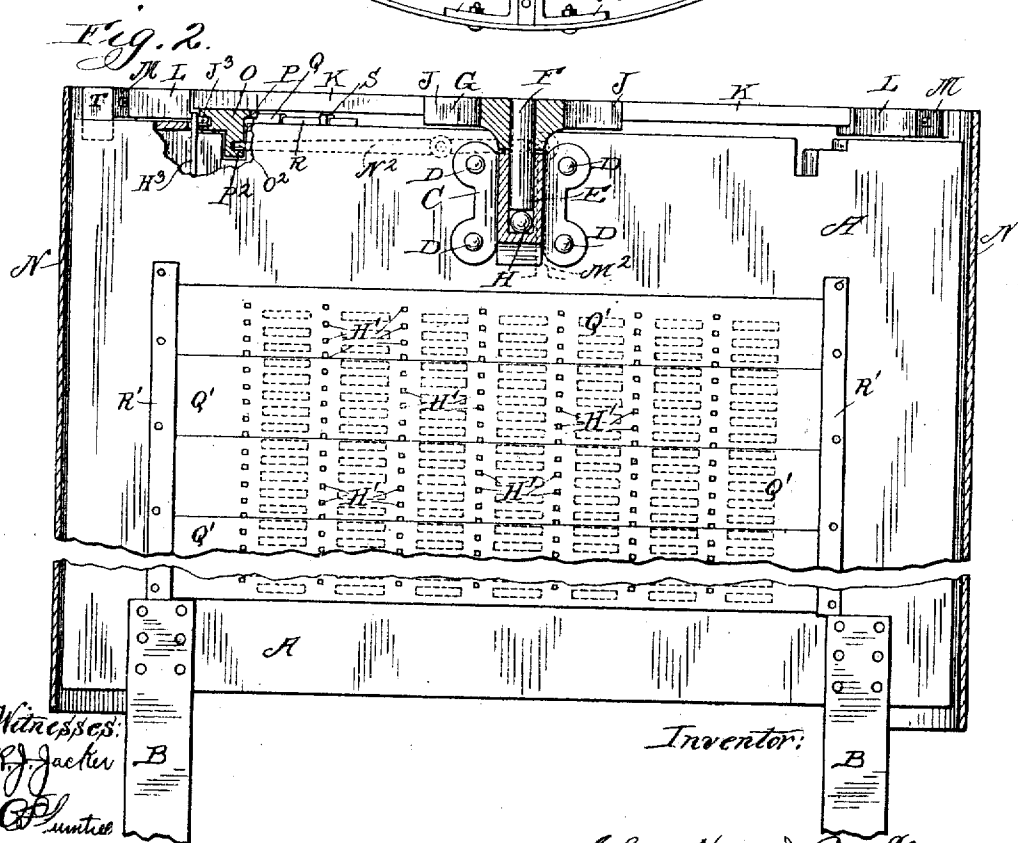
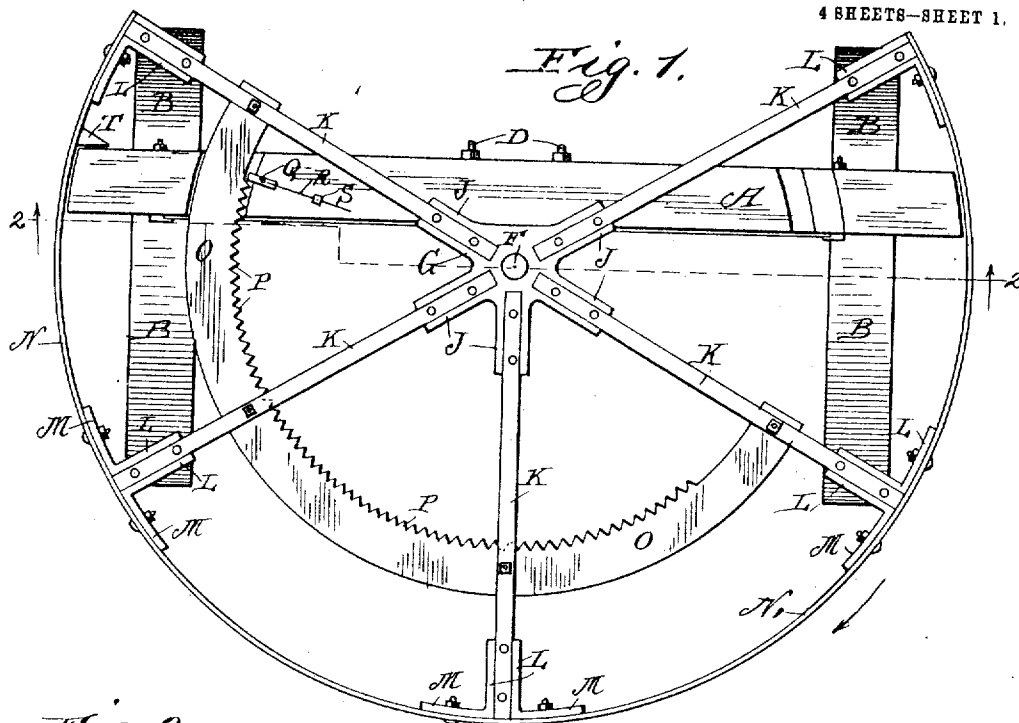


