

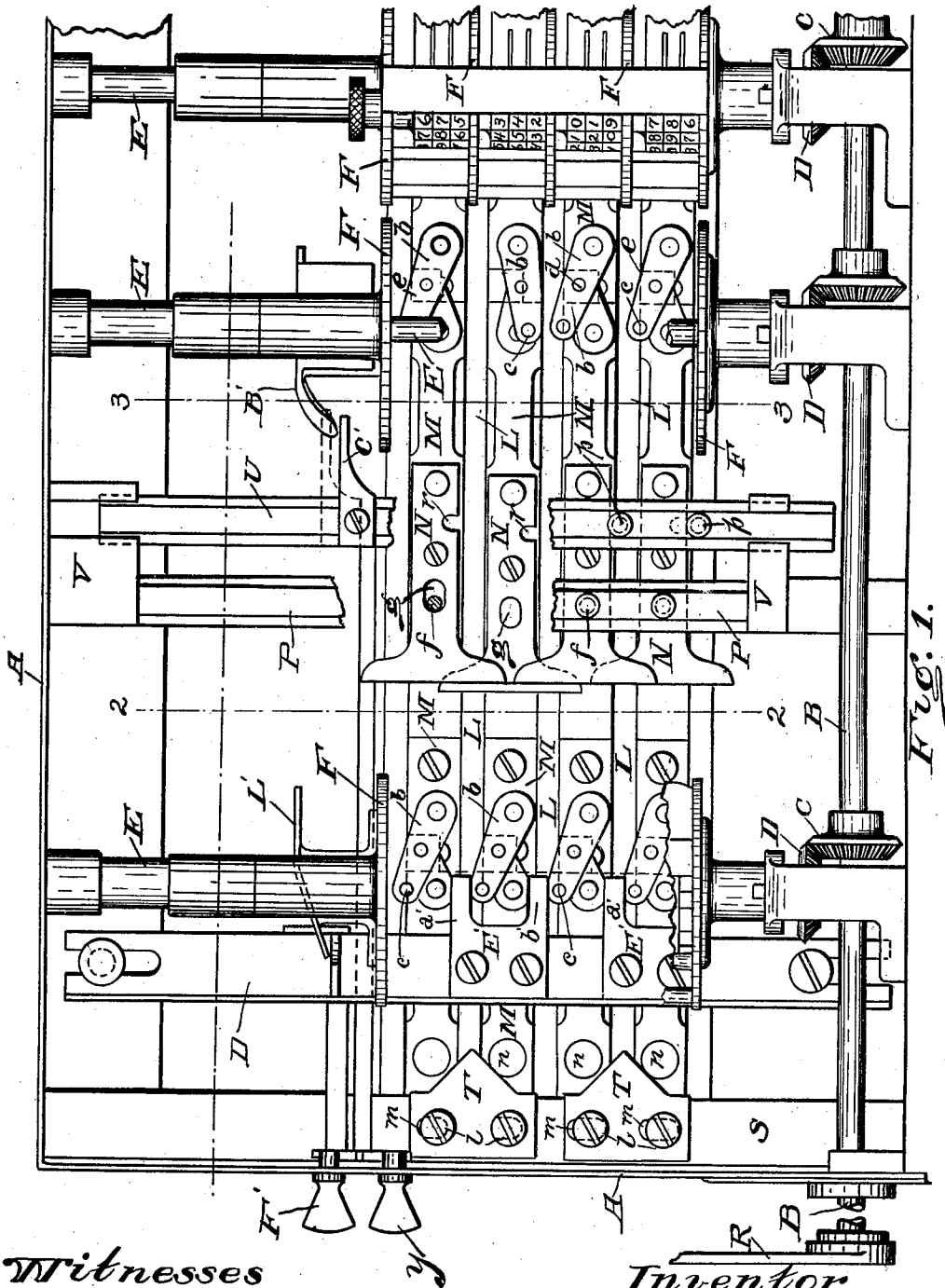
No. 819,692.

PATENTED MAY 1, 1906.

W. H. DANA.
VOTING MACHINE.

APPLICATION FILED FEB. 4, 1904.

