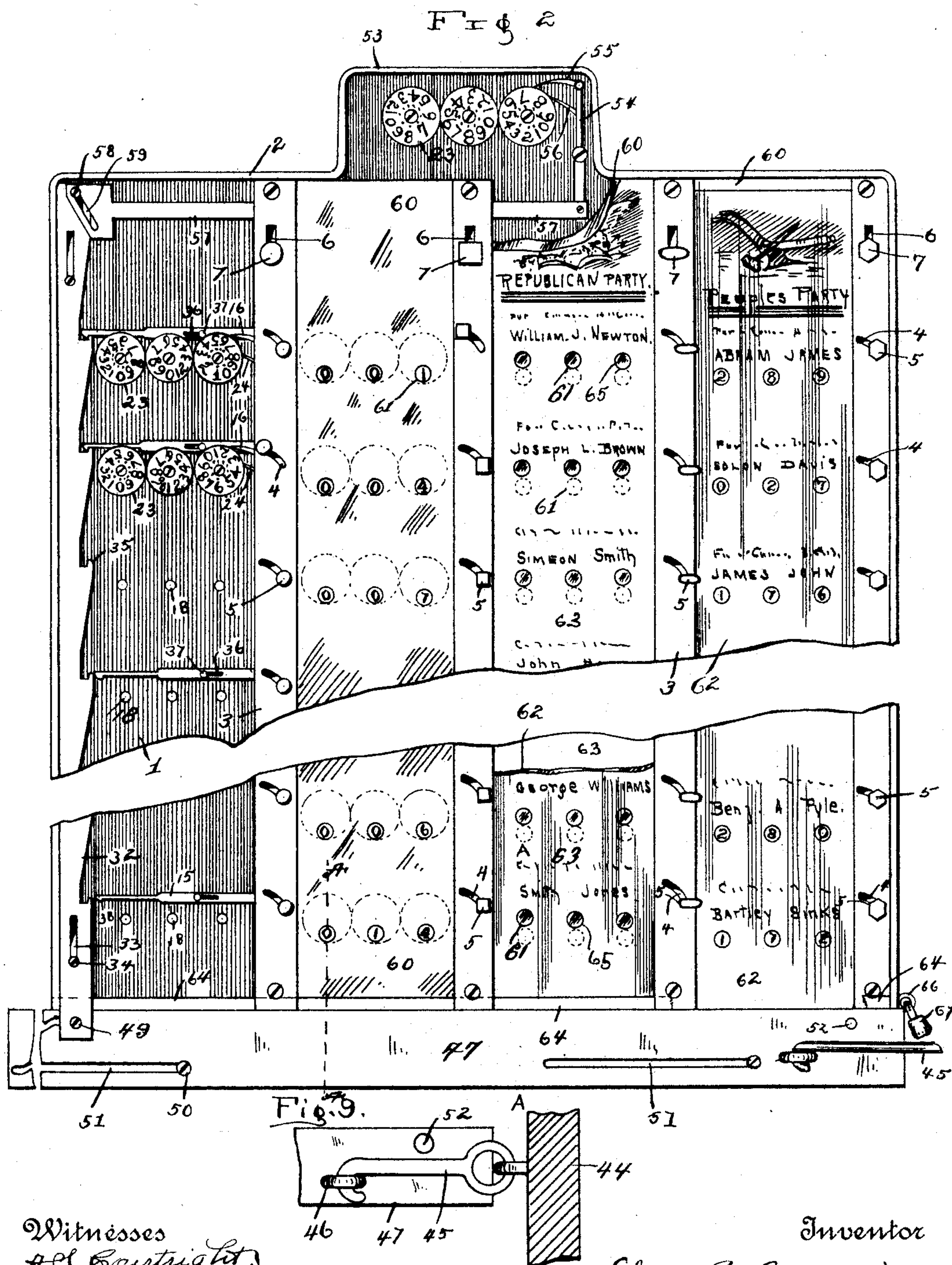
Edwin B. Cummings

By Attorney *H. Lockwood*

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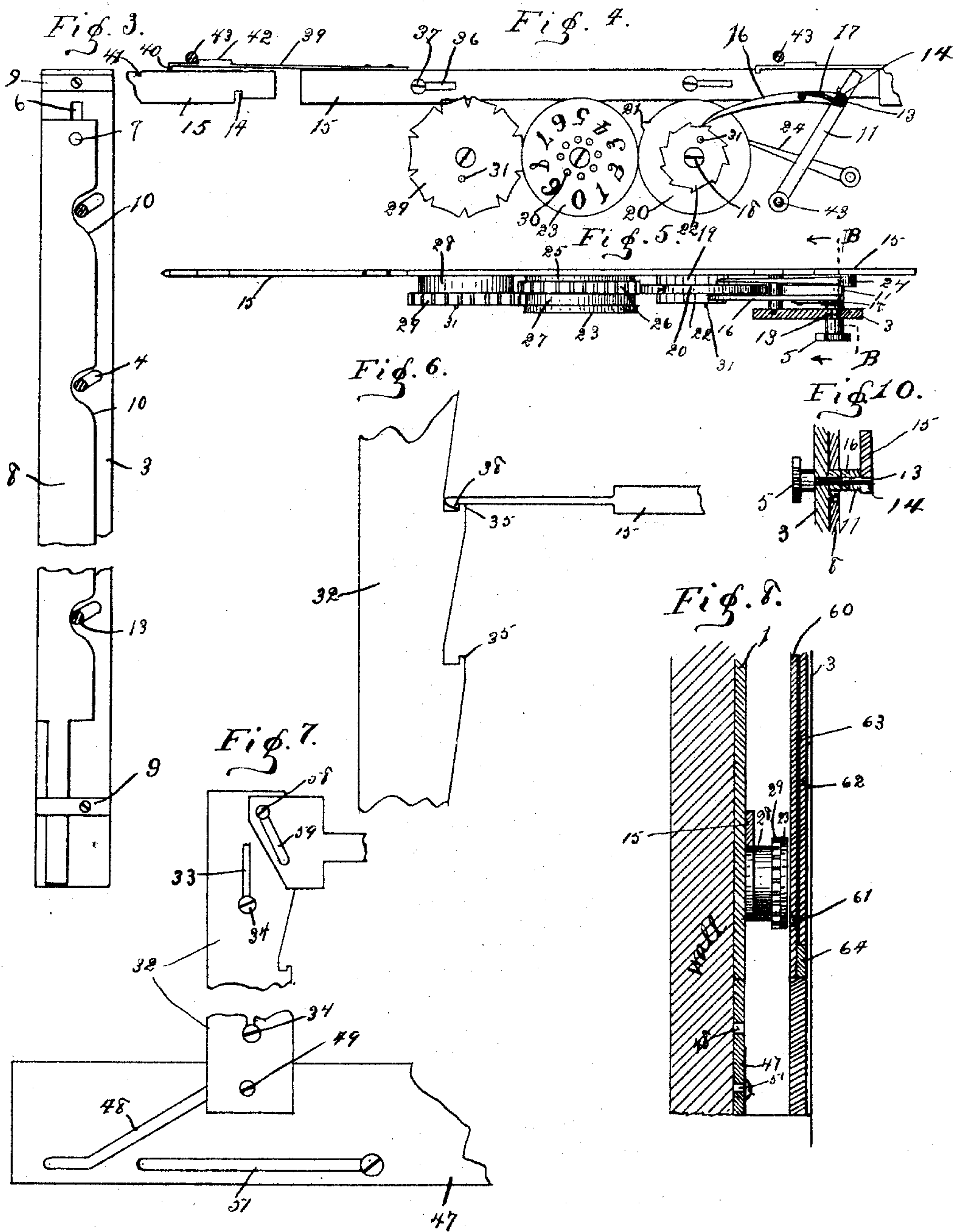
Witnesses
A. S. Courtright
H. F. Taylor

Inventor
Edwin B. Cummings
By Attorney *H. Lockwood*

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Witnesses
S. C. Courser.
L. A. Monroe.

Inventor
Edwin B. Cummings
By Attorney H. H. Lockwood

UNITED STATES PATENT OFFICE.

EDWIN B. CUMMINGS, OF INDIANAPOLIS, INDIANA.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 585,742, dated July 6, 1897.

Application filed March 27, 1895. Serial No. 543,430. (No model.)

To all whom it may concern:

Be it known that I, EDWIN B. CUMMINGS, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Voting-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

My invention relates to a voting-machine containing suitable registering and indicating mechanism operated mechanically by the voter, and also suitable locking devices whereby when any candidate has been voted for no other candidate for the same office can be voted for by the same voter. It meets the demands of the Australian-ballot system, as it enables the voter to vote a straight ticket, and when he has done so the whole machine is locked unless there be a part arranged for voting for amendments or other non-partisan matters. In such case the two classes of ballots, namely, for officers and for amendments, are not connected, although they are arranged in the same machine. It is so constructed that no person can vote more than one ballot or for more than one candidate for any office. The door of the booth in which the machine is located or the platform upon which the voter stands or other similar means is used to unlock the machine and also to register the number of voters who enter the booth. I provide a simple means for enabling the election officers with a minute's work to read the total vote cast for each candidate. Instead of a separate register for the straight tickets my machine registers one vote for every candidate on the straight ticket when it is voted.

