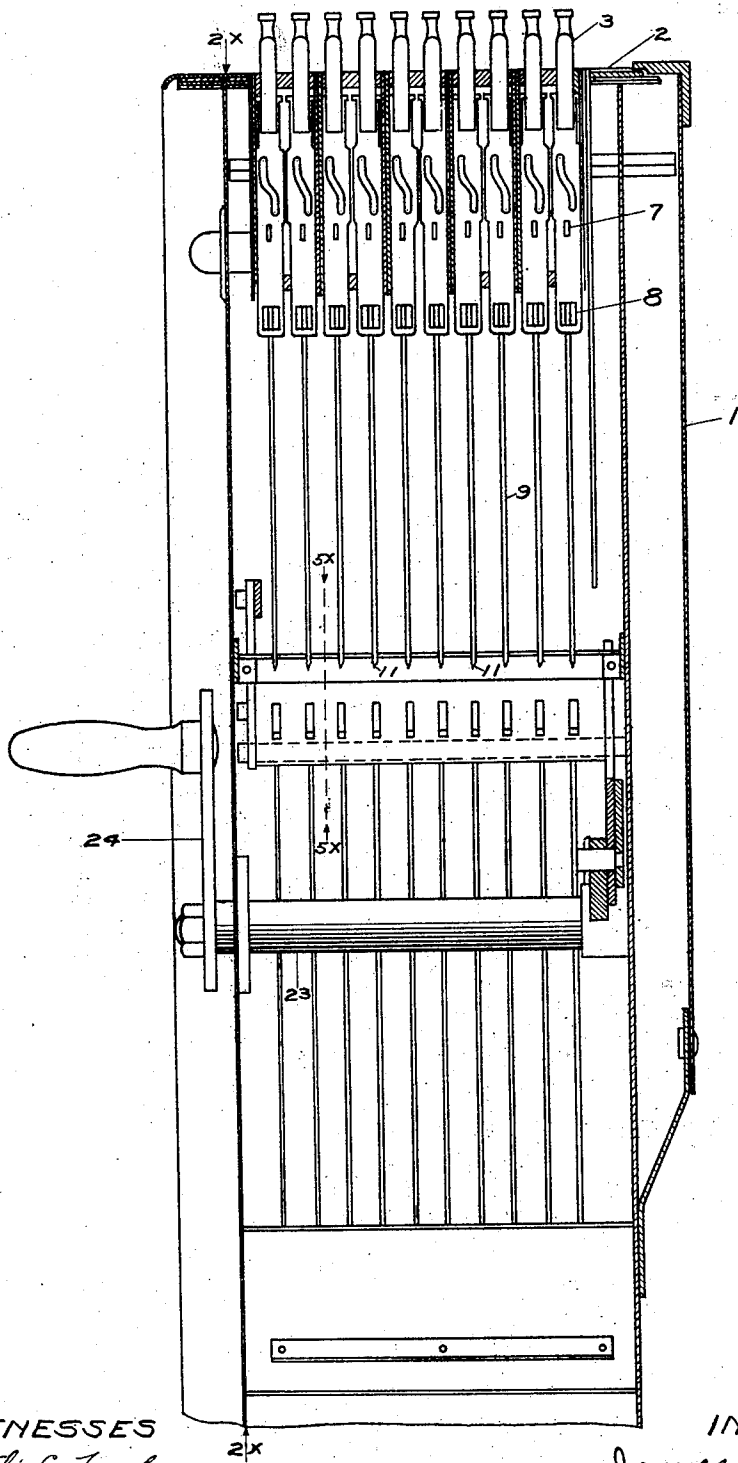


1,055,451.

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VOTING MACHINE.
APPLICATION FILED JUNE 20, 1910.

Patented Mar. 11, 1913.

5 SHEETS—SHEET 1.



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5 SHEETS--SHEET 2.