944,743.

J. H. McELROY.  
VOTING MACHINE.  
APPLICATION FILED SEPT. 2, 1899.

Patented Dec. 28, 1909.

4 SHEETS—SHEET 1.



Witnesses:  
R. J. Jaeger  
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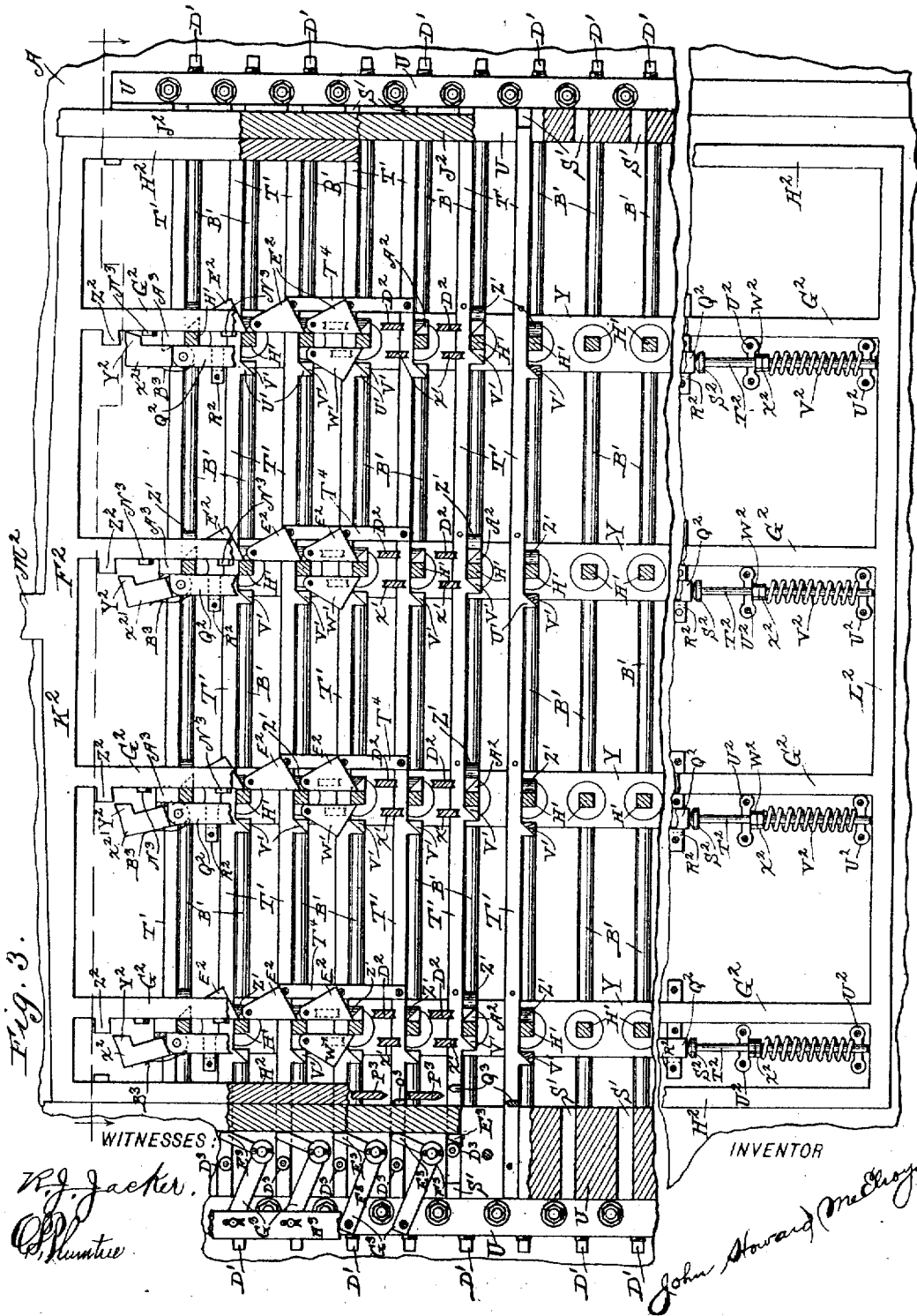
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4 SHEETS—SHEET 2.

