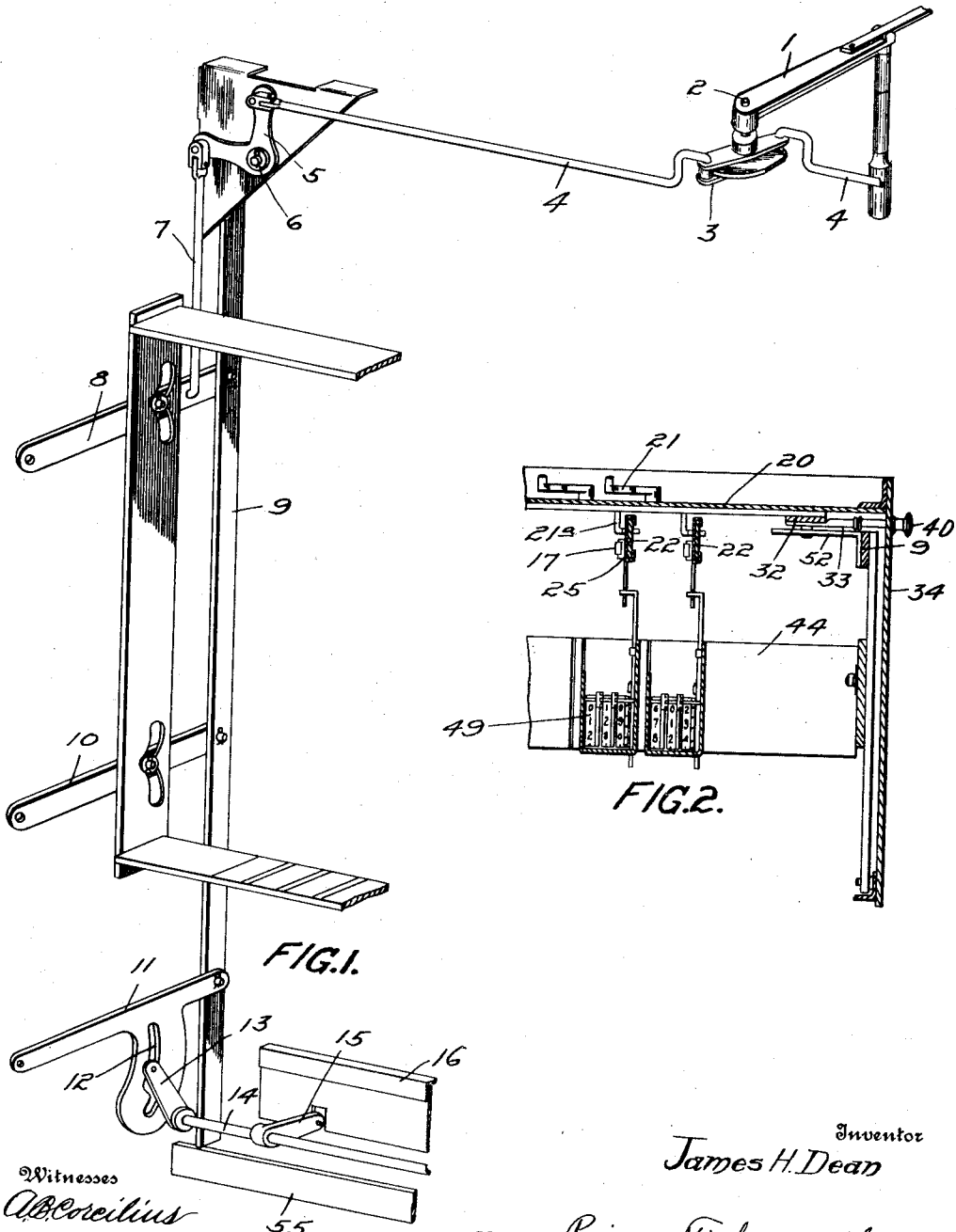


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VOTING MACHINE.  
APPLICATION FILED AUG. 11, 1910.

1,024,123.

Patented Apr. 23, 1912.