3 SHEETS—SHEET 1.



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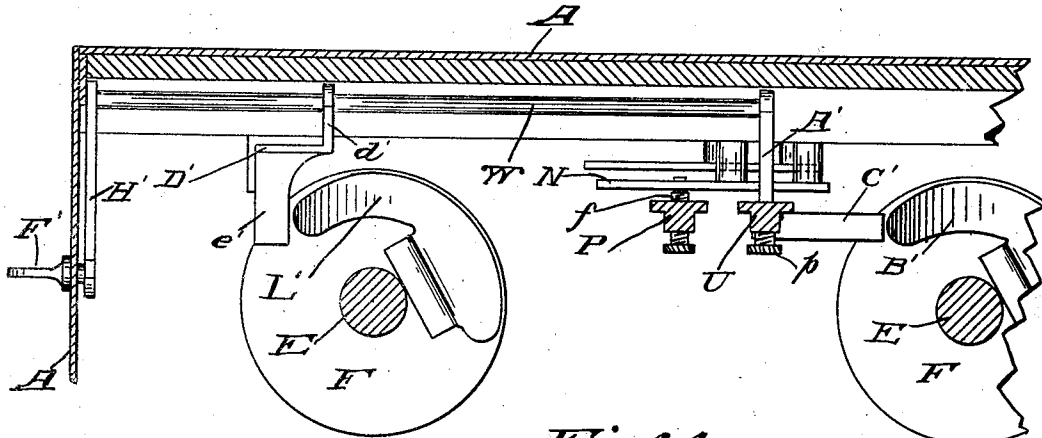


Fig. 4.

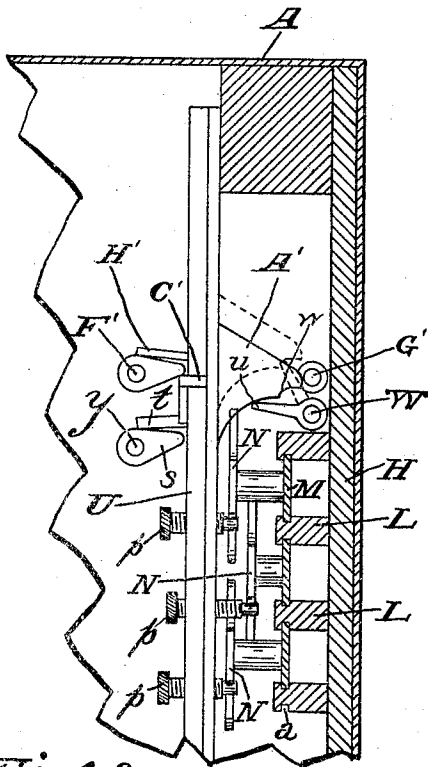


Fig. 3.

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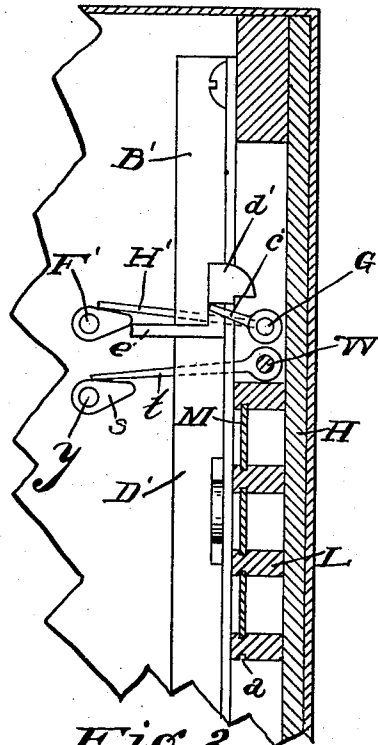


Fig. 2.

