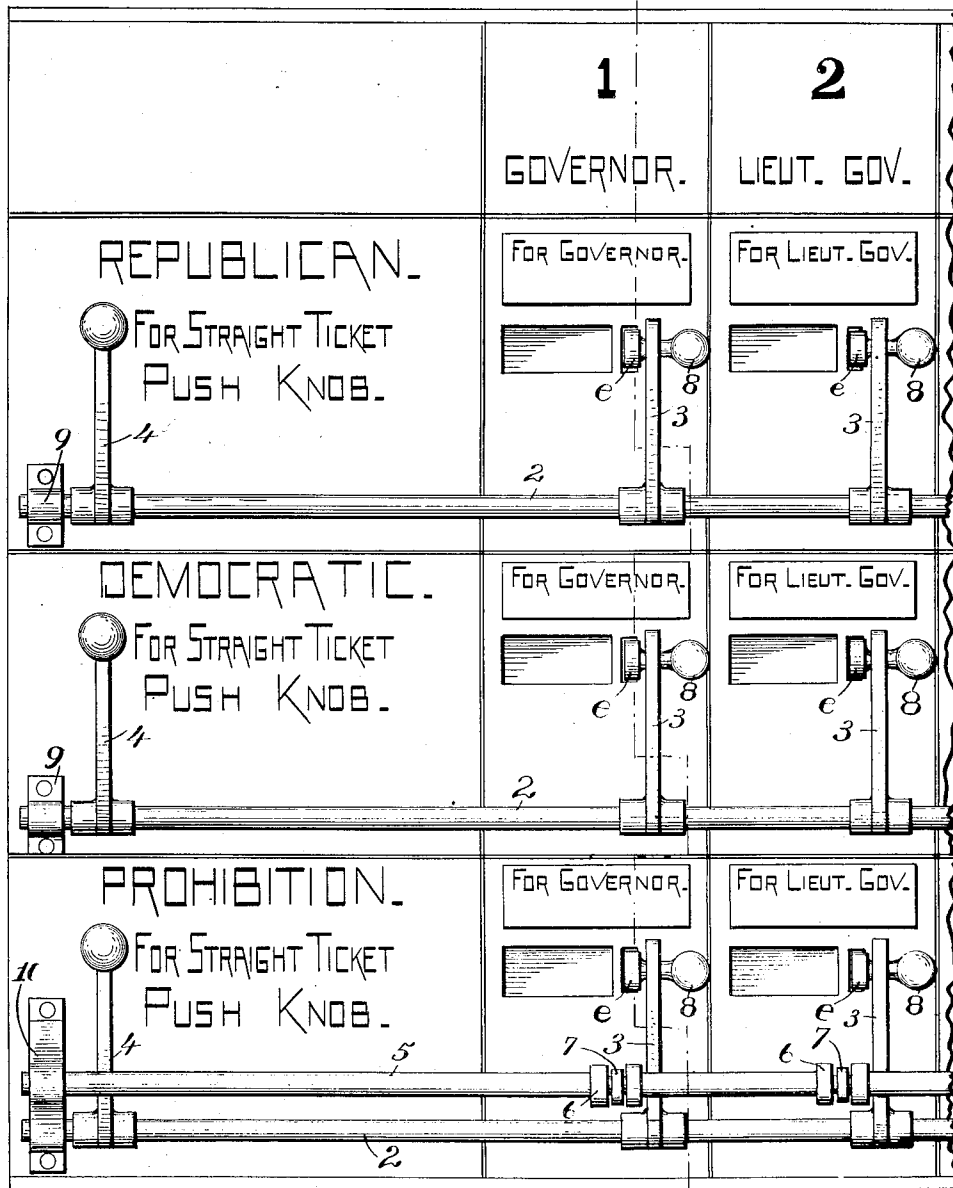


1,198,563.

Patented Sept. 19, 1916.

4 SHEETS—SHEET 1.

FIG. 1.