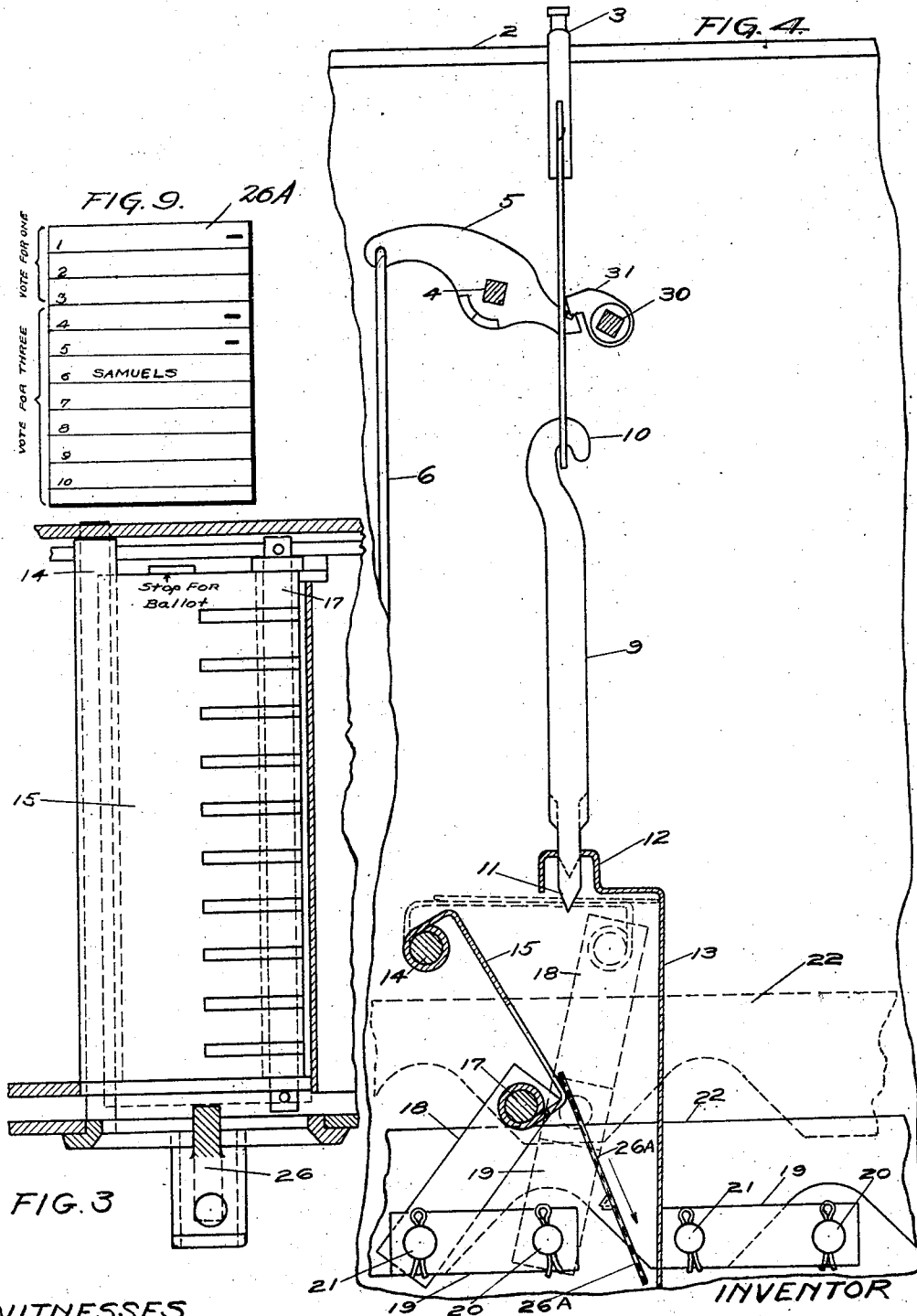
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5 SHEETS—SHEET 3.

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5 SHEETS—SHEET 4.

