

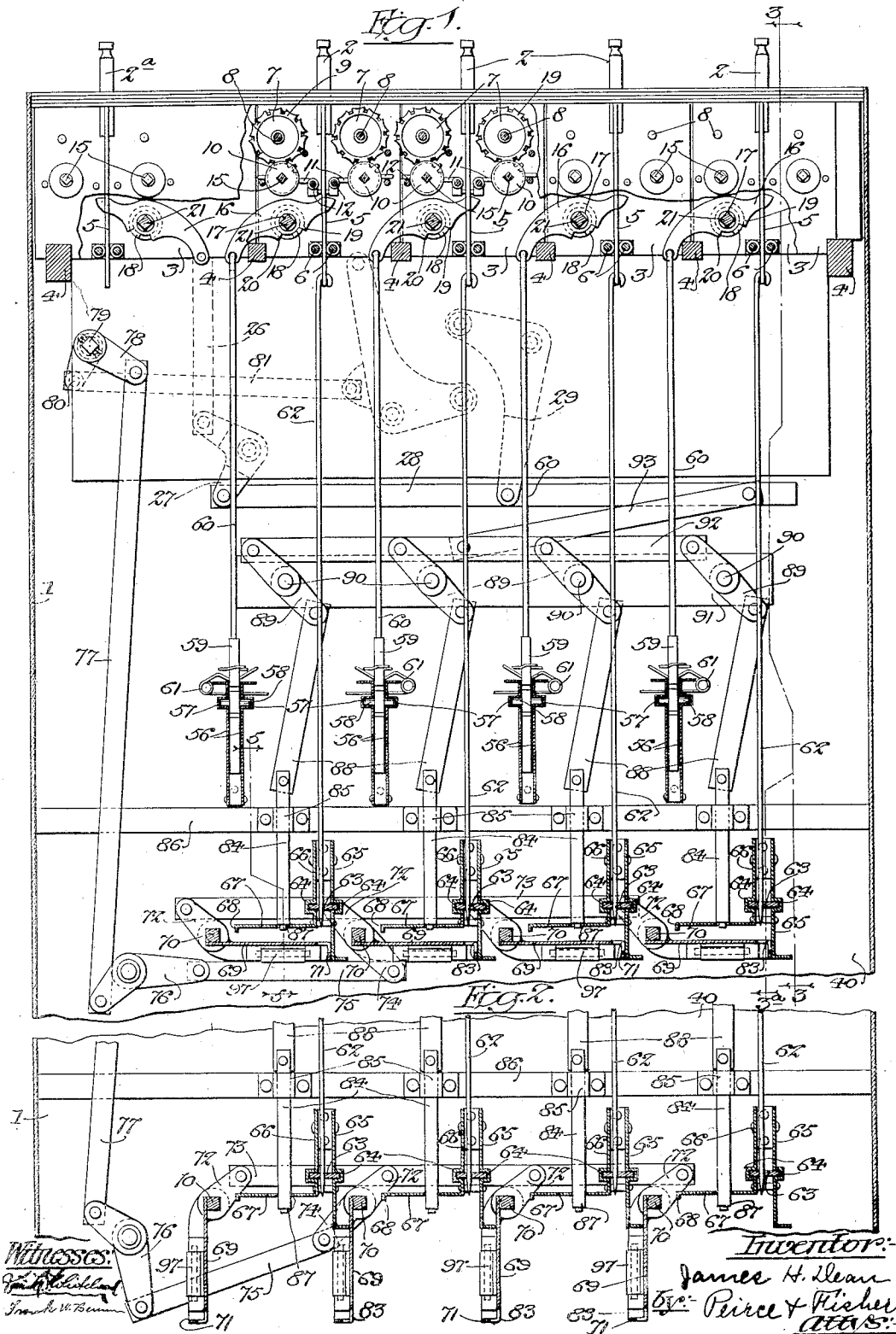
J. H. DEAN.
VOTING MACHINE.

APPLICATION FILED SEPT. 17, 1908.

Patented Aug. 20, 1912.

3 SHEETS—SHEET 1.

1,036,464.