Witnesses

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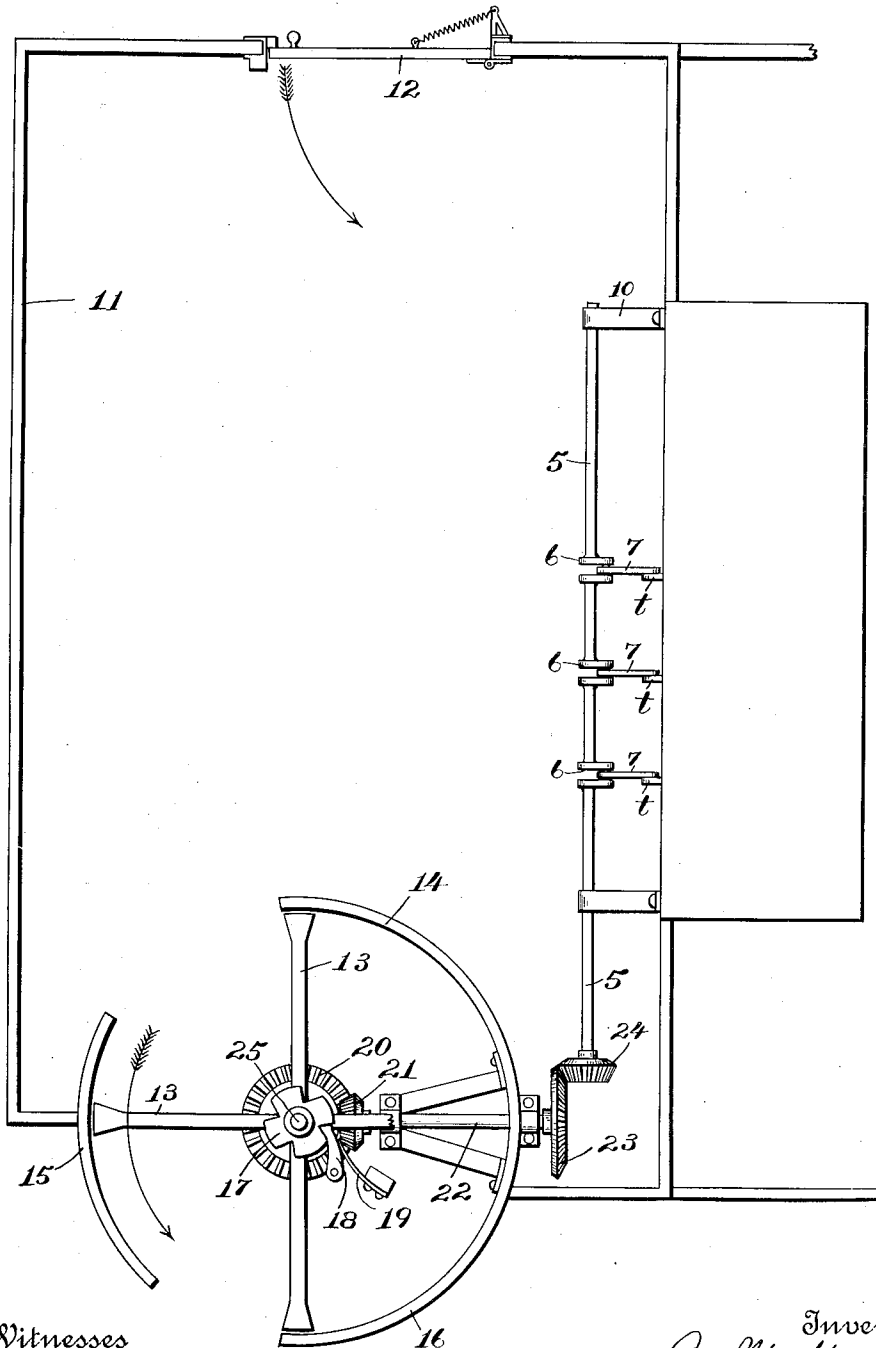
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1,198,563.

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APPLICATION FILED JULY 3, 1899.

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4 SHEETS—SHEET 2.

FIG. 2.



Witnesses

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4 SHEETS—SHEET 3.

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FIG. 3.