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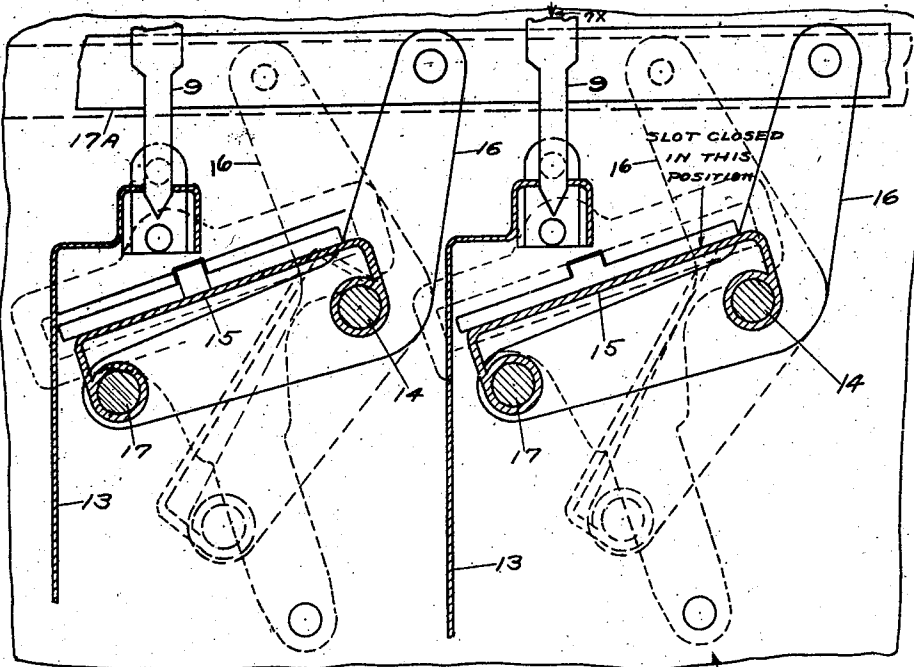


FIG. 5.

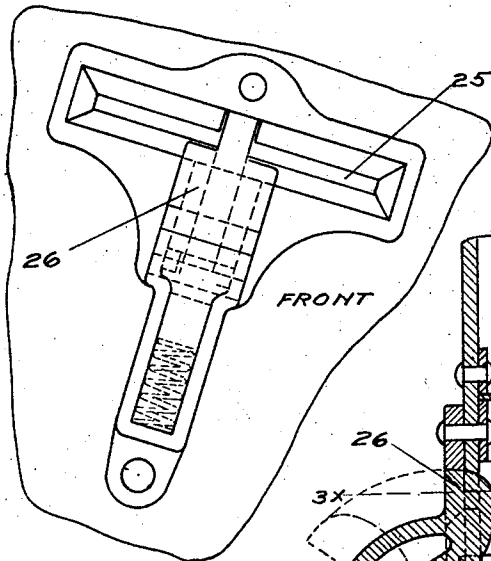


FIG. 6.

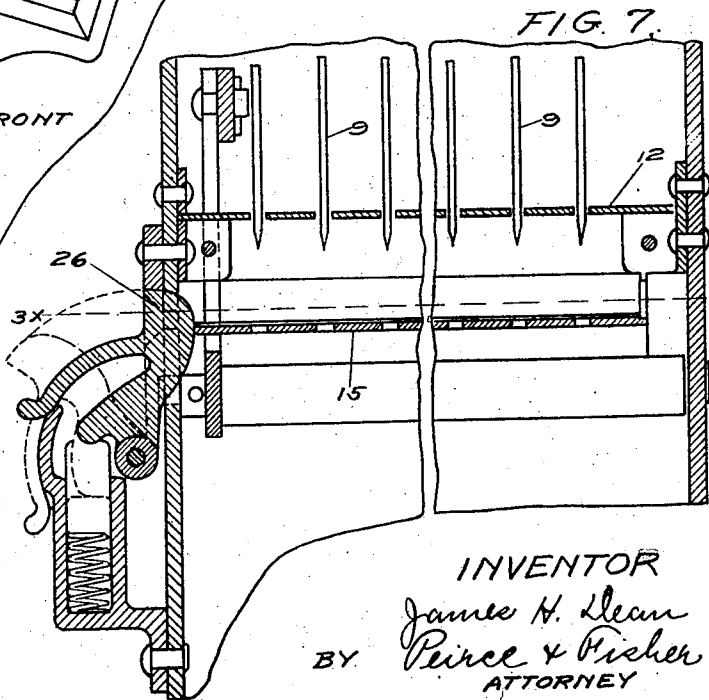


FIG. 7.

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5 SHEETS—SHEET 5.

1,055,451.