My object has been to make a machine which is very simple and wholly mechanical in operation, so that experts will not be required to keep the machine in running order on election day, and at the same time will prevent all sorts of fraudulent and much of the mistaken voting and also register and add all the votes as cast. To this end I have made a machine which is very small and light. It is about a half an inch thick, and its width with four ballots is not to exceed twelve inches, and its length that of the ordinary ballot. Thus the machine complete for voting the or-

dinary ticket is so small and light that a number can be carried by an officer. All that is required to be done to set up the machine for voting is to secure the machine to the wall. The small dimensions enable the machine to be conveniently stored between elections. Where there are several tickets—such as national, State, county, and township—to be voted for, they can all be provided for in a single machine long enough to receive such a ballot, or there can be a separate machine for each class of tickets. This machine is also adapted for balloting purposes in organizations of all kinds, inasmuch as it affords secrecy and is very small, simple, and economical in construction. I may add that my machine is provided with keys of different shapes for the different parties, so that the blind and the illiterate can vote the machine with confidence and accuracy.

The full nature of my invention will be fully understood from the accompanying drawings and the description following.

In Figure 1 I show a perspective of my voting-machine with a portion of the door of the booth. Fig. 2 is a front elevation of the machine with some of the slides, tickets, and registering mechanism removed to show the interior construction. Fig. 3 is a rear elevation of a straight-ticket bar and a key-bar, with the keys shown in cross-section. Fig. 4 is an enlarged detail view of a single registering mechanism, the means of operating the same, and a portion of a locking-bar. Fig. 5 is a plan view of what is shown in Fig. 4. Fig. 6 is a side view of a portion of the locking mechanism. Fig. 7 is a side view of a portion of the unlocking mechanism. Fig. 8 is a cross-section on the line A A of Fig. 2. Fig. 9 is a detail of the connection between the unlocking-bar and the door. Fig. 10 is a section on the line B B of Fig. 5.

I construct my machine upon a plate 1, made, preferably, of metal, which can be attached to the wall of the voting-booth. About the edges of this plate and the voting-machine is the narrow casing 2, which serves as a finish to the machine and prevents access to the interior mechanism. Extending vertically are the key-bars 3, secured at each end by screws passing through the bars 9 to the plate 1, so as to be preferably a fraction over a quarter

of an inch from the plate. There is one of these key-bars alongside each ballot. In the drawings they appear on the right-hand side of the ballots, but the order of the parts may be reversed without modifying their nature or operation. These key-bars are provided with the curved slots 4, through which the shanks 13 of the keys 5 extend. The latter are used for voting for individual candidates.

At the upper end of the key-bar is a vertical slot 6, through which the shank of the key 7 extends. This key 7 is used for voting a straight ticket and is placed beside the party emblem, and is secured to the straight-ticket bar 8. (Shown in Fig. 3.) The latter is to the rear of the key-bar 3, and is held against it at the upper end by the key 7 and at the lower end by a lip on the bar 9, so as to be vertically slidable. The edge of the straight-ticket bar 8 is cut out, as shown in Fig. 3, to form the inclined shoulders 10, that lie normally under the shanks of the keys 5, so that when the straight-ticket bar 8 is elevated by pushing upward on the straight-ticket key 7 all of the keys 5 in that row will be operated, thus casting one vote for every candidate on that ticket. After the straight-ticket key 7 is voted the bar 8 drops into its normal position by gravity.

The shanks 13 of the keys 5 extend, as seen in Fig. 10, through the arm 11 and somewhat beyond to engage in the notch 14 of the locking-bar 15. This arm 11 is pivoted on the pin 43 and carries the pawl 16, controlled by the spring 17, and is actuated by the key 5. By this construction the operation of a voting-key actuates the locking and registering mechanism simultaneously. The arm 11 causes the key or shank 13 to move in a segmental line, so that after it has entered the notch 14 and has actuated the locking-bar and the latter has been locked the key cannot be moved in either direction, and hence it cannot be actuated a second time until the machine is unlocked.