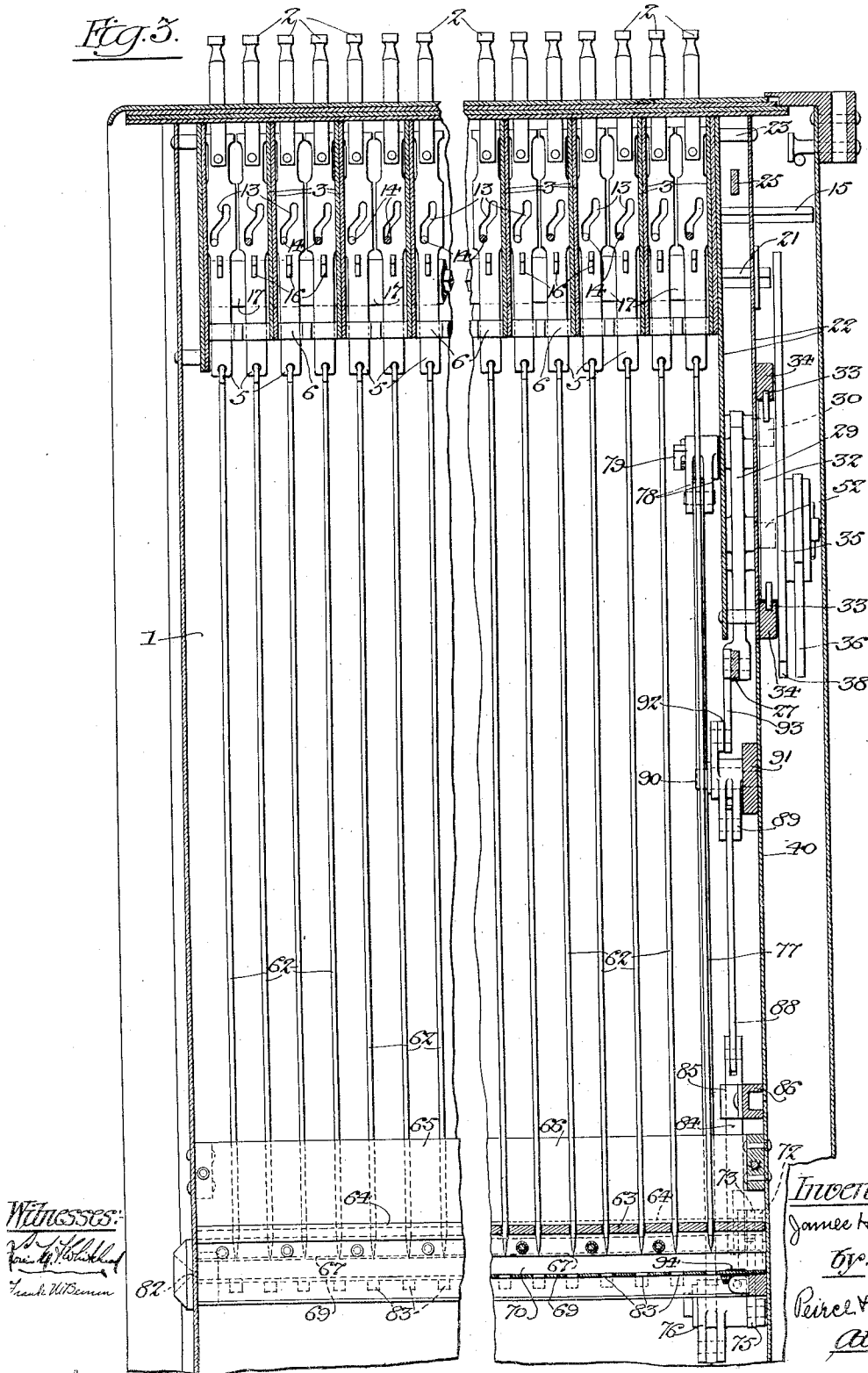


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3 SHEETS—SHEET 2.

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Fig. 3.



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Fig. 4.