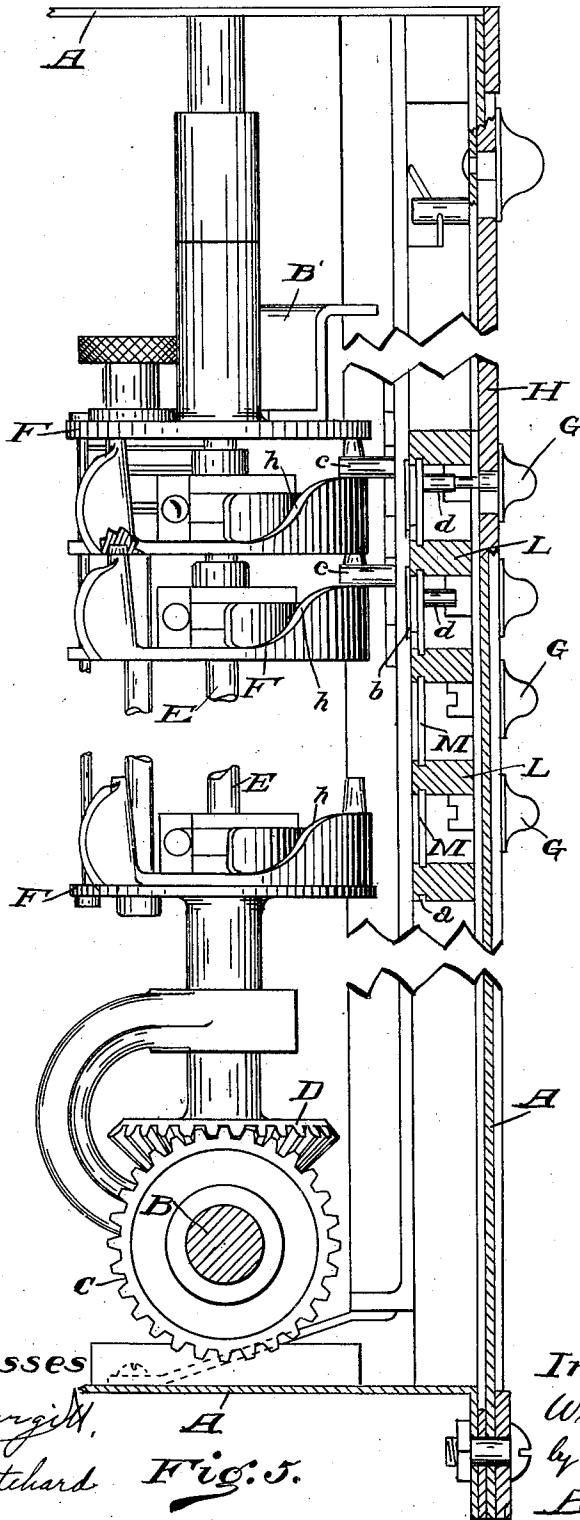
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Fig. 5.

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UNITED STATES PATENT OFFICE.

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VOTING-MACHINE.

No. 819,692.

Specification of Letters Patent.

Patented May 1, 1906.

Original application filed May 6, 1903, Serial No. 155,898. Divided and this application filed February 4, 1904. Serial No. 192,008.

To all whom it may concern:

Be it known that I, WILLIAM H. DANA, a citizen of the United States, residing at Dayton, county of Montgomery, and State of Ohio, have invented certain new and useful Improvements in Voting-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to devices for voting-machines by means of which certain classes of voters who by law may have only a restricted franchise may be excluded from voting for certain candidates or questions; and the invention has for its object to provide a mechanism whereby for restricted voting the required number of office and question voting mechanisms may be locked from operation at the same time that the other voting mechanisms are left free to be operated and in providing means to restore to normal condition the locked-out mechanisms to permit general voting.

My invention is especially adapted for the general construction of voting-machine shown and described in my certain application for Letters Patent filed May 6, 1903, Serial No. 155,898, of which the present application is a division.

In the drawings, Figure 1 is a rear elevation, with the casing removed, of a portion of the voting-machine, illustrating the exclusion devices. Fig. 2 is a vertical section taken on the lines 2 2 of Fig. 1 of a portion of the machine with register-frame removed. Fig. 3 is a similar vertical section taken on the lines 3 3 of Fig. 1. Fig. 4 is a horizontal section on lines 4 4 of Fig. 1. Fig. 5 is a full-sized sectional side elevation of the registry-frame and voting-levers.

The voting-machine mechanisms are mounted in a suitable casing A in any suitable booth or compartment arranged to conceal the voter while using the machine, so that the balloting may be in secret, and in the form of machine illustrated the machine proper is intended to stand vertically with the various tickets containing the names of the candidates and the questions arranged in vertical rows, with the names of candidates for the same offices on the various tickets in horizontal rows.