3 SHEETS-SHEET 1.



Witnesses  
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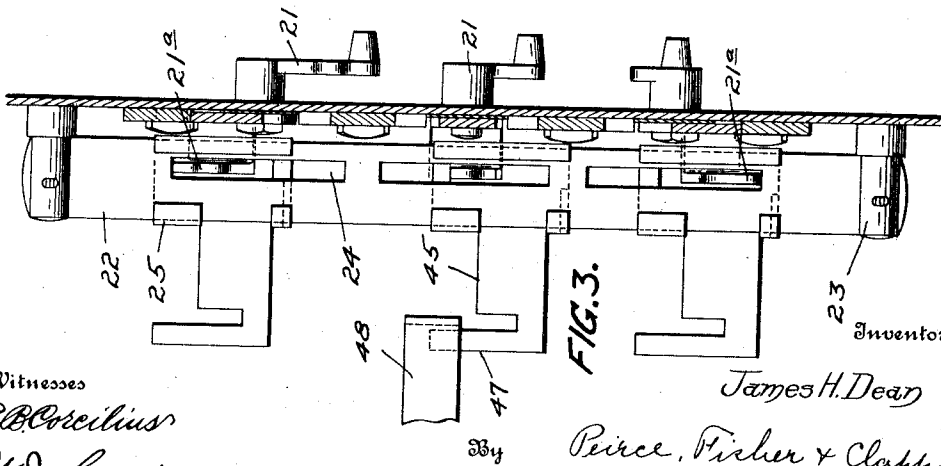
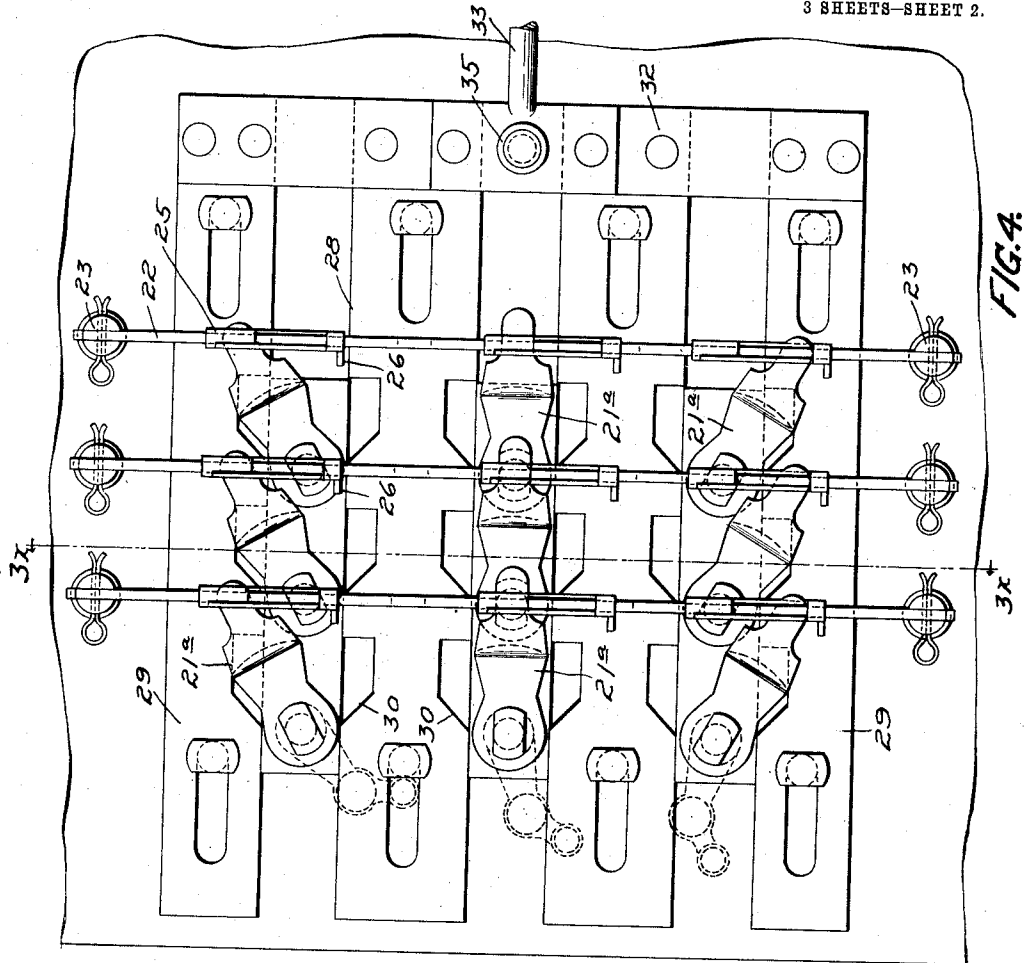
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3 SHEETS—SHEET 2.