The units-registering wheel is mounted on the pin 18, screwed into the plate 1, and consists of the ratchet 19, the disk 20, provided with a single tooth 21 for actuating the tens-wheel, the ten-toothed ratchet 22, which is driven by the pawl 16, and the indicating-disk 23. The wheels 19, 20, and 22 are secured together and their backlash is prevented by the pawl 24 engaging the ratchet 19. The tens-wheel has the washer 25, the ten-tooth wheel 26, the one-tooth wheel 27, and the indicating-wheel 23, of which the wheels 26 and 27 are secured together. The hundreds-wheel is built up with the washer 28, the ten-tooth wheel 29, and an indicating-wheel. The number of these registering-wheels can be varied to suit the exigency. The indicating-wheels are provided with a series of ten equidistant holes 30, arranged about the center, each of which is adapted to receive the pin 31, that is placed in the ratchet 22 or the one-tooth wheel 27 or the ten-tooth wheel 29—that is,

on the wheel adjacent to the indicating-disk. The purpose of this arrangement is to facilitate resetting the indicating mechanism to zero. When it is desired to reset this mechanism, the indicating-disks are removed and are placed so that zero will be directly under the aperture in plate 61.

Along one side of the device is the vertically-movable catch-bar 32, provided with slots 33, through which the pins 34 pass and guide such bar in its movement. On the side of such bar, as shown in Fig. 2, there is a series of teeth 35, set at some distance from the body of the bar, and the edge of the bar between the teeth is inclined, as shown. These notches are so located as to register with the locking-bars 15, which extend horizontally across the machine, there being one locking-bar for each office represented on the tickets. The locking-bars have horizontal slots 36, through which the pins 37 pass, enabling the bars to be moved horizontally by the keys 5, as heretofore described. The ends of these locking-bars near the catch-bar 32 are reduced in width in order that they may spring somewhat upward, and at the ends they have a downwardly-extending hook 38, adapted to catch over the tooth 35 on the catch-bar. This end of the locking-bar is beveled, as shown, so that when moved to the left it will slip over the tooth 35. After the hook of the locking-bar is caught over the tooth no other key in that row can be operated.

To prevent one person from voting for more than one candidate for the same office or more than one straight ticket, I make this locking-bar 15 sectional, as shown in Fig. 4, there being one section for each ticket. Secured to the end of each section nearest the catch-bar is a latch consisting of a flat spring 39, overlapping the end of the adjacent section and having a downwardly-extending hook or catch 40, adapted normally to catch in the notch 41. Integral with or secured to the flat spring is a lug 42, adapted to engage the pin 43 when the arm 11 has engaged and elevated the latch. When the latch is down and the catch 40 is in the notch 41, the lug 42 will escape under the pin 43, and thus make the locking-bar a continuous one. Going back now to the operation by the voter of a key 5, the arm 11 is rotated toward the catch-bar, its upper end engaging the spring 39, causing the latch to be elevated, and thus disengaging the catch 40 from the notch 41, and at the same time causing the lug 42 to engage the pin 43, so that no other key can be operated. The key that is operated separates the locking-bar and actuates the part preceding it. If a person attempts to vote for two candidates for the same office and exactly simultaneously, both will be locked before either can register, but if their operation is not simultaneous the one which is first started registers and the other is locked. No key can be moved far enough to operate its registering mechanism and register the vote excepting when such

key can elevate the latch 39 and thus divide the locking-bar at that point. The latch, of course, cannot be elevated after the lug 42 has started to pass under the stop 43. When
 5 two keys are operated exactly simultaneously, the one nearest the catch-bar attempts to elevate its latch, but it cannot do so, because the simultaneous operation of the other key has pushed its section of the locking-bar so
 10 far that the latch of the first key mentioned has moved its lug partially under the stop. Hence the key under such latch cannot be further operated and is locked by the initial action of the other key. The other key will
 15 also be locked and prevented from moving far enough to operate its registering mechanism, because the section of the locking-bar it actuates is locked at the other end, as above set forth, and, furthermore, its movement
 20 will be prevented because it is abutting against the preceding section of the locking-bar, which cannot move, as its key cannot be moved far enough to lift the latch 40 out of the notch 41. The same result ensues if he
 25 attempts to vote two straight tickets, because when he moves a straight-ticket bar he operates all the keys for that ticket, as the group has the same mode of operation as the keys composing the group. I may add that as I
 30 construct the machine I mount the arm 11 at its lower end upon the pin 43.