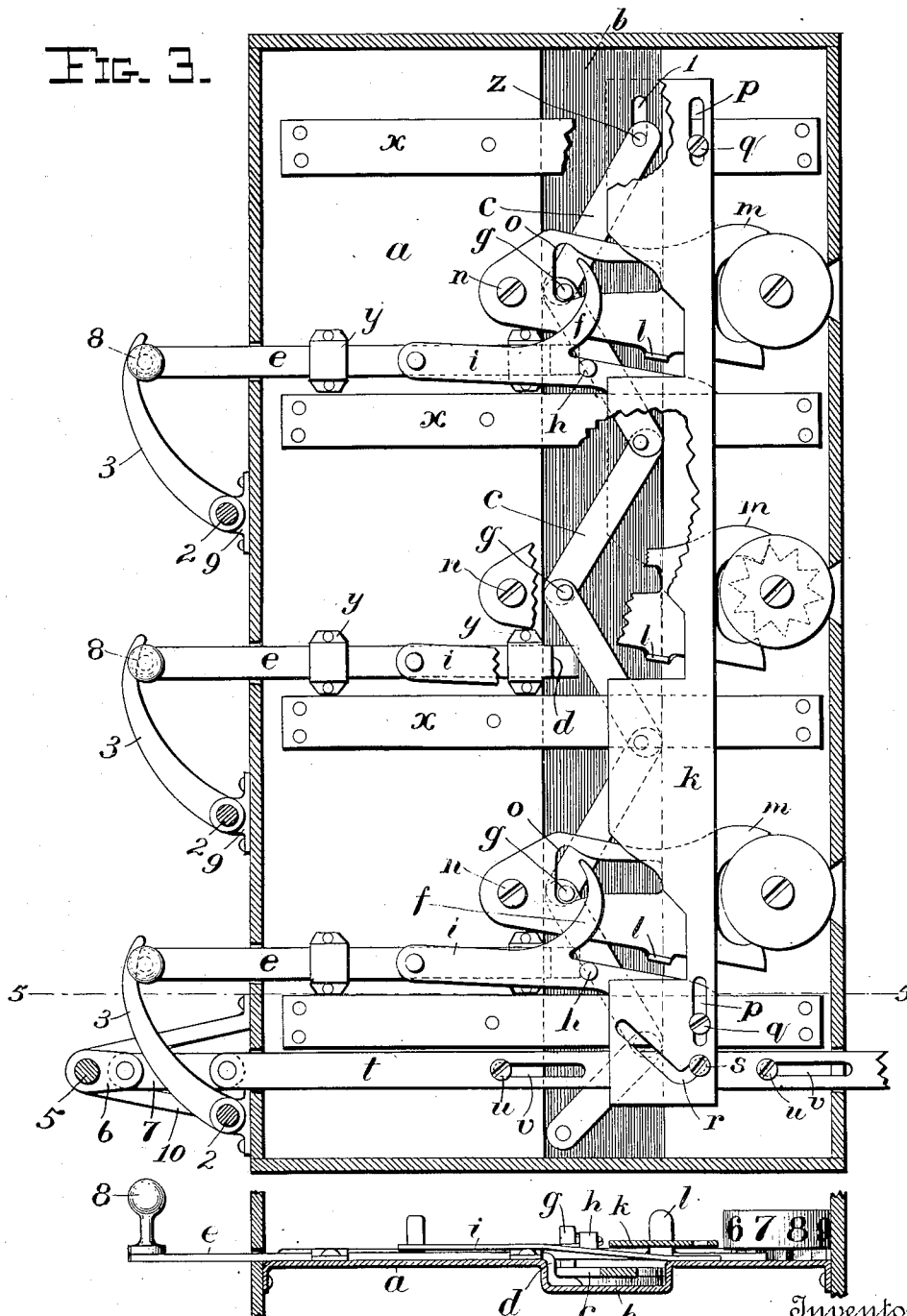


FIG. 5.

Witnesses

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4 SHEETS—SHEET 4.