944,743.



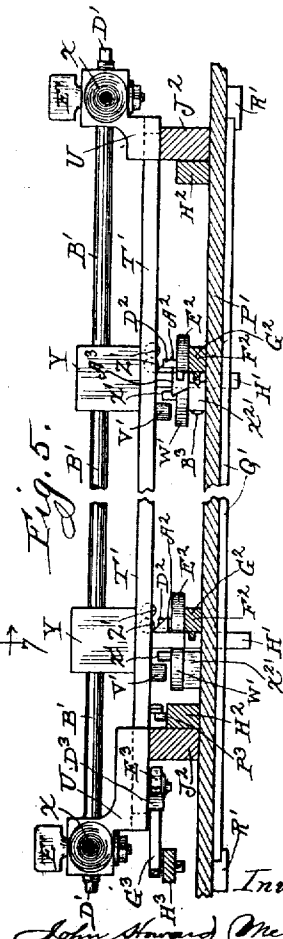
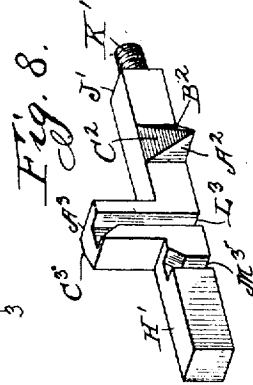
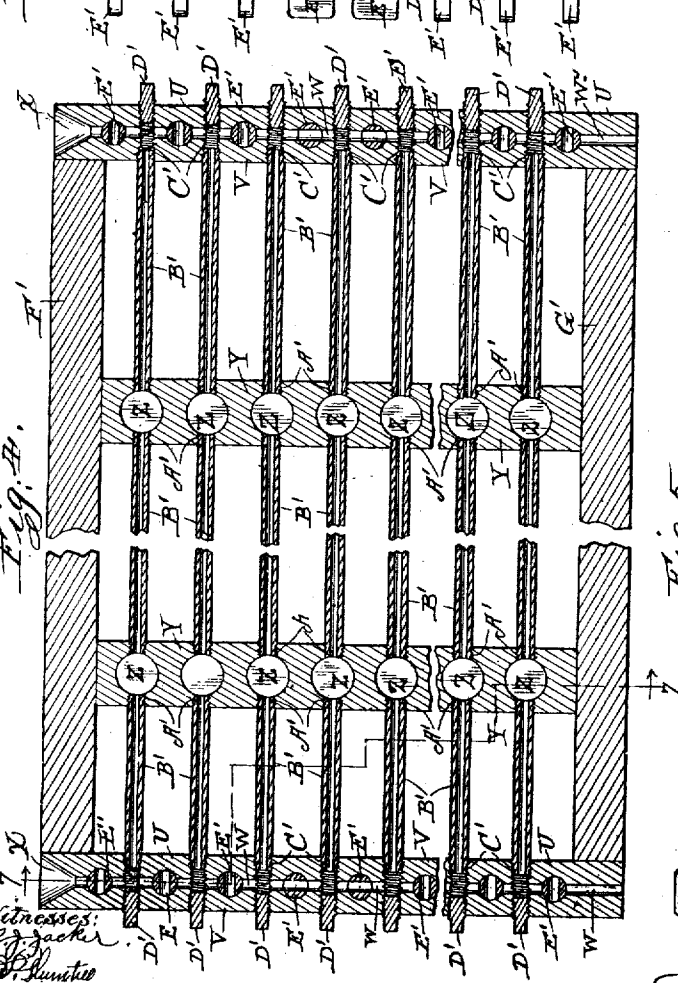
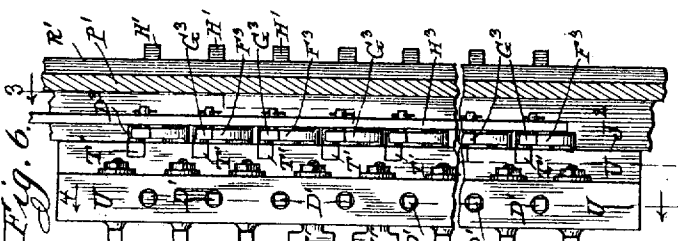
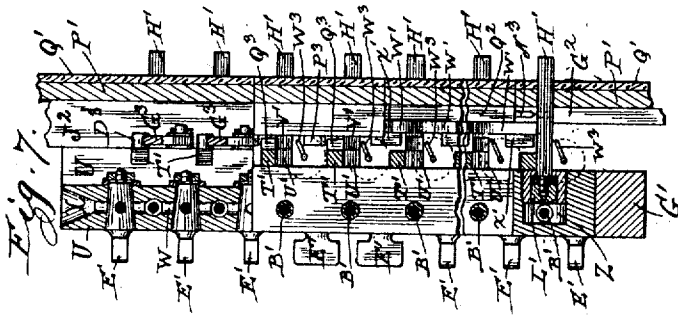
J. H. McELROY.  
VOTING MACHINE.