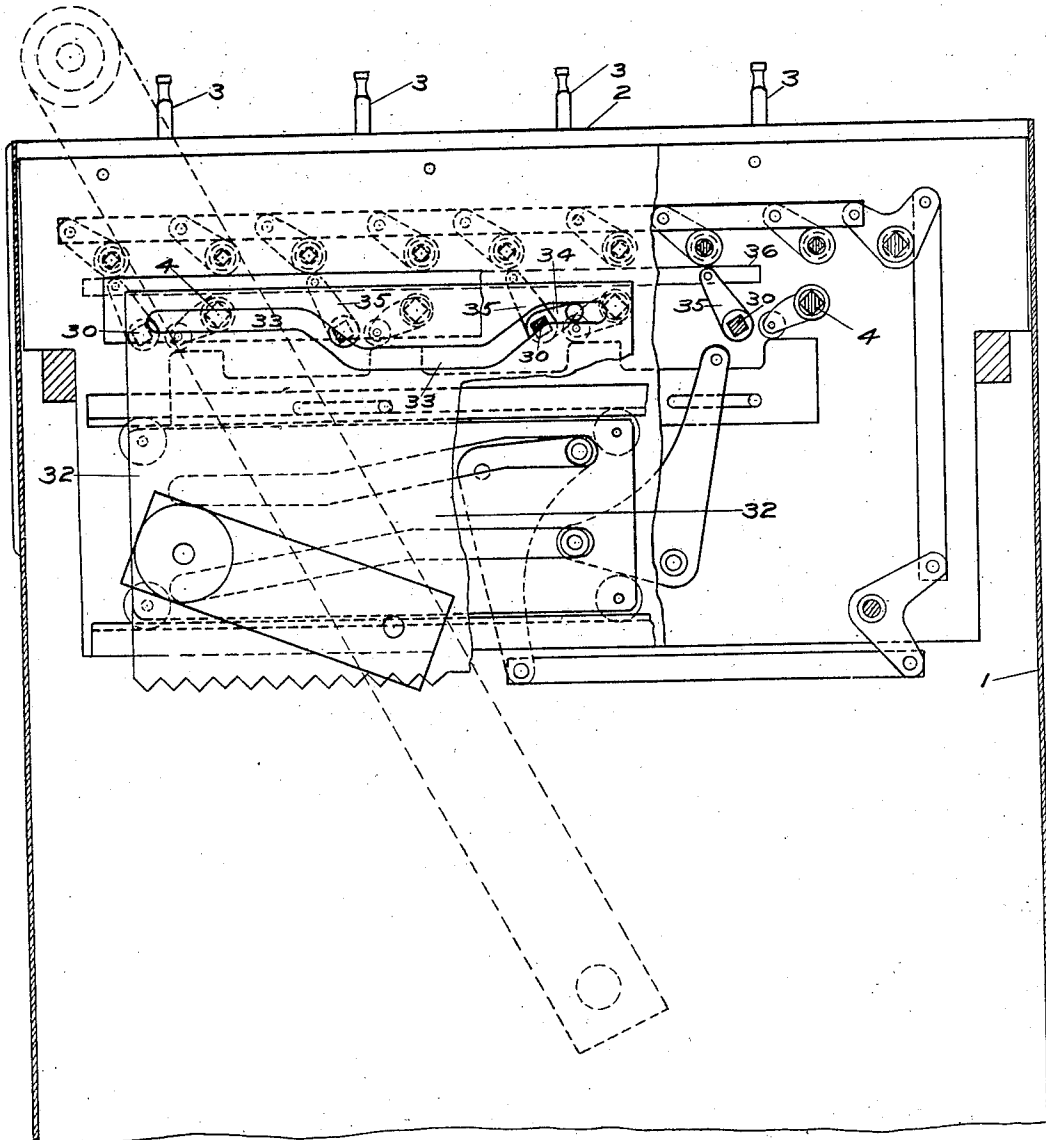


FIG. 8

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VOTING-MACHINE.

1,055,451.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed June 20, 1910. Serial No. 568,010.

To all whom it may concern:

Be it known that I, JAMES H. DEAN, a citizen of the United States, residing at Chicago, county of Cook, and 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.