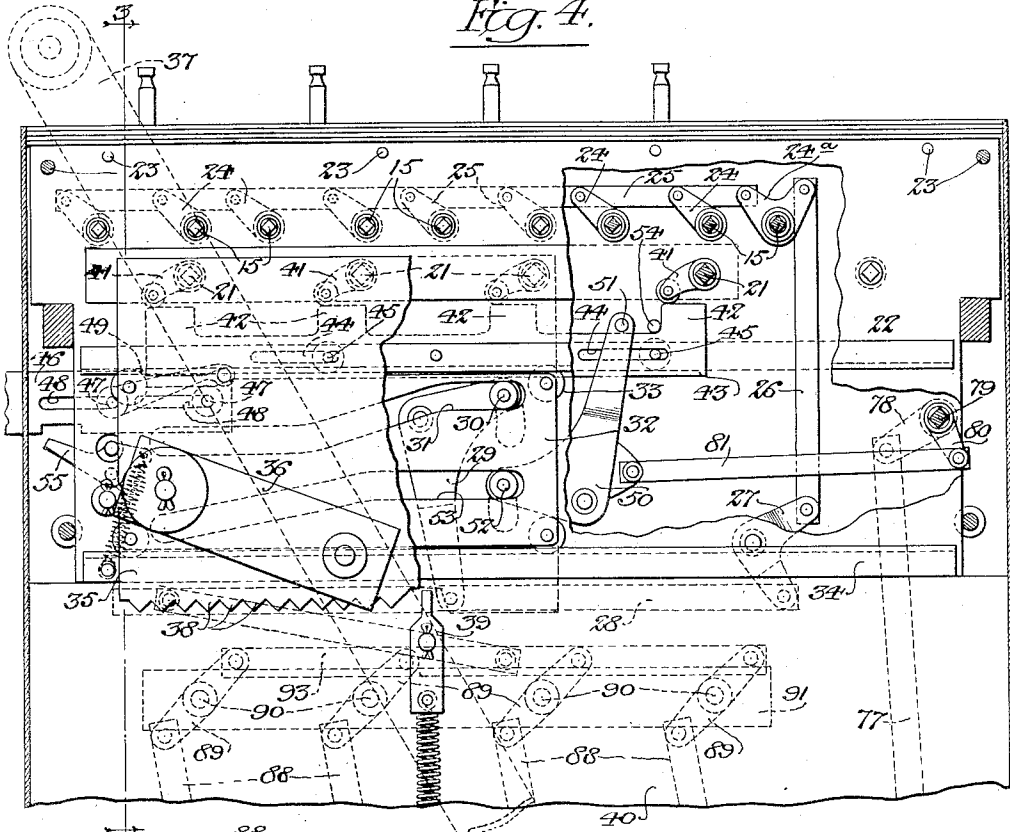
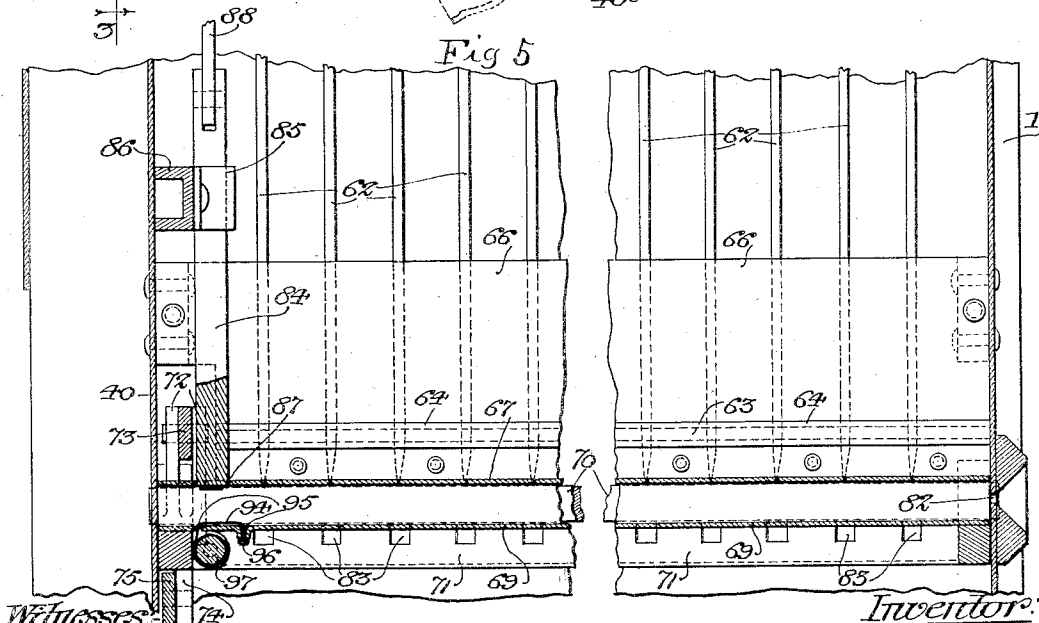


Fig 5



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UNITED STATES PATENT OFFICE.