In the illustration of the machine I have

indicated spaces for only two tickets; but of course it will be understood that the framework is wide enough to hold as many tickets as may be presented at any election.

Extending horizontally at the bottom of the machine and journaled in suitable journal-bearings in the framework is a shaft B, upon which are mounted beveled gears C, one for each ticket and for the list of questions. These beveled gears mesh with gears D D, mounted on the lower ends of vertically-disposed shafts E E, which are also journaled in suitable bearings at the top and bottom of the framework of the machine. Each of these shafts E E carries a cylindrical frame made up of disks F F, mounted on the shaft and suitably braced together, so that a series of cylindrical spaces are formed between the disks as partition-plates. Each cylindrical frame is divided into as many partitions as there are names of candidates on the various tickets, and within these cylindrical spaces are mounted the counters and operating mechanism therefor.

G G are the voting levers or buttons, which are mounted in slots in the face-plates H H of the machine, these levers being moved diagonally downward a short distance by the voter to indicate his vote. Immediately back of the front wall of the machine are secured the bars L L, which run horizontally from side to side of the machine and which are provided with channels *a a* or longitudinal top and bottom grooves. Mounted in these channels and adapted to slide therein are a series of plates M M. These plates are secured at one end, while they are free to move the required distance at the other end, and each bar or plate for each horizontal row is provided with toggled levers *b b*, the toggle-levers being secured one at each end to the plates and one of the levers extending beyond the other and carrying an inwardly-projecting pin *c*. The knuckle-joint of these toggle-levers is provided with an outwardly-extending pin *d*, which passes through the cut-away portion *e* of one of the pair of abutting sliding plates M M. The pins *d* are connected with the voting-levers, so that when any voting-lever is operated the corresponding toggle-levers will be brought into a horizontal position, which will spread the sliding plates M M. N N are the plates at the free end of the sliding plates, and P is a vertical bar

which carries pins *f*, which are inserted through the slots *g g* in these end plates *N N* to limit the movement of the row, so that only one voting-lever can be operated in any one horizontal row. Provision is made, as set forth in my former application, for coupling together these rows of sliding plates to provide for multicandidate voting and also for straight-ticket voting; but as these features form no part of my present invention I have omitted any illustration of these parts. The counting mechanism, which is mounted on the registry-frames, I have also not shown in detail in the drawings, as this feature forms no part of my present invention. It is sufficient to say that the pins *c c* on the toggle-levers, which are actuated by the voting-levers, as above described, project into the divisions of the registry-frames, so that when any toggle-lever is depressed the proper pin may actuate the corresponding counter.

Secured to the end of the shaft *B* outside the frame of the voting-machine is a lever *R*, and it is intended that this lever shall be operated by the voter as he approaches and leaves the booth. In my above-mentioned application this lever is used to throw back the curtain which conceals the interior of the booth. When the voter enters the booth, he lowers the lever to horizontal position, which allows the curtain to drop down and close the entrance.

Each of the disks *F F*, making up the registry-frames, carries a cam-shaped flange *h*, Fig. 5, and when the lever *C* is raised and the curtain drawn back to expose the voting-machine this cam-shaped flange on the disks *F F* rides under the pins *c c* on the toggle-levers, so that in this position none of the voting-levers can be actuated and the machine is locked from operation. When the voter having entered the booth lowers the lever *C* in a horizontal position, this movement rotates the shaft *B* and through the beveled gears *C D* gives a quarter-turn to the registry-frames, this movement carrying the flanges on the registry-partitions *F F* from under the pins *c c*, so that all of the voting-levers can be operated, and the machine is then unlocked.

For question-voting the voter has a choice of voting either affirmatively or negatively on each question, so that no arrangement has to be made for multiple voting, and all that it is necessary to do is to provide the same sort of sliding blocks for question-voting as for regular-ticket voting and to couple the two rows together, so that when the voter has chosen one answer he cannot vote the other way.

The voting-levers, the toggle-lever construction, and the sliding blocks and the registry-frame and counting mechanism are just the same for question-voting as for the regular-ticket voting, and the various simi-

lar parts have been lettered the same in the figures illustrating these two classes of voting. There are only two sliding blocks for each row, one of them secured to the wall-plate and the other free to move.