The locking-bars 15 are released by the exit of the voter through the door 44 of the booth, which through the hook 45 and eye 46 moves
 35 the unlocking-bar 47, that is provided with an inclined slot 48, through which extends the pin 49 on the lower end of the catch-bar 32. The unlocking-bar is held in place and guided by the bolts 50, extending through the
 40 slots 51. When the catch-bar 32 has thus been drawn down, the inclined faces or edges between the teeth 35 will have pushed all the locking-bars 15 into their normal positions, and, furthermore, will rigidly hold them there
 45 so long as the door is open. At the close of the election the officers can remove the hook 45 and insert a padlock through the eye 52, which will hold the catch-bar 32 down and render all parts of the machine perfectly rigid
 50 and inoperative and keep the register just where it stood when the last vote was cast. The machine then can be handled with impunity and the count cannot in any way be altered.

55 In the upper part 53 of the machine I provide a mechanism for registering the number of voters. This register is operated by the centrally-pivoted lever 54, acting through the spring-controlled pawl 55. The pawl 56 prevents the backward movement of the register.
 60 The lever 54 is actuated by the sliding bar 57, to which its lower end is pivoted, and this bar in turn is actuated by the catch-bar 32 by means of the bolt 58, extending through the inclined slot 59. Thus it will be observed
 65 that the registering mechanism referred to will be operated one notch whenever the door

opens. In order to make this feature of the machine operate perfectly, the door should go back and catch after each voter has left
 70 the booth, so that it could not be moved until the next voter entered, or the voter should enter one door and go out at another.

The edges of the key-bars 3 are provided with two longitudinal grooves to form a slide-
 75 way for the metallic plate 60, as seen in Fig. 2. This plate holds the indicating-wheels in place on the pins 18 and 31 and has the apertures 61, through which one numeral on each indicating-wheel is visible. In the up-
 80 per slideway in the key-bars 3 I slip a transparent plate 62. Between this plate and the metal plate I slide a ballot 63, printed in lawful form, supported in place by a sliding bar
 85 64. This ballot is provided with apertures 65, placed immediately under the name of a candidate, so that when the sliding bar 64 is withdrawn and the ticket drops they will register with the apertures 61 in the metal plate,
 90 and therefore reveal the numerals on the indicating-wheels. In this manner the number of votes cast for each candidate can be read, as in Fig. 2; but while the voting is in progress the sliding bar 64 holds the ballot up so
 95 that the apertures 65 will not register with the apertures 61 in the metal plate, thus preventing any voter from reading the number of votes cast for any candidate. The bar 64 slides horizontally, and it must be entirely
 100 beyond the interference of the voter. To effect this, I provide the lug 66 with an eye, and I place an eye also through the bar 64 for the introduction of a padlock 67 in order that such bar may be securely locked in place.
 105 This same padlock, after the voting is all done and it is removed from that place, can be used in the hole 52 for locking the entire machine, as above described. In this manner no person will know the number of votes cast for any candidate until the voting is done and
 110 the officers have removed the lock, slipped out the sliding bar 64, and let the ticket drop so that the holes in it will register with the holes in the metal plate and with the numerals on the indicating-wheels. This work
 115 on the part of the officers can be done in a minute, and then the total vote for every candidate on all the tickets will be immediately revealed. This will prevent fraudulent or mistaken counting and secure an instantaneous
 120 report.

In Fig. 2 the left section shows the base-plate, the catch-bar, and some locking-bars and registering-wheels. The next section to the right shows the stationary metal plate over
 125 the mechanism back of it. The next shows the machine as it appears while voting, while the right section shows the ticket and glass dropped to enable the officers to read the vote.
 130

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a voting-machine, the combination of a base-plate, a locking-bar slidably mounted

on the base-plate, registering-wheels mounted on the base-plate, a key-bar secured to the base-plate, and a key for actuating the locking-bar and registering-wheels mounted in the key-bar perpendicular to the base-plate, said locking-bar, registering-wheels and key all movable in a plane parallel with the base-plate.

2. In a voting-machine, a sliding locking-bar having a notch in it with the rear side a little shorter than its front side, and a key movable in the arc of a circle and adapted when operated to engage the locking-bar in such notch, substantially as set forth.

3. In a voting-machine, locking-bars having spring-hooks on their ends, a catch-bar having teeth adapted to catch the hooks and inclined surfaces between the teeth to push the locking-bars back into place, and means whereby such catch-bar will be actuated by the door of the voting-booth.

4. In a voting-machine, locking-bars having spring-hooks on their ends, the catch-bar having the bolt 49 in it, the unlocking-bar 47 having the slot 48 to receive the bolt 49, and the hook 45 adapted to be actuated by the door of the voting-booth.