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FIG. 3.

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3 SHEETS-SHEET 3.

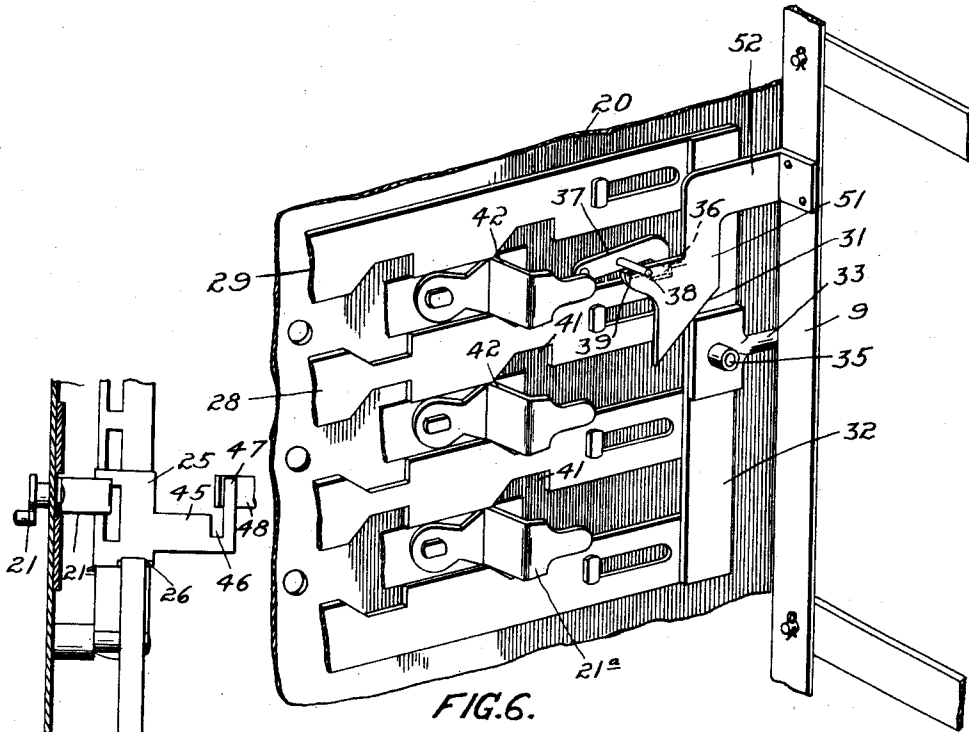


FIG. 6.

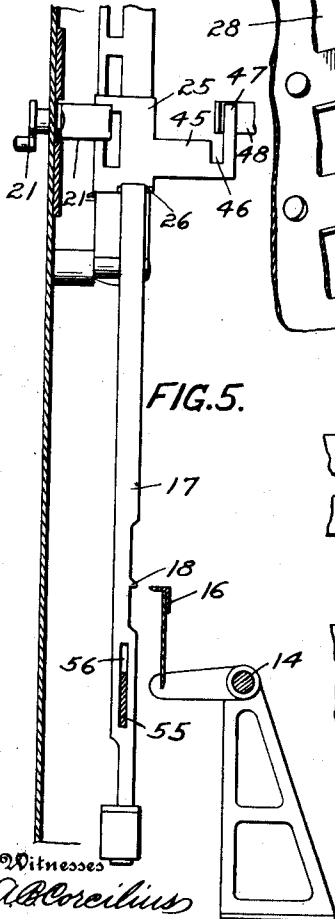


FIG. 5.