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

VOTING-MACHINE.

1,036,464.

Specification of Letters Patent.

Patented Aug. 20, 1912.

Application filed September 17, 1908. Serial No. 453,480.

To all whom it may concern:

Be it known that I, JAMES H. DEAN, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Voting-Machines, of which the following is a specification.

The invention relates to voting machines, and more particularly to the irregular voting mechanism of a machine especially adapted for ballots such as are used in Massachusetts and Minnesota.

In most States the names of the candidates upon the paper ballots are arranged in party columns from top to bottom of the sheet and in office rows extending from side to side thereof, and voting machines are usually provided with ballot indicators or keys arranged in a corresponding manner in party columns and office rows. In Massachusetts and Minnesota, however, there is no party column or separation of the candidates' names into party groups. The names are arranged in columns on the ballot, but each column contains the candidates of all parties for a number of different offices; for example, the candidates of all parties for governor will appear one below the other at the head of the first column, then will follow the names of the candidates of all parties for lieutenant governor, and so on.

In prior voting machines employing the office row and party column arrangement of keys there is usually a single irregular voting mechanism associated with each office row of keys and interlocked therewith so that the voter can not register a vote both for a regular and an irregular candidate in a single office group and can not cast more votes than he is entitled to, either for regular or irregular candidates in a multi-candidate group. Such an irregular voting mechanism, however, can not be employed unless the names of the candidates for the different offices are arranged in separate rows.

The present invention seeks to provide a simple and effective form of irregular voting mechanism which can be employed with a machine in which the same arrangement of the candidates' names can be preserved as is now employed upon the paper ballots in the States of Massachusetts and Minnesota, that is to say, one in which there are several columns of keys opposite which the

candidates' names may be arranged and in which the keys of each column may be divided into a number of separate groups representing different offices, in accordance with the varying requirements of the different elections.

The invention consists in the features of improvement, combinations and arrangements of parts, hereinafter set forth, illustrated in the accompanying drawings and more particularly set forth in the appended claims.

The invention is shown applied to the type of voting machine set forth in prior applications filed by me December 27, 1904, Serial No. 238,388, and April 1, 1907, Serial No. 365,639, although it will be understood that the invention could be adapted to other types.

In the drawings, Figure 1 is a vertical section extending from side to side of the machine; Fig. 2 is a view of parts shown in Fig. 1 but in shifted position; Fig. 3 is a vertical section extending from front to rear of the machine, taken in part on lines 3—3 of Figs. 1 and 4 and in part on line 3—3^a of Fig. 1; Fig. 4 is a view of the rear of the machine with the top plate moved, the frame shown in section and parts broken away to illustrate the construction; Fig. 5 is an enlarged detail section on line 5—5 of Fig. 1.

As in the constructions shown in the prior applications referred to, the machine is provided with a box-like frame or casing 1, having ballot indicators or voting push keys 2 at the flat horizontal top of the machine frame and arranged in columns extending from front to rear thereof. These keys are arranged in removable units or counter sections, with two keys, the counters controlled thereby and locking and restoring devices for the keys mounted in each section. These counter sections comprise connected side plates 3 that are mounted in the upper portion of the machine frame upon horizontal supporting bars 4 that extend from front to rear of the machine. Each key extends through a guide opening at the upper portion of the counter section and is provided with a tail piece 5, which extends between a pair of guide pins or rollers 6 at the lower portion of the counter section. The counters for the two keys of each section are arranged on opposite sides thereof

and each comprises a set of counter wheels 7, rotatably mounted on a cross pin or shaft 8 extending between the side plates 3 of the counter section. The units wheel of the counter is provided with a Geneva stop gear 9, which is arranged to be engaged by a single toothed Geneva stop actuator 10. Each actuator is rotatably mounted in a holder 11 that is movable in axial direction upon the guide pins 12 extending between the side plates 3 of the counter section. The tail portion 5 of each key is provided with a cam slot 13 (see Fig. 3), which is arranged to engage a pin 14 connected to the holder 11 of the corresponding actuator. The keys are vertically movable to and from voted position to shift the corresponding actuators into and out of operative relation with the counters. The counter actuators of the several sections are arranged in line and are provided with a series of square openings through which a set of actuator shafts 14 extend. These actuator shafts are oscillated by the operating mechanism to advance the counters corresponding to the voted keys.