APPLICATION FILED SEPT. 2, 1899.

944,743.

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4 SHEETS—SHEET 3.



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944,743.

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VOTING MACHINE.  
APPLICATION FILED SEPT. 2, 1898.

Patented Dec. 28, 1909.

4 SHEETS—SHEET 4.

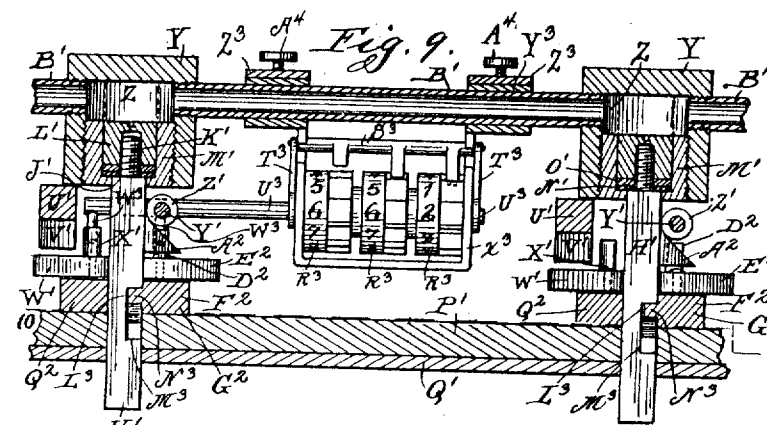


Fig. 11.

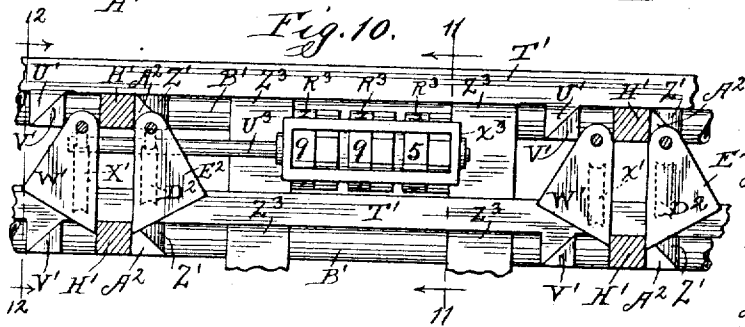
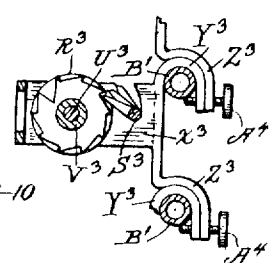


Fig. 12.