In order that when one voting-lever has been actuated the other one applying to the question may not be voted, I provide as follows: *S* is a vertical bar secured to the top and bottom frame, running across the free ends of the several sliding blocks in each row. *T T* are wedge-plates secured to this bar by screws *l*, passing through the slots *m m* in the top and bottom edges of the plates *T*. These pins are so spaced as to allow the plates *T* to slide vertically on the plate *S* a short distance. *n* represents pins on the sliding blocks *M* for the question-voting, which abut against the wedge-surface on the wedge-plates *T*. There is sufficient space for the two sliding blocks in one row to be spread by the voting-toggle, and when the blocks in this row are spread the wedge-plates *T* bear against the rear pin on the corresponding row of blocks and prevent any movement of that row.

All of the foregoing parts have been more fully illustrated and explained in my former application of May 6, 1903, and I have endeavored to show herein only so much of the general construction of the voting-machine as will render intelligible the exclusion devices, to which this present application is alone directed.

As applied to the exclusion of candidates on the regular tickets and exclusion on certain questions, while the mechanism is in its general plan the same there are certain differences in construction arising from the differences in the interfering block system for the two classes of voting, and I will therefore describe the construction relating to the regular-ticket exclusion first.

U is a vertical bar carrying pins *p* similar to the unit stop-bar *P*, with its pins *f*, except that the exclusion-bar *U* is not secured to the frame, but is adapted to slide vertically in guides *V* at the top and bottom of the frame. The abutment-plates *N N* are provided with a notch *r* on the lower edge in a position to be engaged by the shanks of the pins *p* when the exclusion-bar *U* is completely raised. Journaled in the upper portion of the machine is a shaft *W*, which shaft is arranged to be rocked by the key *Y* from outside the case of the voting-machine, an arm *s* on the key contacting with an arm *t* on the rock-shaft *W*. The exclusion-bar *U* carries, extending out from the rear, an arm *A'*, with which a dog *u* on the shaft *W* contacts when the shaft is rocked to raise the arm *A'* and the exclusion-bar *U* until the dog catches under the notch or shoulder *w* on the arm *A'*. In this position while the pins *p* are raised they are not yet brought within the notches *r* in

the abutment-plates. Mounted on the top plate F of the register-frame is a cam-plate B', while C' is an arm extending laterally, secured to the exclusion-bar U, which when the bar is raised by the rocking of the shaft W brings this lateral arm C' into the pathway of the cam-plate B'.

Before the voter with limited powers enters the booth the judge of election turns the key Y, which thus sets the exclusion-bar to be acted on by the cam-plate B', and when the voter pulls down the entrance-lever and drops the curtain the register-frame is rotated, which brings the cam-plate underneath the lateral arm and raises the exclusion-bar U to its full limit and brings the pins *p* within the notches *r* on the abutment-plates, thus locking all of the rows of sliding plates and voting-levers from which the voter is to be excluded. The exclusion-bar is held up by the cam-plate B'; but with the completion of the throw of the exclusion-bar by the cam-plate contacting with the lateral arm C' the dog *u* is released from the notch *w* on the rear arm A' and this dog drops back to its normal position. When the voter leaves the booth and throws up the lever R, the register-frame is rotated back to its normal position and the exclusion-bar drops back to its normal position, leaving the entire machine ready for the next voter. As all the regular register-frames operate together, the cam-plate B' will be mounted on the register-frame nearest the abutment-plates. For excluding the voter from voting on certain or all of the questions a similar arrangement is employed.

D' is the exclusion-bar, upon which are mounted the plates E', each plate having a pair of lateral arms *a'* *b'*. These arms when the exclusion-bar is in its normal position permit the free movement of the toggle-pins *c*, which actuate the counting mechanism.

F' is a key for rocking the shaft G' by the arm H'. This shaft G' carries the dog *c'*, which engages with a rearwardly-extending arm *d'* on the exclusion-bar D', which raises this bar part way, not enough, however, to prevent the operation of the toggle-levers.

L' is a cam-plate on the top plate of the register-frame, which as the register-frame is rotated engages under the arm *e'*, secured to the bar D' and extending horizontally therefrom, and raises the exclusion-bar D' to its full limit, bringing the arms *a'* *b'* on the plates E' under the pins *c* on the toggle-levers. This movement disengages the dog *c'*, and with the re-rotation of the register-frame as the voter leaves the booth the exclusion-bar drops back to its normal position.