The tail portion of each key is slotted to engage one end of a rock arm 16. The rock arms engaging the two keys of each section are arranged on the same side thereof and are loosely journaled upon the ends of a hub 17 that is rotatably mounted between the side plates 3 of the counter section. Laterally extending lugs 18 on the hub 13 are arranged to extend between the pairs of shoulders 19 and 20 on the rock arms 16. The hubs 17 of the several counter sections are arranged in line and are provided with square openings through which removably extend a set of locking and restoring shafts 21. These shafts are normally held in the position shown in the drawings with the lugs 18 on the hubs engaging the shoulders 19 on the rock arm 16 and holding the latter and the keys locked against movement with the keys in their normal, raised position. When a voter is admitted to the machine these shafts are unlocked so that the keys may be depressed to voted position.

The operating mechanism controlling the actuator shafts 15 and locking and restoring shafts 21 is arranged at the rear of the machine in a removable, main operating section, consisting of a pair of side plates 22 connected at intervals and spaced apart by a series of shouldered rivets 23. A series of crank arms 24 are rotatably mounted in suitable openings in the side plates 22 of the main operating section and the hubs of these arms are provided with square openings to engage the actuator shafts 15. The rock arms 24 are connected by a common bar 25 and the end rock arm 24^a is in the form of a bell crank and is connected by a vertical, depending link 26 to a bell crank 27 pivotally mounted in the main operating section

adjacent its lower edge. A horizontal link 28 connects the bell crank 27 to the lower end of an operating shifter or bell crank 29, which is pivotally mounted in the main operating section. The other arm of the shifter 29 is provided with a projecting pin 30, which engages a cam slot 31 in a shifting or sliding carriage arranged upon the rear face of the main operating section. This carriage comprises a cam plate 32, having rollers 33 at its corners engaging grooved guides 34 that are fixed to the rear face of the main operating section. A ratchet plate 55 secured to the sliding cam plate 32 is connected by a link 36 to a main operating lever 37 at the back of the machine. The lower edge of the ratchet plate is provided with a series of teeth 38, which are arranged to be engaged by a full stroke dog 39, pivoted upon the back plate 40 of the machine so as to compel the complete shift of the operating mechanism in one or the other direction.

A series of rock arms 41, journaled between the side plates 22 of the main operating section, are provided with square openings and are arranged to engage the rear ends of the locking and restoring shafts 21. These rock arms are provided with enlarged friction rollers at their ends and are arranged to be engaged by a series of lugs 42 on the locking and restoring bar 43. This bar is arranged to shift in the horizontal direction within the main operating section and is provided with horizontal slots 44, through which a pair of supporting pins 45 extend. The lugs 42 on the locking and restoring bar 43 normally engage the arms 41 to lock the shafts 21 and voting keys controlled thereby against movement. The locking bar 43 is shifted in one direction to release the shafts 21 and voting keys by a judge's intervening bar 46, which is arranged at one end of the main operating section and projects through the frame of the machine at one side thereof and adjacent its rear face. This bar is slidably mounted upon a pair of pins 47, which engage the slots therein, and a shoulder 49 on the bar is arranged to engage the end of the locking and restoring bar 43, when the judge's intervening bar is pushed in, to shift the bar 43 and release the shafts 21 and voting keys. The bar 43 is shifted in the opposite direction, at the end of the voting operation, by a bell crank or shifter 50 pivoted between the side plates 22 and the main operating section and having a pin 51 at its upper end arranged to engage one of the lugs 42 of the locking and restoring bar. The opposite arm of the bell crank or shifter 50 is provided with a projecting pin 52, which engages the cam slot 53 in the plate 32.