My present invention relates to improvements in that type of machine described more especially in my prior applications Nos. 238,388, 453,479 and 453,480, and Patent 938,126, in which machine the keys and counters are arranged in interchangeable unit sections, having two keys and two counters in each section, the machine being made up of a plurality of these sections with the keys arranged in parallel rows.

One important feature of my invention relates to mechanism for voting for un-nominated candidates in which a separate card ballot is used for the offices associated with each row of keys, said ballot being deposited in the interior of the machine after having been marked by any of the keys voted in the line containing the offices with which said ballot is identified.

Another feature of my invention is to delay the marking of the ballot by the voted keys until after the indication of the ballot upon the keyboard of the machine is completed by placing the selected keys in voted position.

Another feature of my invention is to hold the keys and their punches firmly in position while the card ballots are being punched.

This and other features of my invention will be hereinafter more fully described and the novel features thereof will be pointed out in the claims at the end of the specification.

In the accompanying drawings, Figure 1 is a longitudinal section of the machine showing a row of keys. Fig. 2 is a transverse section of the machine on the line 2^x-2^x of Fig. 1. Fig. 3 is a section taken through the ballot depositing mechanism on the line 3^x-3^x of Fig. 7. Fig. 4 is a detail view of one of the ballot depositing mechanisms shown in section and in the position it occupies while depositing the ballot. Fig.

5 is a section on the line 5^x-5^x of Fig. 1. Fig. 6 is a view of the opening in the case of the machine for the insertion of the card irregular ballot. Fig. 7 is a section on the line 7^x-7^x of Fig. 5. Fig. 8 is a rear view of the machine with the back plate broken away to show the operating mechanism. Fig. 9 is a detail view of one of the card ballots.

In the accompanying drawings like reference numerals indicate like parts in the several cases.

In the accompanying drawings reference numeral 1 indicates the casing of the machine having a keyboard 2 thereon through which project the balloting keys 3-3. These keys are mounted in unit sections, each section having two keys with their respective counters. This and other details of the machine are substantially the same as those shown in my prior applications referred to.

The keys 3 are arranged in parallel rows, a row of these keys being shown in Fig. 1 and four of these rows being shown in end elevation in Fig. 2. Extending parallel to each row of keys is an operating shaft 4. Mounted to oscillate around these shafts are the rocker arms 5 having a short arm engaged with the key 3 and the long arm engaged with the interlocking rod 6. The lower part of the key is formed by a flat piece of sheet metal having a slot 7 therein which engages with the rocker arm 5 and having a slot 8 therein which engages with the punch or perforator 9. One of these punches or perforators is attached to each key. Each of these punches has a hook 10 at the top by which it may be readily engaged with or disengaged from the key and has a pointed end 11 at the bottom. These ends are engaged by a channel 12 which is suitably perforated to admit the passing of the punch 11 therethrough. By this channel 12 with its perforations these punches 11 are held a suitable space apart from each other and to a substantially longitudinal movement when their respective keys are voted. The voting movement of the key depresses the point 11 of the punch so that it projects below the channel 12 to the extent indicated in Fig. 4. The channel 12 is formed as a part of a plate 13 which extends down into the machine and by these plates the bottom

of the machine is divided into separate compartments. A little below the channels 12 and to the side thereof as shown in Fig. 2 and running parallel therewith are the shafts 14 which carry the platens or plates 15. Keyed to each of these shafts 14 is a bell crank 16 the upper arms of which bell cranks are all connected for simultaneous movement by the link 17^a. The platen 15 is preferably formed of a single sheet of metal having the edges bent down at right angles and turned in to engage with the shafts 14 and the rod 17 respectively. Connected to the end of the rod 17 is the toggle 18 which in turn is connected to the toggle 19 pivoted on the stud 20 which stud is riveted in the casing of the machine. The joint between the toggles 18 and 19 consists of a stud 21 which engages with a link or operating bar 22. One of these toggles 19 embodies a crank which engages with the operating shaft of the machine 23 on which shaft is carried the operating lever 24 of the machine. All of the toggles 19 are connected to the operating bar 22 so that when the shaft 23 is oscillated the operating bar will be driven thereby to the left from the position shown in Fig. 2 which will cause all of the toggles first to straighten and occupy the position shown in dotted lines in Fig. 4. This will bring the plate 15 close up against the channel 11. The further movement of the shaft 23 will bring the toggles to the position shown in full lines in Fig. 4 which will bring the plate to the full line position shown in that figure, causing the plate 15 to slant downward at a sharp angle.