This technical drawing illustrates a mechanical assembly, possibly a part of a printing press or a textile loom. The device is housed within a rectangular frame. Three horizontal bars, labeled 'x', are positioned vertically. To the left of these bars are three curved levers, labeled '3', which are pivoted at their ends. Each lever has a circular component labeled '8' and a smaller circular component labeled '29'. The levers are connected to a central vertical shaft. On the right side of the shaft, there are three large rollers or gears, labeled 'm'. The shaft is also connected to a complex arrangement of gears and rollers, including a large gear labeled 'p' and a smaller gear labeled 'q'. Various other components are labeled with letters and numbers, such as 'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z', '1', '2', '3', '4', '5', '6', '7', '8', '9', '10', '11', '12', '13', '14', '15', '16', '17', '18', '19', '20', '21', '22', '23', '24', '25', '26', '27', '28', '29', '30', '31', '32', '33', '34', '35', '36', '37', '38', '39', '40', '41', '42', '43', '44', '45', '46', '47', '48', '49', '50', '51', '52', '53', '54', '55', '56', '57', '58', '59', '60', '61', '62', '63', '64', '65', '66', '67', '68', '69', '70', '71', '72', '73', '74', '75', '76', '77', '78', '79', '80', '81', '82', '83', '84', '85', '86', '87', '88', '89', '90', '91', '92', '93', '94', '95', '96', '97', '98', '99', '100'. The drawing is a detailed cross-section or side view of the mechanism, showing the internal components and their arrangement.

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UNITED STATES PATENT OFFICE.

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VOTING-MACHINE.

1,198,563.

Specification of Letters Patent. Patented Sept. 19, 1916.

Application filed July 3, 1899. Serial No. 722,701.

To all whom it may concern:

Be it known that I, ANGUS McKENZIE, a citizen of the Dominion of Canada, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Voting-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in voting machines and the object of my invention is to provide an improved device whereby a voter can operate the machine more easily to cast his vote and if he wishes to change it the machine permits him to take it back and vote another key.

In order to make the operation of the key as easy as possible in both directions I provide the means whereby the counter will not be moved when the voter operates the key or indicator, but whereby it will be moved only when the machine is reset, in which case the counters of those keys which have been left pushed in by the voter will be moved one step and the actuating and interlocking parts will all be restored to their normal position.

In the regular operation of a machine constructed to operate according to my invention the voter pushes in a key corresponding to the candidate for whom he wishes to vote. The key, if it is one of a single candidate group, operates the interlocking mechanism so that no more keys can be operated in that group. In pushing in the key a hook pivoted to the key carries a pin between the universal resetting bar and a projection on the yoke which carries the pallets that operate the counters, so that when the universal bar is lifted its movement will be communicated through the pin carried on the hook to the yoke, moving it so that a two-step movement is communicated to the counter.

In the accompanying drawings Figure 1 is a view of a part of the front of my machine, showing the face plate. Fig. 2 is a diagrammatic plan view, showing the machine inclosed in a booth, and the resetting mechanism. Fig. 3 is a vertical section on the line 3—3 of Fig. 1. Fig. 4 is a similar view showing one of the keys pushed in and the others locked. Fig. 5 is a horizontal section of one of the single candidate voting

devices, taken on the line 5—5 of Fig. 3, looking upward, and Fig. 6 is a detail view, showing a modification of a part of the resetting mechanism.

a represents a channel plate which has a groove pressed therein of considerable width, in which is carried a toggle interlocking mechanism *c*. The links of the toggle normally extend in a zigzag direction from the bottom of the channel to the top, the joints of the toggles on the left hand side resting normally in proximity to an offset *d* on the voting key *e* which engages the toggles when it is pushed in, straightening that particular pair of links and shoving the toggles above it in the channel up against a rigid abutment which prevents other keys in that particular group from being operated. If however, the voter wishes to change his vote he can pull the key back and the weight of the toggles will restore the toggles which have been straightened to their normal position or if the toggles should happen to bind the insertion of another key in the channel will force the toggles belonging to the other key back to their normal position. To each key an arm *i*, provided with a hook *f*, is pivoted. Each hook engages a pin which is carried by the toggle joint so that when the key is pulled back by the voter or is reset by the operation of the machine the toggles will be positively restored to their normal position. Each arm *i* is provided with a projection or pin *h*, near its rear end. This pin, when the key is pushed in, comes between the universal bar *k* and a projection *l* carried on the yoke or counter actuator *m*. The counter actuator is formed in much the same way as is shown in the patent to Davis 526,668, Sept. 25, 1894. It is pivoted at one end at *n* to the channel plate, and its other end moves up and down as motion is communicated to it by the universal bar through the pin carried on the arm which moves with the voting key.