To exclude any voter, all that the judge of election needs to do is to turn either the key Y or the key F' and the exclusion is accom-

plished and the bar returned to its normal position automatically, it being understood, of course, that before each election the exclusion-bars are arranged with the stop-pins in the proper position so that when actuated the bars will exclude or lock from operation the desired candidate and question rows.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a voting-machine, voting mechanism and means for locking and releasing same, a supplemental locking mechanism for locking any desired portion of the voting mechanism and connecting mechanism intermediate said primary and supplemental locking devices normally inoperative with means operated from without the machine for setting said supplemental locking device whereby the operation of the primary device to unlock the voting mechanism will cause the supplemental device to lock any predetermined portion thereof, substantially as described.

2. In a voting-machine, voting mechanisms and means for locking and releasing same, a supplemental locking device for locking any desired portion of the voting mechanisms normally inoperative, and connecting mechanism intermediate the primary and supplemental locking devices, with means operated from without the machine for setting said supplemental locking device, whereby the operation of the primary device to unlock the voting mechanism will cause the supplemental device to lock any predetermined portion thereof, substantially as described.

3. In a voting-machine, voting-levers, and a rotary frame, with lever operated from without the machine to rotate said frame, plates on said frame to block the movement of the voting-levers, a supplemental locking device for locking any desired portion of the voting-levers, normally inoperative, means operated without the machine for bringing said supplemental device into operative position, and actuating device on said rotary frame to operate said supplemental device to lock all predetermined voting-levers when said frame is rotated to release the voting-levers, substantially as described.

4. In a voting-machine, voting mechanisms, and means for locking and releasing same, a locking-bar normally inoperative with removable arms to lock any predetermined number of said voting mechanisms, means for bringing said locking-bar into operative position and mechanism connecting same with the primary locking device, whereby the release of the voting mechanisms thereby will actuate the locking-bar to lock the selected voting mechanisms, substantially as described.

5. In a voting-machine, a plurality of voting-levers, arranged in rows, interfering blocks to prevent the operation of more than

the required number of voting-levers in any row, a locking-bar carrying arms to engage any selected number of interfering blocks and lock them from movement, lever operated from without the machine to bring said bar into operative position, locking mechanism for the voting-levers released by the voter after he enters the booth and connection therefor with said locking-bar to complete its operation in locking the selected interfering blocks when said bar has previously been brought into operative position substantially as described.

6. In a voting-machine, a plurality of voting-levers arranged in rows, interfering blocks to prevent the operation of more than the required number of voting-levers in any row, a locking-bar carrying arms to engage any selected number of interfering blocks and lock them from movement, lever operated from without the machine to bring said bar into operative position, a rotary frame, with lever operated from without the machine to rotate said frame, plates on said frame to block the movement of the voting-levers, and a cam-plate on said rotary frame to actuate said locking-bar to lock all predetermined interfering blocks when said frame is rotated to release the voting-levers, substantially as described.

7. In a voting-machine, in combination with voting mechanism therefor, a locking-bar carrying removable pins to block the movement of any predetermined voting

mechanisms, a rock-shaft with means for rocking same from outside the machine, a dog secured to said rock-shaft to engage said locking-bar to shift same into operative position, a general locking device to lock all the voting mechanisms and an actuating device thereon to contact with said locking-bar when set in operative position to shift same to lock the predetermined voting mechanisms when the general locking device is released, substantially as described.

8. In a voting-machine, in combination with voting mechanisms therefor, a vertically-sliding locking-bar carrying removable pins to block the movement of any predetermined voting mechanisms, a rock-shaft, with key for rocking same from outside the machine, a dog secured to said rock-shaft and an arm on said sliding bar engaged by said dog to raise said bar to operative position, a rotating frame carrying plates to lock all the voting mechanisms, with cam-plate thereon to engage said locking-bar and shift same to lock the predetermined voting mechanisms when released by the rotating frame whereby the rock-shaft dog will be released and the sliding locking-bar will return to its normal position when released by the cam-plate, substantially as described.

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