The operating carriage is shown at the

left in Fig. 4 and in the position assumed by the parts after the main operating lever 37 has been shifted by the voter and just before the bar 46 has been pushed in by the judge of election to release the voting keys. Normally the operating carriage and handle 37 are at the right hand side of the machine when viewed from the rear, as in Fig. 4. In this normal position of the parts the pin 51 on the shifter 50 engages one of the lugs 42 of the locking and restoring bar 43 and holds it in its normal locking position with one of the lugs 42 against a stop pin 54. When the voter is admitted to the machine he first moves the lever 37 to the left or to the position shown in the drawings. This movement of the carriage or cam plate 32 moves the pin 51 on the shifter 50 away from the lug 42 on the bar 43, and, at the end of this movement, the carriage trips a latch 55, which normally locks the judge's intervening bar 46 so that the latter may be pushed in by the judge of election to shift the bar 43 and release the keys. The voter may then operate the keys to indicate his choice, and when he has done so he restores the operating mechanism to normal position by returning the lever 37 to the right. This first rocks the shifter or bell crank 29 to oscillate the actuator shafts 15 and advance the counters corresponding to the voted keys. The shifter 50 is then rocked to restore the locking bar 43 and return the shafts 21 and voting keys and actuators to normal position. The restoring shift of the bar 43 also returns the judge's intervening bar 46 into engagement with the latch 55, so that the machine can not be again unlocked until after the next voter has again shifted the lever 37 to the left to unlock the latch.

The parts thus far set forth are more fully described in the prior applications referred to. In the construction shown in said prior applications, however, each row of keys extending from side to side of the machine was provided with a set of interlocking devices so that each row of keys could be arranged in a single candidate group or the interlocking devices of several chosen rows could be connected to form a multi-candidate group.

In the present machine the rows of keys from side to side are in no way connected by interlocking mechanism. Instead, to adapt the machine to the Massachusetts or Minnesota form of ballot, each column of keys is provided with a set of interlocking devices with means whereby they may be divided into groups with any number of keys in each group, and with the number of keys which may be operated in each group limited to any desired number. This interlocking mechanism comprises a series of suitable guides, one for each column of keys, which

extend from front to rear of the machine parallel to the columns. Each guide comprises a pair of side plates 56, which are connected together and properly spaced apart, as shown. Adjacent their upper portions the plates are provided with outwardly projecting parts forming a guide channel 57 for a row of interlocking blocks or spaces 58. A series of spreaders 59 extend between the blocks 58 and are connected by rods 60 to the tail portions of the rock arms 16. Each guide is provided with a series of seats for the grouping pins 61, and these seats are arranged at a distance apart equal to one step of the interlocking mechanism, so that any number of keys and spreaders may be arranged in a group and the keys and spreaders in each group which can be moved to voted position may be limited to any desired number. This interlocking mechanism is more fully set forth in the companion application filed by me September 17, 1908, Serial No. 453,479.

To prevent a voter from casting ballots both for regularly nominated candidates and for irregular or independent candidates whose names do not appear upon the face of the machine, each of the regular candidate keys is provided with means whereby, if it is voted, it will cancel an irregular vote for the same office if attempt be made to cast one. In the particular embodiment of the invention set forth each key is provided with an impression device, preferably in the form of a perforating rod 62. The upper hooked ends of these rods 62 engage openings in the lower ends of the tail pieces 5 of the several keys and the rods extend downwardly from the keys through openings in a series of guide bars 63. Each of these guide bars is arranged in a seat 64 formed by outwardly projecting portions of two vertical plates 65 and 66. Each pair of plates 65 and 66 are connected together and suitably spaced apart as shown, and are secured at their front and rear ends to the frame of the machine. The vertical plate 66 is shorter than its companion plate 65 and a horizontal plate 67 extends laterally from its lower edge. The plates 67 extend from front to rear of the machine and are provided at their edges with downturned lips 68 and form the upper half of a series of guides or holders for paper ballots upon which the names of irregular candidates are written by the voter. There is one of these guides for each column of keys and the lower part of each guide is formed by a plate 69. Each of the plates 69 is secured at one edge, adjacent the edge of the upper plate 67, to a horizontal shaft 70 that extends from front to rear of the machine and is journaled at its ends in the machine frame. By shifting or rocking the shaft 70 the plates 69 may be shifted either to the hori-

zontal position shown in Fig. 1 or to the vertical position shown in Fig. 2. The free edge of each plate 69 is provided with a bent portion or lip 71, which in the horizontal position of the plate is arranged to engage the lower end of the vertical plate 65.