The end of the counter actuator which moves up and down in connection with its counter is formed as a yoke, on each side of which is carried a pallet which positively engages with the teeth of a star wheel carried by the units wheel of a decimal counter, forming a positively actuated escapement counter, the counter being operated twice in the registration of every vote. This yoke has a hole *o* cut in it to allow the pin carried

at the toggle joint to travel up and down and back and forth as the needs of the interlocking mechanism require, although it is obvious that the whole upper side of the actuator could be cut away leaving the pin free to rise indefinitely.

The resetting bar *k* consists of a flat plate cut away so as to leave recesses, cams and shoulders to perform its appropriate functions as it moves up and down. It has two slots *p* of moderate length cut lengthwise one at each end, which by means of pins or screws *q* limit the bar to a straight up and down movement. At one end it has a reversed cam slot *r* which engages with a pin *s* carried on a resetting slide *t*. This slide is held to a straight forward and back movement by means of the pins *u* and slots *v*.

As the slide *t* moves outward it forces the resetting bar to move up a short distance. As it moves up one of the shoulders thereon catches the pin *h* carried on the arm *i* of the key that has been pushed in and left, and forces it against the projection carried on the corresponding yoke, lifting the yoke and communicating the first step of the escapement to the counter. The further movement of the slide communicates a downward movement to the universal bar, permitting the yoke to fall by gravity and operate the counter for the second step, thus completing the registration of one vote. If desired a pin can be carried by the bar forcing the yoke back to place and making the last step of the counter positive as well as the first as is indicated at 10 at the top of Fig. 4. Immediately after the first step of the counter has been completed by the raising of the universal bar the pin enters the long part of the slot and forces the bar down again to a point below its initial position. In so doing the cam faces on the universal bar engage the displaced pins *g* carried by the toggle joints and force them back to their normal position. The lower toggle of each pair in being forced back engages the key and carries the key back too, thus resetting the voting parts. The return or inward movement of the resetting slide raises the resetting bar to its highest point but before the upward movement begins, the pin *h* is withdrawn from between the shoulder of the resetting bar and the projection on the yoke, so that the upward movement of the universal bar is not communicated to the yoke and the counter is not disturbed. By the further movement of the resetting bar the universal bar is restored to its normal position ready for the next voter. Thus it will be seen that by my invention a voter can indicate his vote without moving the counter and can take back his vote or change it to another candidate if he so desires, all without disturbing the counter.

x represents braces fastened to the plate

a, which serve to keep the members of the toggles confined in the channel *b*.

y represents guiding clips for the keys *e*, which clips are fastened to the plate *a*.

The lower end of the lower toggle is pivoted to the plate *a*. The upper end of the upper toggle is provided with a pin *z*, which works in a slot 1 of the plate *a*. Thus a limit is provided for the movement of the toggles.

If the voter wishes to vote a straight ticket, he can do so by moving one of the arms or levers 4 upward.

Beneath each horizontal row, which is devoted to the candidates for one party is a shaft 2 fixed in brackets 9 on the face plate. Each of these shafts or rods 4 is provided with a series of hooks or curved arms 3, one for each key *e* and when one of the levers 4 is moved upward the arms 3 thereon engage with knobs 8 on the keys *e* of that row and push them in.

The resetting mechanism is operated in the following manner: A shaft 5 is journaled in brackets 10 on the lower part of the face plate. This shaft is provided with a series of cranks, 6 secured thereto, one for each vertical row of keys. Links 7 are connected to the cranks 6 and the resetting slide *t*, the movement of which, as already described, operates the resetting bar or plate *k*.