Parallel to the plates 15 as shown in Fig. 2 are openings 25 in the side of the machine such as is shown in Fig. 6. Into these openings can be inserted the card ballots 26^a the card ballots being inserted endwise therein. These card ballots 26^a are substantially as long as the platen 15 and are made of such length purposely so that when it is in position on the platen it will be engaged by the punch of every one of the keys that has been placed in voted position when the platen is rocked upward to the position shown by dotted lines in Fig. 4. The opening 25 is normally closed by the spring pressed finger 26 shown in Figs. 6 and 7 so that after the card ballot has been inserted therein it will be held in its proper position on the platen and will not engage with the opening 25 through which it has been inserted.

When the platens 15 are raised with their cards to cause the cards to be perforated against the punches 9 the punches 9 with their keys 3 will be subjected to a stress which will tend to raise them. To hold the keys and their punches in effective position I provide the rock shaft 30 with the dogs 31 thereon, said dogs being capable of engag-

ing the rocker arms 5 that have been turned down by the placing of their respective keys in voted position. If the keys have been partially voted the dogs 31 will operate to push them back out of voted position or to draw them into full voted position. The dogs 31 operate to engage the rocker arms 5 and hold them in effective position before the plates 15 begin their upward movement, or before they have advanced far enough to engage the card ballots with the punches 9. To secure this result I provide the cam plate 32 with the cam slot 33 therein which cam slot engages with the crank arm 34 keyed to one of the rock shafts 30. On each of these rock shafts I provide crank arms 35 all of which are connected together for simultaneous operation by the connecting rod 36. It will be seen that when the operating lever 24 is thrown the shaft 23 will begin to operate the toggles 18 and 19 and it will also advance the cam plate 32. The cam slot 33 has a quick acting cam at the beginning of the slot which operates to throw the rock shafts 30 before the toggles have straightened, thus insuring that the keys will be held positively against upward movement while the cards are being punched. It will be noticed that the ends of the rocker arms 5 are recessed where they are engaged by the dogs 31 so that when the parts are in the position shown in Fig. 4 and the card 26^a is being forced upward against the punches, the strain does not come upon the tip or corner of the dog but upon its sides. This helps to keep the tip of the dog 31 sharp so that it will not dead center with the tip of the rocker arm 5. After the punching of the cards is completed the cam slot 33 operates to rotate the rock shaft 30 in the reverse direction releasing the keys for the resetting operation by the rocker arms 5. The further movement of the shaft 23 through the toggles 18 and 19 draws the plate 15 down to the position shown in Fig. 4 permitting the card ballots 26^a to drop to the bottom of the machine.

It will be understood that when the card ballots are audited at the end of the election the vote indicated thereon for any office or offices will not be counted if a ballot is punched in the space allotted to such office as such punch will indicate that a key has been voted for some candidate for that office and the vote cast for the irregular candidate on the card ballot is cast thereon in excess of voter's legal privilege. Of course it will be understood that if two or more candidates are to be elected to such office the voter can vote for one or more candidates on the card ballot and the balance of his vote can be cast on the keys for such candidates whose names may appear in connection therewith. The votes as indicated on the card ballot plus the punch marks indicated for that

office on the card ballot should equal the number of the votes that the voter is entitled to cast for that office, and if the votes so indicated do not exceed the total number of votes indicated on the card ballot, it should be counted. If the voter desires to vote only for candidates whose names appear on the ballot board he does not need to use the card ballot, and in such case the plates 15 will operate just the same in the absence of the card ballot as they would operate with them.

Where the card ballot is used there will appear in the card ballot one punch mark for each key voted in the line above said card ballot. It is obvious, however, that such punch marks or perforations will not be made in the card ballot until after the ballot has been completely arranged to the voter's satisfaction and then all of such punch marks will be made simultaneously when the operating lever 24 is thrown as part of the final operation of the machine. It will also be understood that the counters of those keys that have been placed in voted position will each be advanced one number at the same time.