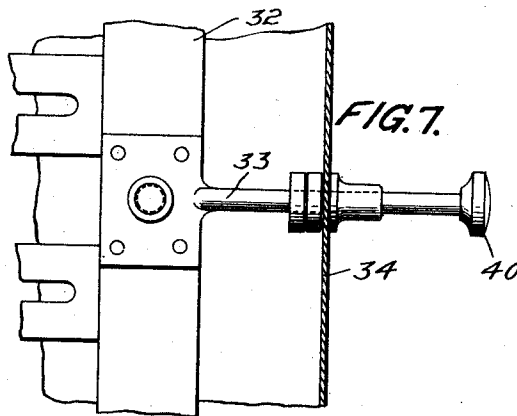


FIG. 7.

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# UNITED STATES PATENT OFFICE.

JAMES H. DEAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO EMPIRE VOTING MACHINE COMPANY, OF JAMESTOWN, NEW YORK, A CORPORATION OF NEW YORK.

## VOTING-MACHINE.

1,024,123.

Specification of Letters Patent.

Patented Apr. 23, 1912.

Application filed August 11, 1910. Serial No. 576,619.

*To all whom it may concern:*

Be it known that I, JAMES H. DEAN, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Voting-Machines, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to provide a new and improved mechanism for returning and locking the voting keys on a machine of the type described in the Patent 820,802, Lausterer, issued May 15, 1906, and the application of Lausterer 294,067.

In the accompanying drawings, Figure 1 is a perspective view of a portion of the operating mechanism of the voting machine. Fig. 2 is a longitudinal horizontal section through the machine showing the arrangement of the keys and counters. Fig. 3 is a vertical section showing one of the office lines of keys, taken on the line 3\*, 3\* of Fig. 4. Fig. 4 is a rear elevation of the key-board, showing the keys and the resetting and locking bars. Fig. 5 is a detail view showing the connection between the key and interlocking strap. Fig. 6 is a perspective view of the mechanism for resetting the keys. Fig. 7 is a detail view of the handle for operating the resetting mechanism.

In the accompanying drawings like reference numerals refer to like parts.

Reference numeral 1 indicates the curtain lever for the voting machine. This lever is keyed to the shaft 2, which in turn has keyed thereto the double ended cranks 3. The curtain lever, the shaft and the cranks all operate in unison.

Connected to the crank 3 are the connecting rods 4, 4, each of which in turn is connected to the bell crank 5 pivoted on the stud 6. Connected to this bell crank is the link 7 which is connected to and rocks the lever 8. Connected to the outer end of the lever 8 is the connecting rod 9 which in turn is connected to the lever 10 and 11. The lever 11 carries therein a cam 12 with which the crank 13 engages for the purpose of rocking the shaft 14. Mounted on the shaft 14 are the cranks 15 to which the boosting bar 16 is connected, which boosting bar can

engage with the interlocking straps 17, each of said straps being provided with a lug 18 for such purpose. By this engagement any of the interlocking straps and the parts connected thereto which have been only partially voted can be moved fully into voted position for the purpose of securing the operation of the counter, in the manner described in the Lausterer application 294,067 above referred to.

The machine is provided with a front plate 20 in which are pivoted the keys 21. Each of these keys extends through the key plate and has riveted thereto at the rear the crank or finger 21<sup>a</sup>. These keys are arranged in parallel vertical office lines and in parallel horizontal party rows extending transverse to said office lines. Extending parallel to each office line of keys is an upright bar 22 supported on the studs 23, 23. Each of these bars is slotted with a slot 24 placed therein opposite or adjacent to each of the voting keys. Mounted to slide on each of these bars are the slides or dogs 25, one of these being provided for each key and being placed on the bar adjacent thereto. Each of these slides is slotted so that the finger can engage therewith. The finger is provided with a reduced end for such purpose, and the slot in the slide 25 is made considerably longer than is needed for the mere engagement alone, so as to permit a certain amount of lost motion between the finger 21 and the slide 25, for a purpose that will be hereinafter explained. Each of the slides 25 is provided with a pin or stud 26, bent to the shape of a yoke, to which is connected the interlocking strap 17.