The several shafts 70 are provided on their rear ends with upwardly extending crank arms 72 that are connected by a common horizontal bar 73. One of the shafts is provided with a depending arm 74 connected by a horizontal link 75 to one arm of a bell crank 76 that is journaled upon the rear plate of the machine at one side thereof. The other arm of the bell crank is connected by a vertically extending link 77 to a crank arm 78. This arm is mounted upon a short shaft 79 that extends through the plates 22 in the main operating section and engages the hub of a crank arm 80, journaled in the main operating section. The arm 80 is connected by a horizontally extending link to the shifter or bell crank 50, which operates the locking and restoring bar 43. When the operating lever 37 (see Fig. 4) is at the right, or in normal position, the restoring shifter 50 will be rocked from the positions shown in Figs. 1 and 4 and the holder plates 69 for the irregular ballots will be in the vertical position shown in Fig. 2. Before the voter operates the machine and before the keys can be unlocked he must shift the operating mechanism to the position shown in Fig. 4. This moves the bell crank or shifter 50 and the holder plates 69 will be swung by the connections described to the horizontal position shown in Fig. 1. The front plate 82 of the machine is provided with a series of slots, one opposite each pair of plates 67 and 69. Irregular paper ballots or cards will be provided of such size that they may be inserted by the voter through the slots 82 into position between the holder plates 67 and 69. These cards will be provided with blank spaces for the names of candidates of different offices and the arrangement of cards will correspond to the arrangement of the office groups in the different columns of keys. There will be, of course, separate cards for each column of keys. If the machine is provided with four columns of keys, as in the form shown, there will be four sets of irregular cards.

If a voter desires to cast a vote for an irregular candidate for a particular office, he will select the proper card, write the candidate's name at the place indicated on the card and insert it in one of the slots 82 in the face of the machine opposite the proper column of keys. His vote for this irregular candidate is then completed and when the operating mechanism is restored to normal as the voter leaves the machine, the holder plate 69 will be rocked back to vertical position, and any irregular ballots which

may have been cast will be deposited in the bottom of the box-like frame or casing of the machine. It will thus be seen that the voter does not have to operate any key or other device in casting a vote for an irregular candidate. He can not, however, vote for both regular and irregular candidates for the same office, since if he should first vote for an irregular candidate by writing his name on the card and placing it in position between a pair of the holder plates 67 and 69, any attempt to cast a vote for a regular candidate for the same office by depressing one of the keys would cancel the vote cast for the irregular candidate, this cancellation being effected by the piercing needle or impression device 62, which would be forced through the card within the holder by the act of voting the key. If he should first vote for one of the regularly nominated candidates the perforator or impression device 62 would be shifted down through the slot formed by the holder plates 67 and 69 and the irregular ballot could not be placed in position to be deposited within the machine.

It should be noted that the lower ends of the perforating rods or impression devices 62 are sharpened so that they will readily pierce the irregular ballots, and that the outer edge of each swinging holder plate 69 is provided with a series of openings 83 through which the perforators are projected when the keys are depressed to voted position.

Means are provided whereby the operation of the machine will mark any irregular ballots which are cast and no irregular ballot will be valid or will be counted unless it is so marked, so that it is impossible to stuff the machine with irregular ballots. These marking or impression devices are also arranged to identify the irregular ballots cast with the proper columns. These impression devices are in the form of reciprocating plungers 84 arranged at the rear of the machine to slide vertically through guides 85 upon a cross bar 86. The lower ends of the plungers are arranged to extend through openings 87 in the rear ends of the plates 67 of the several ballot holders or guides and are provided with numbers or letters which differ from one another so that the cards marked thereby may be properly identified with the different columns of keys. The upper ends of the plungers are connected by a series of links 88 to a series of arms 89. These arms are mounted between their ends upon the pivot pins 90 carried by a bar 91 that is fixed to the inner face of the top plate 40 of the machine. The upper ends of the arms 89 are connected by a common bar or link 92 and this bar is connected by a link 93 to an extension of the link 28, which is connected to the

operating shifter or bell crank 29. This bell crank, as stated, is shifted by operating mechanism, when the voter leaves the machine, before the bell crank 50 is moved, so that, before the plates 69 are swung down to deposit any irregular ballots which may have been placed in the holders the impression devices 84 will be shifted to mark the ballots. This marking of the ballots may make an impression in the material thereof or means may be provided for inking the marking devices. In the arrangement shown a short piece of inking ribbon 94 is mounted upon the rear portion of each plate 69. It extends through slots 95 in the plate and is connected at one end to a stop pin 96 and at the other end to a roller pivotally mounted on the under side of the plate. This ribbon is arranged just above the corresponding impression device, so that, when the latter is forced downwardly it will force the card against the ribbon and make a mark corresponding to the face of the impression device upon the under side of the irregular ballot or card.