A blank key may be used in each office group for each vote to be cast therein opposite which key no name will be printed on the ballot label and the voter may be instructed that in case he wishes to vote for a candidate for that office on the card ballot he should operate that key. This will cause his ballot to be marked in a particular place and the mark in that particular place will indicate that he has not voted keys elsewhere in the group because the interlocking mechanism will prevent the operation of such other keys. It is obvious then that punches need be supplied only on the keys that are set apart for "no nominations" and that such punches may be omitted from the keys having the candidates' names thereon. In such case the punch mark must occur in the particular place in the card ballot indicated therefor and the presence of the punch mark will validate the vote that is indicated thereon. The candidates' names should be written, printed or stamped on the card ballot by the voter in advance of placing the card ballot in its proper position. The name of the candidate or candidates must be written in the card ballot in the place designated for the particular office for which the vote is cast and for which it is to be counted, which place on the card ballot will coincide with the position of the keys for that office on the keyboard of the machine. The absence of punch marks on that part of the card ballot in the one case or the presence of punch marks in the other case will show that no candidates have been voted on the keyboard of the machine for such office or that the blank keys have been

voted on the keyboard in which case the ballot will be validated accordingly and should be counted, otherwise it should not be counted.

It will also be understood that these card ballots are furnished by the officers charged with the duty of preparing the materials for the election and will be of exact length and width to fit the machine and that these card ballots will be accessible to the voters who wish to use them and that no votes will be counted that are cast on cards other than those officially so supplied.

It is obvious that up to the movement of the operating lever 24 the card ballots that have been placed in the machine may be withdrawn so that the voter may change the votes indicated thereon or may vote with the keys instead. It is also obvious that the keys may be moved into and out of voted position at will so that the voter may make any or all changes that he may wish as to the candidates that he may want to vote for up to the time of the movement of the operating lever 24.

In Fig. 9 I have shown a sample card ballot such as may be used with my machine for voting for candidates not nominated, that is, for candidates whose names are not printed on the ballot labels in connection with the keys. This card ballot contains one column of ten spaces corresponding in number to the keys of the line shown in Fig. 1 and to the length of the platen shown in Fig. 3. For the purpose of illustration, it may be assumed that the 1st, 2nd and 3rd keys of the line of keys, belong to the office of judge of the circuit court for which office three candidates have been nominated by as many different parties and for which each voter can vote but one vote. The fourth to the tenth keys belong to the office of county commissioner to which office two parties have nominated three candidates each. To the candidates for this office each voter can give three votes. The card ballot in Fig. 9 shows a punch mark for the first office showing that a vote has been cast on the keys of the first office and that no name written on the card ballot should be counted as a vote for that office, the ballot permitting the casting of but one vote for that office. In the next office for which three votes may be given, the card ballot shows that two votes have been cast on the keys and that the voter has written the name Samuels on the ballot as the third candidate for that office. As this name and the two punch marks indicate but three votes, the ballot should be counted for Samuels. But if three punch marks appeared in this group, then the vote for Samuels should not be counted as the voter would then be voting for four candidates which the law forbids and which it is the intention of the

interlocking mechanism and the arrangement of the punches and card balloting mechanism of this machine to prevent.

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

1. The combination in a voting machine of keys arranged in a row, a punch carried on each of said keys, each of said keys and its punch being movable into voted position, a platen pivoted below said punches, means for swinging said platen to and from said punches, and means operating to simultaneously lock said keys and their punches against movement during the movement of said platen toward said punches, said keys being free to move into and out of voted position independently of said means before the movement of said platens.

2. The combination in a voting machine of keys arranged in a row, punches carried on each of said keys, a guide for said punches, said keys and punches being movable into voted position, a pivotally mounted platen moving toward said punches, and means to lock the voted keys against movement during the movement of said platen, said keys being free to move into and out of voted position independently of said means before the movement of said platens.

3. The combination in a voting machine of keys arranged in a plurality of parallel rows, a punch carried on each of said keys, a platen pivotally mounted parallel to each of said rows of keys and movable toward and from the punches thereof, and means for locking the voted keys against operation during the movement of said platen, said keys being free to move into and out of voted position independently of said means before the movement of said platens.