The keys normally stand in position indicated by the middle row of voting devices in Fig. 4. They are placed in voted position by being operated to the position in which the top row of voting devices in Fig. 4 is shown, and when reset by the voter they are placed in the position in which the bottom row of voting devices in Fig. 4 is shown.

As heretofore explained, each of the keys engages with the slide 25, and when the key is moved from the position shown in the middle line to that shown in the top line in Fig. 4, the key is rocked to that position and the slide 25 is elevated to the position

corresponding to that in which the top row of voting devices is illustrated in Fig. 4. This rocking of the key carries up the slide that has connected thereto the interlocking strap. If the voter wishes to change his vote in any particular, he can press the key back to the position shown in the middle line of Fig. 5, but such movement of the key will leave the slide 25 and the interlocking strap connected thereto in its elevated position, and will accordingly not release the interlock so as to permit the voting of another key in its stead.

To depress the slide 25 and the interlocking strap connected thereto, the keys must be turned past the normal position and placed in the abnormal position shown by the bottom row of voting devices in Fig. 4. The movement of the voting devices from the extreme upper position to the extreme lower position carries the finger first to the bottom of the slot in the slide 25, and thereafter carries the slide down with it until the key and slide reach the position to correspond to that shown in the bottom line of Fig. 4.

The keys can be moved automatically to the position indicated by the middle line of voting devices in Fig. 4, and for this purpose the resetting and locking bars 28 are provided. One of these bars 28 is provided between the consecutive party rows of keys, and an extra bar 29 is provided above the top row of keys and below the bottom row of keys. Each of the bars 28 has cut therein on both sides thereof the cams 30, which cams are cut the same distance between centers as the keys are spaced apart between centers on the keyboard of the machine. These bars are moved longitudinally by the operating mechanism of the machine, as will now be described.

The operating bar 9 shown in Fig. 6 carries thereon the cam 31. The bars 29 and 28 are connected by the cross bar 32. Mounted on this cross bar 32 is the handle 33, which handle projects through the casing 34 of the machine and is conveniently exposed for operation by the election officer. Mounted on the cross bar 32 or the handle 33 is the stud 35. This stud is conveniently placed so as to be engaged by the cam 31, so that when the bar 9 descends the cam 31 will engage the stud 35 and move all the bars 28 and 29 connected thereto to the right from the position shown in Figs. 4 and 6.

One of the bars 28 is provided with a recess 36. Mounted on the front plate 20 in a convenient position for engaging this recess 36, is the latch 37. This latch has mounted thereon the pin 38 which can be engaged by the upper edge of the plate 52 on which the cam 31 is formed. This latch 37 engages the recess 36 in the bar 28 when the bar is in its right hand position, and locks the bars in

such position, in which position the bars in turn will lock all of the keys against rotation, as will presently appear. That is, the latch will lock the bars 28 and 29 in the position to which they have been moved when the cam 31 acts on the stud 35. When the curtain lever 1 is moved in the reverse direction and the bar 9 is raised, the cam 31 is moved up from the stud 35, releasing the bars 32, 28 and 29 for movement to the left, and also raises the latch 37 during the latter part of its movement. This releasing of the latch 37 during the latter part of the movement of the bar 9 prevents the premature operation of the keys, as it is apparent that up to that time the bars 28 and 29 cannot be moved to the left for the purpose of releasing the keys for voting operation.