5. In a voting-machine, locking-bars, catch-bars adapted when operated to hold such locking-bars and prevent their operation, an unlocking-bar for actuating the catch-bar, and means for so securing the unlocking-bar in such position that all the parts of the machine will be rendered rigid and immovable.

6. In a voting-machine, suitable locking-bars, a catch-bar adapted to catch and prevent such locking-bars from further operation, an unlocking-bar adapted to actuate the catch-bar and hold the same in position and having one end extending beyond the casing of the machine when the machine is in a locked condition, and means for locking the end outside the casing so that it cannot be pushed in whereby the parts will be held rigid and immovable.

7. In a voting-machine, a registering mechanism for each candidate, a locking-bar for all the candidates for the same office provided with a hook, a catch-bar with teeth to engage such hook when actuated, and a voting-key for each candidate adapted simultaneously to actuate the locking-bar and registering mechanism.

8. In a voting-machine, a registering mechanism for each candidate, a locking-bar for all the candidates for the same office having on its end a spring-hook, a catch-bar with teeth to be engaged by such hook when actuated and an inclined face to push the locking-bar back in place, means for actuating such catch-bar, and a voting-key for each candidate adapted simultaneously to actuate the locking-bar and registering mechanism.

9. In a voting-machine, a base-plate, a registering mechanism for each candidate, a locking-bar for all candidates for the same office held in place against the base-plate by pins

in the latter extending through the slots in the locking-bar, a catch-bar held in place on the base-plate and adapted to catch the locking-bar when actuated and return it after the voter has voted, a key for each candidate to actuate the locking-bar and registering mechanism, and means for actuating the catch-bar.

10. In a voting-machine, a locking-bar in sections whose ends abut, means for connecting the ends of the sections, and a voting-key to actuate the locking-bar and at the same time release the connecting means and separate the sections near the point of actuation.

11. In a voting-machine, a sectional locking-bar with one section for each candidate for the same office, a spring-latch connecting the adjacent sections, and a key adapted to raise such spring-latch when it actuates the locking-bar.

12. In a voting-machine, a sectional locking-bar with one section for each candidate for the same office, a spring-latch connecting the adjacent sections, a stop that is engaged by the latch when it is elevated, and a key adapted to raise the latch when it actuates the locking-bar.

13. In a voting-machine, a base-plate provided with stop-pins, a sectional locking-bar slidably mounted on the base-plate near the pins and having a notch in its upper edge, a spring secured to a section of the locking-bar and overlapping the adjacent section and having a catch to engage the notch in the locking-bar, a key adapted when operated to move the locking-bar and at the same time to elevate the engaging end of the spring, and a lug on such spring adapted to engage the pin in the base-plate when the spring is elevated, substantially as set forth.

14. In a voting-machine, a registering and indicating mechanism, suitable locking-bars, a catch-bar for catching the locking-bars when actuated, means for actuating such catch-bar every time a voter votes, and means for actuating the registering mechanism by the movement of the catch-bar, all movable in the same plane.

15. In a voting-machine, a registering and indicating mechanism, suitable locking-bars, a catch-bar for catching the locking-bars when actuated and having the bolt 58, means for actuating such catch-bar every time a voter votes, the sliding bar 57 having the inclined slot 59 adapted to receive the bolt 58, and the lever 54 pivoted to the sliding bar 57 and provided with suitable pawls for actuating the registering mechanism.

16. In a voting-machine, suitable registering and indicating mechanism for each candidate adapted to be actuated by the key for the candidate, a movable ballot with apertures near the name of each candidate that will register with a numeral on each indicating-wheel when desired, a sliding bar supporting the ballot while the voting is in progress so that the apertures in the ballot will

not reveal any numeral on the indicating-wheels, and means for preventing any interference with such bar.

17. In a voting-machine, a key-bar provided with slots, a key for each candidate on any one ticket extending through such slots in the key-bar, a registering mechanism for each candidate actuated by such key, a straight-ticket bar slidably mounted on such key-bar provided with inclined shoulders adapted when moved to engage all the keys and actuate them.

18. In a voting-machine, the key-bar 3 provided with the slots 4 and 6, the voting-keys 5 for the individual candidates on one ticket, the straight-ticket bar 8, and the straight-ticket key 7, all combined substantially as set forth.

In witness whereof I have hereunto set my hand this 18th day of March, 1895.

EDWIN B. CUMMINGS.

Witnesses:

V. H. LOCKWOOD,
G. C. CONNER.