4. The combination in a voting machine of a platen, a card ballot carried thereon, a series of punches arranged parallel to said platen, said punches being movable toward said platen, and means for moving said platen toward said punches to cause the perforation of said card ballot on said previously moved punches.

5. The combination in a voting machine of a series of platens, each of said platens being pivotally mounted on one side, toggles connected to said platens on the other side, and means for moving said toggles simultaneously to cause the simultaneous movement of said platens.

6. The combination in a voting machine of a series of pivoted platens, bell cranks integral therewith, a universal bar connecting said bell cranks for simultaneous operation, toggles connected to said platens, a universal bar connected to said toggles to operate said toggles and swing said platens, and means for driving said universal bar.

7. The combination in a voting machine of keys arranged in parallel rows, a punch

connected to each of said keys, a resetting shaft for each of said keys, and connections between said shaft and its keys, said keys being movable to voted position, a shaft parallel to each row of keys having dogs thereon to engage the voted keys and temporarily lock them, a platen for each of said rows of keys movable toward and from the punches thereof, an operating shaft for said machine, a cam plate driven by said rocking shaft and connections therebetween to operate the shaft to temporarily lock the voted keys and to subsequently operate the shafts to reset the voted keys, and connections between said operating shaft and said platens to move said platens against the punches while said keys are held temporarily locked.

8. The combination in a voting machine of keys arranged in a row, a punch carried on each of said keys, each of said keys and its punch being movable to an unvoted position, a platen pivotally mounted below said punches to receive a card ballot thereon, and means for swinging said platen to and from said punches to first punch the card carried thereon and then dump said card from said platen.

9. The combination in a voting machine of keys arranged in a row, a punch carried on each of said keys, each of said keys and its punch being movable into voted position, a pivoted platen carried below said punches, a card on said platen and means for swinging said platen to and from said punches for first punching said card and then dumping said card from said platen.

10. The combination in a voting machine of keys arranged in a row, a punch carried on each of said keys, said key and its punch being movable into voted position, a platen pivoted below said punches, means for swinging said platen to and from said punches and means operating simultaneously to lock said keys and their punches against movement during the movement of said platen toward said punches, and to unlock said keys during the movement of said platen away from said punches.

11. The combination in a voting machine of keys arranged in a row, a punch carried on each of said keys, a platen pivoted below said punches, a card carried on said platen and means for swinging said platen toward and away from said punches to first perforate said card and then dump it from the platen.

12. The combination in a voting machine of a series of pivoted platens, toggles connected to said platens, a universal bar connected to said toggles, said bar being movable longitudinally to operate said toggles to swing said platens upward and then draw said platens downward.

13. The combination in a voting machine

of a series of pivoted platens, toggles connected to said platens, a universal bar connected to said toggles, said bar being movable longitudinally to operate said toggles to swing said platens upward and then draw said platens downward, cards on said platens, said cards being dumped from said platens on the downward movement thereof.

14. The combination in a voting machine of keys arranged in parallel rows, said keys being movable to voted position, a lever connected to each of said keys, said lever terminating in a point and having on the upper surface thereof a recess adjacent to said point, a shaft parallel to each row of keys having dogs thereon to engage said levers and temporarily lock them, said dogs having pointed ends adapted to engage with the recesses in said levers, said recesses being so shaped as to avoid contact with the point of the dog when the dog is in engagement with said lever in a predetermined position.

15. The combination in a voting machine of keys arranged in a plurality of parallel rows, a punch carried on each of said keys, each of said keys and its punch being movable to an unvoted position, a platen pivotally mounted below each of said rows of

keys and its punch, said platen being adapted to receive a card ballot thereon, and means for swinging said platen to said punches to perforate the ballot, and away from said punches to drop the ballot therefrom.

16. The combination in a voting machine of a plurality of keys arranged in parallel rows, a punch carried on each of said keys, each of said keys and its punch being movable into voted position, a series of platens pivoted below said punches, one for each row of keys and punches, means for swinging said platens to and from said punches, and means operating to simultaneously lock said keys and their punches against movement during the movement of said platens toward their punches.

17. The combination in a voting machine of keys arranged in a series of parallel rows, a punch carried on each of said keys, a series of platens pivoted below said punches, one for each row of keys and punches, and means for swinging said platens toward and away from said punches.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."