When the frame comprising the bars 32, 28 and 29 stands released, the frame can be moved to the left by the election officers pressing on the button 40, which will shift all of the bars 28 and 29 so as to place the recesses 41 therein opposite the upturned part 42 of the fingers 21, this being the position in which such bars are shown in Fig. 4. As shown in Fig. 6, the solid portions of the bars 28 and 29 are placed opposite these recesses, preventing the turning of the keys thereby, but when the bars are moved so that the recesses 41 are opposite the upturned portions 42 of the keys, the keys are free to turn either up or down, moving the upturned end of the key into such recesses. When the key is turned up it will raise with it the slide 25 on the interlocking strap 17 connected thereto. When the key is turned back to the horizontal position, the slide 25 and its interlocking strap will remain in elevated position. When the key is turned down below the horizontal position, the slide 25 and its interlocking strap will move down with it. It will now be seen that whether the keys are left turned either up or down from the horizontal position, the movement of the bars 28 and 29 to the right from the position shown in Fig. 4 to the position shown in Fig. 6, will turn all of the keys to the horizontal position, and this positioning of the keys will be done without affecting the position of the interlocking straps.

As shown in Fig. 1, I provide the cam 12 for driving the rock shaft 14 for the purpose of boosting any of the interlocking straps that have been improperly placed, so as to make the keys or the slides connected thereto operate properly on the counter actuators associated therewith. This cam is a quick acting cam and raises the bar 16 and with it the interlocking straps and slides 25 before the forward movement of the counter frame 44 has begun.

As will be noticed in Fig. 5, each of the slides 25 carries thereon the yoke 45 having

the recess 46 therein and the long finger 47 thereon. With this yoke the counter actuator 48 coöperates to drive the two-step counter 49 shown in Fig. 2, in the same way as is illustrated in a number of patents, for example Nos. 799,556 and 802,446, Gillespie.

The movement of the bars 28 and 29 by the cam 31 and stud 35 may be timed to occur before the operation of the counters has begun. For this purpose the plate 39 is connected by a long arm 51 to the bar 9 so as to permit ample vertical movement of the bar 9 before the horizontal arm 52 would interfere with the stud 35.

When the voted interlocking strap 17 has been raised by the boosting bar 16, it will be possible to turn the keys down to their lowest position, causing the upper end of the strap 17 to move down. This will tend to buckle the interlocking strap and when the bars 28 and 29 operate to lock the keys before the boosting bar has reached its highest point, this movement of the keys which might cause the buckling of the interlocking straps is effectually prevented. It will thus be seen that when the voter has set the keys sufficiently in voted position to cause the operation of the counters and the operation of the curtain lever has begun, the voter is prevented from manipulating the keys further, and in this way the buckling of the interlocking straps is prevented, as is also any interference with or disarrangement of the counters. The interlocking straps 17 and the slides 25 connected thereto are reset by the resetting bar 55 which passes through the slots 56 in all of the interlocking straps. The resetting bar 55 is driven by the bar 9 and is not moved to reset the interlocking straps until after the operation of the counters is practically completed.

Having thus described my invention, what I claim as new and patentable is as follows:

1. The combination in a voting machine of a plate, keys pivoted thereon, a dog operable by each of said keys, said dog being mounted separately from said keys and being loosely engaged thereby, a counter actuator controlled by said dog, a counter operable by said actuator, and means for causing relative movement between said counter and its actuator whereby when the key is in voted position, the dog will cause said counter actuator to operate its counter.

2. The combination in a voting machine of a plate, keys pivoted thereon, a dog operable by each of said keys, said dog being mounted separately from said keys and being loosely engaged thereby, an interlocking device connected to and controlling each of said dogs, a counter actuator controlled by said dog, a counter operable by said actuator, and means for causing relative movement between said contour and its actuator

whereby when the key is in voted position, the dog will cause said counter actuator to operate its counter.

3. The combination in a voting machine of keys arranged in rows, a bar placed parallel to each row of keys, dogs, one for each key mounted to slide on said bar, each of said keys loosely engaging its dog, permitting the key to move idly for a part of its travel forward or back and interlocking straps attached to said dogs.

4. The combination in a voting machine of a pivoted voting key, a dog mounted to slide adjacent to said key and loosely engaged therewith for movement thereby, a counter and a counter actuator therefor operable by said dog when moved by its key to operate its counter.