It is obvious that numerous changes may be made in the details set forth without departure from the essence of the invention, which broadly comprises means controlled by each of the regular candidate keys for preventing the voter from casting a ballot both for the regular candidate and for an irregular candidate for the same office. The column of keys 2^a are for voting on questions.

I claim as my invention:—

1. In a voting machine, the combination with a series of regular candidate keys and counters therefor, of a series of separate independent perforating devices, one operated by each key, a card ballot for voting for candidates not nominated, said perforating devices operating to perforate said ballot and indicate thereon the votes cast for regularly nominated candidates and expose fraudulent votes for irregular candidates.

2. In voting machines, the combination with a series of regular candidate keys and counters controlled thereby, of means for casting a vote for an irregular candidate, and controlled by each regular candidate key for canceling a vote cast for an irregular candidate for the same office.

3. In voting machines, the combination with a series of regular candidate keys and counters controlled by said keys, of a series of means for depositing a ballot for irregular candidates, and impression devices one operated by each of said regular candidate keys for marking the irregular ballot to cancel votes thereon.

4. In voting machines, the combination with a series of regular candidate keys and counters controlled thereby, a series of im-

pression devices one controlled by each of said keys and means for holding an irregular paper ballot in the path of movement of said impression devices.

5. In voting machines, the combination with a series of regular candidate keys and counters controlled thereby, of a shiftable holder for receiving and depositing an irregular paper ballot and a series of impression devices one controlled by each of said keys for impressing the irregular paper ballot when in position upon said holder.

6. In voting machines, the combination with means for voting for regularly nominated candidates comprising a series of counters and controlling keys therefor, and means controlled by said regular candidate keys for canceling an irregular ballot cast for the corresponding offices.

7. In voting machines, the combination with a series of regular candidate keys and counters controlled thereby, of a holder for receiving and depositing an irregular paper ballot, a series of impression devices for marking the irregular ballot, one controlled by each of said keys, operating mechanism controlling the movement of said keys and counters and means actuated by said operating mechanism for shifting said holder to deposit the irregular paper ballot.

8. In voting machines, the combination with a column of keys, counters controlled thereby, a holder for irregular paper ballots arranged below said column of keys and a series of impression devices for the paper ballots one controlled by each of said keys.

9. In voting machines, the combination with a number of columns of keys for voting for regular candidates and a series of counters controlled by said keys, of a series of holders for irregular paper ballots, one for each column of keys, a set of impression devices for said irregular paper ballots, one controlled by each of said keys, a set of impression devices for marking the irregular paper ballots, one for each column of keys, operating mechanism for said last set of impression devices and means actuated by said operating mechanism for controlling the movement of said keys and counters.

10. In voting machines, the combination with a number of sets of keys for voting for regular candidates and a series of counters controlled by said keys, of a number of holders for irregular paper ballots, one for each set of regular candidate keys, a number of impression devices for marking the irregular paper ballots in the separate holders, mechanism for completing the operation of said keys and counters, and means controlled by said mechanism for operating said impression devices.

11. In voting machines, the combination with a series of regular candidate keys, interlocking mechanism between said keys and

a series of counters controlled thereby, a series of impression devices connected to and shifted by said keys as the latter are moved to and from voted position, and means for holding an irregular ballot in position to be marked by said impression devices.

12. In voting machines, the combination with a series of regular candidate keys, interlocking mechanism between said keys and a series of counters controlled by said keys, of means for depositing an irregular paper ballot, and a series of punches controlled by said keys for piercing the irregular paper ballot to cancel votes thereon.

13. In voting machines, the combination with a series of regular candidate keys, interlocking mechanism between said keys, and a series of counters controlled by said keys, of a holder corresponding to said keys for receiving an irregular paper ballot, and a series of separate, independent devices connected to and shifted by said keys and arranged to prevent the insertion of an irregular paper ballot in said holder when

any one of said regular keys is in voted position.

14. In voting machines, the combination with a number of columns of keys for voting for regular candidates, interlocking mechanism between said keys, and a series of counters controlled by said keys, of a series of holders for irregular paper ballots, one for each column of keys, said holders being shiftable into and out of operative position to receive and deposit the irregular paper ballots, a set of impression devices for marking said irregular paper ballots, one controlled by each of said keys, a second set of impression devices for marking the irregular paper ballots, one for each column of keys, and operating mechanism for locking and restoring said keys, for actuating said second set of impression devices and for operating said shiftable holders.

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