The shaft 5 is operated by the means shown in Fig. 2, wherein 11 represents a booth provided with an entrance door 12, normally held closed, as by a spring (not shown) so that it cannot be opened from the inside. 14, 15 and 16 represent curved partitions in the wall of the booth, within which is mounted a turnstile 13, the arrangement being such that the voter cannot leave the booth without moving the turnstile a quarter of a revolution. A pawl 18 is pressed by a spring 19 against a ratchet wheel 17 on the shaft 25 of the turnstile, preventing backward movement. On the shaft 25 is a bevel gear wheel 20 which meshes with a similar gear wheel 21 on the shaft 22. This shaft also carries a second bevel gear wheel 23 which meshes with a similar gear wheel 24 on the shaft 5. The parts are so proportioned that a quarter turn of the turnstile causes a complete revolution of the shaft 5. It is obvious therefore that a voter, in passing out of the booth, will reset the voting mechanism.

In Fig. 6 is shown a modification of a part of the resetting mechanism. In this modification the shaft 5 is shown provided with arms 26 (one for each vertical row of keys). Each of these arms has a slot 27 at its upper end which engages with a pin or knob on the bar *t*. Of course the operating mechanism for the shaft 5 would then be arranged to rock it instead of to revolve it, as is well known in the art.

I have shown and described my invention as applied to a single candidate group. It is obvious, however, that it is equally applicable to multicandidate group voting mechanism.

5 For example, if the slot 1 in the plate *a* were lengthened sufficiently two keys could be pressed in instead of one.

It is obvious that many changes might be made without departing from the spirit 10 of my invention. I wish it to be expressly understood, therefore, that I do not limit myself to the exact details shown or described.

Having thus described my invention what 15 I claim and desire to secure by Letters Patent of the United States is:

1. In a voting machine, the combination of keys forming a group, an interlock for said group, a counter for each key, a pivoted 20 actuator for each counter, each key being provided with a pivoted extension, and being freely movable into and out of coöperative relation with its corresponding counter actuator, and resetting mechanism for simultaneously operating the selected counter 25 actuators and their corresponding counters, and resetting the machine.

2. In a voting machine, the combination of counters, a key for each counter, each 30 key being provided with a pivoted extension having a projection thereon, a counter actuator for each counter, each of said keys being freely movable into and out of coöperative relation with its corresponding counter 35 actuator, and a recessed bar, the movement of which, through the projections on said keys, operates the selected counter actuators and corresponding counters.

3. In a voting machine, the combination 40 of a series of reciprocatory keys arranged in a party group, said keys being freely movable into and out of coöperative relation with their corresponding counters without affecting said counters, and straight 45 ticket operating means consisting of a bar, a handle on said bar, and curved projecting portions attached to said bar, one of which bears against each of the single candidate keys.

50 4. In a voting machine, the combination of keys arranged in a group, a counter actuator and counter corresponding to each key, a toggle interlock for said group provided with projecting portions at the pivotal 55 points, each of said keys being provided

with an extension having a hook adapted to at times engage the projecting portion of the toggle interlock, said keys being movable freely into and out of coöperative relation with their corresponding counters without affecting them, and means for operating the selected counters and simultaneously restoring the keys and toggle interlock to their normal positions.

5. In a voting machine, the combination 65 of a pivoted counter actuator provided with a projecting portion, a reciprocating key having an extension pivoted thereon, said extension being provided with a projection adapted, when the key is voted, to engage 70 with the projection on the counter actuator, and resetting mechanism which operates the counter actuators corresponding to the keys operated by the voter, and restores the key to its normal position. 75

6. In a voting machine, the combination of a voting key provided with a pivoted 80 extension, said extension having a projection thereon, a pivoted counter actuator provided with a projecting portion, said key 80 being movable freely into and out of coöperative relation with said counter actuator without operating it, and a recessed bar for operating the counter actuators selected by the voter and restoring the keys to 85 their normal position.

7. In a voting machine, the combination of a series of voting keys arranged in a group, each voting key being provided with a pivoted extension having thereon a projection and a hook, a toggle interlock for said group provided with projecting pivots, a series of counter actuators, one corresponding to each key and each provided with a slot and a projection, and with teeth for 95 operating the counters, a series of counters corresponding to said counter actuators, a recessed resetting bar, and means whereby the voter as he leaves the machine operates said resetting bar, actuates the selected 100 counter actuators and their corresponding counters, and restores the machine to its normal condition.

In testimony whereof I affix my signature in presence of two witnesses.

ANGUS McKENZIE.

Witnesses:

JAMES W. HINE,
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