5. The combination in a voting machine of keys arranged in rows, bars arranged between and on either side of said rows to reset and lock the keys in normal position, said keys being operable to either side of normal position, to voted or unvoted position respectively.

6. The combination in a voting machine of keys arranged in rows, bars arranged between and on either side of said rows to reset and lock the keys in normal position, said keys being operable to either side of normal position, to voted or unvoted position respectively, a dog mounted adjacent to each of said keys for operation thereby to voted position, said key moving said dog to voted position when the key is moved to voted position.

7. The combination in a voting machine of keys arranged in rows, bars arranged between and on either side of said rows to reset and lock the keys in normal position, said keys being operable to either side of normal position, to voted or unvoted position respectively, a dog mounted adjacent to each of said keys for operation thereby to voted position, said key moving said dog to voted position when the key is moved to voted position, said dog remaining in voted position when the key is returned to normal position.

8. The combination in a voting machine of keys arranged in rows, bars arranged between and on either side of said rows to reset and lock the keys in normal position, said keys being operable to either side of normal position, to voted or unvoted position respectively, a dog mounted adjacent to each of said keys for operation thereby to voted position, said key moving said dog to voted position when the key is moved to voted position, said dog remaining in voted position when the key is returned to normal position, said key returning said dog to normal position when the key is moved to unvoted position.

9. The combination in a voting machine

of keys arranged in rows, resetting bars between and on either side of said rows, said bars being capable of returning the keys to normal position from either of two directions.

10. The combination in a voting machine of keys arranged in rows, resetting bars between and on either side of said rows, said bars being capable of returning the keys to normal position from either of two directions, operating mechanism for the machine, said mechanism being capable of operating said bars simultaneously.

11. The combination in a voting machine of keys, dogs operable by said keys, means operable by the machine for resetting and locking said keys and for subsequently resetting and locking said dogs.

12. The combination in a voting machine of keys, dogs operable by said keys, counters and means coöperating with said dogs for securing the operation of said counters, means operable by the machine for resetting and locking said keys, operating said counters and for subsequently resetting and locking said dogs.

13. The combination in a voting machine of keys, dogs operable by said keys to voting position, said keys being freely movable to return said dogs from voting position, and means to lock said keys against returning said dogs from voting position.

14. The combination in a voting machine of keys, dogs operable by said keys to voting position, said keys being freely movable to return said dogs from voting position, means to lock said keys against returning said dogs from voting position, and means for subsequently resetting said dogs.

15. The combination in a voting machine of keys arranged in rows, each of said keys being movable up or down from normal position, a longitudinally movable bar on each side of each of said rows of keys, operating when moved to contact with the keys that have been moved and return them to normal position.

16. The combination in a voting machine of keys, of dogs operable by said keys to voting position, interlocking devices connected to said dogs, means for completing the movement of partially operated dogs through said interlocking devices, and means for holding the keys locked against operation during the operation of said dogs.

17. The combination in a voting machine of keys, of dogs operable by said keys to voting position, interlocking devices connected to said dogs, means for completing the movement of partially operated dogs, and means for holding the keys locked against operation during the operation of said means on said dogs.

18. The combination in a voting machine of keys arranged in a plurality of parallel rows, resetting bars for said keys operating longitudinally between said rows, a cross bar connecting said resetting bars, a stud carried thereon, driving mechanism for the machine, a cam carried thereon and moving transversely to said stud for the purpose of moving said bars longitudinally and resetting and locking said keys.

19. The combination in a voting machine of two parallel rows of voting keys, a resetting bar between said keys, said keys being operable toward said bar, said bar being movable longitudinally to reset the keys of both rows.

20. The combination in a voting machine of a casing, keys mounted thereon in a plurality of parallel rows, a series of bars arranged adjacent to said rows of keys, operable longitudinally to reset and lock said keys, a cross bar connecting said bars, a handle on said cross bars projecting through the machine casing, said bars being operable manually thereby to unlocking position.

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