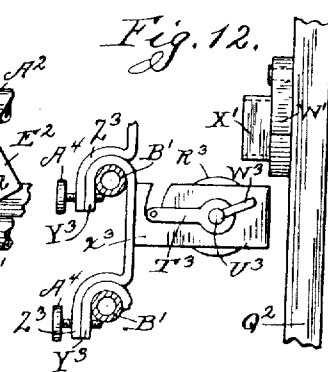


Fig. 13.

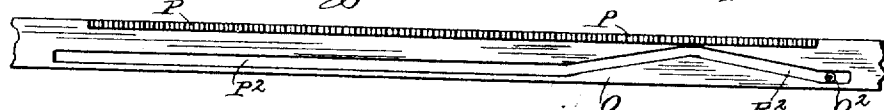


Fig. 14.

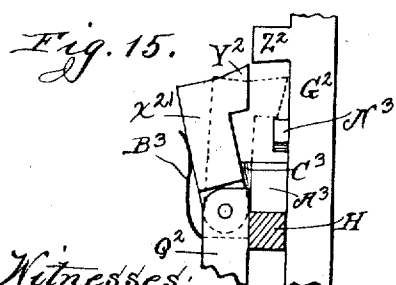
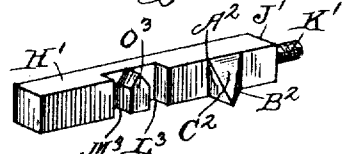


Fig. 16.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN HOWARD McELROY, OF CHICAGO, ILLINOIS.

VOTING-MACHINE.

944,743.

Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed September 2, 1899. Serial No. 729,274.

*To all whom it may concern:*

Be it known that I, JOHN HOWARD McELROY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have made certain new and useful Improvements in Voting-Machines, of which the following is a specification.

My invention is primarily concerned with a novel construction for setting and operating what are known as voting machines for voting straight or scratched tickets. These devices as hitherto proposed or constructed can be divided into three general groups: (1) those in which the keys when operated actuate their registers and are locked in position until the machine is reset for the next voter, the keys being locked to prevent repeating, a fact which makes machines of this class objectionable because errors cannot be corrected; (2) those in which the keys when operated actuate their registers, but can be retracted by the voter, thereby unactuating the registers and permitting him to correct mistakes, and being finally reset without unactuating the registers only when the machine is reset for the next voter; and (3) those in which the operation of the keys is merely preliminary, the subsequent actuation of the registers being controlled by the position of their respective keys. Such keys are ordinarily freely movable into and out of operative position prior to the actuation of the registers to permit of the correction of mistakes. My invention is mainly concerned with the third class, and is designed to produce a machine in which straight or scratched tickets can be voted with great facility, and one in which there shall be little wear on the interlocking mechanism in ordinary voting where straight, or slightly scratched, tickets predominate. In devices of this third class, as hitherto constructed, a straight ticket is cast by operating all the candidate keys of the party chosen, with the result that all the groups of interlocking mechanism are brought into play at each vote, causing unnecessary wear of this ordinarily delicately adjusted mechanism. To expedite voting, straight ticket keys or levers have been provided by which all the candidate keys in any party can be operated simultaneously, but at the expense of overcoming a heavy resistance caused by the simultaneous movement of a large number of keys, making the operation, especially in general elections, very difficult. In my in-

vention I overcome this difficulty by employing a selective mechanism preferably consisting of straight ticket keys or levers, which, when operated, insure the operation of all the registers in their respective parties, unless some candidate is scratched by the operation of the scratching or candidate key or lever (of which there is one for each register) of some other candidate for the same office. Suitable interlocking mechanism is employed between these straight ticket keys and the candidate or scratching keys to effect this result, and at the same time prevent any possibility of voting for more than the required number of candidates or repeating, but this mechanism is so arranged that if a straight ticket is voted, only so much of the interlocking mechanism comes into play as is necessary to prevent the simultaneous operation of more than one straight ticket key. If one candidate is scratched, only the interlocking mechanism in that office group in addition is brought into play, and so on, so that the wear and tear of the interlocking mechanism is very much reduced. In carrying out this system I have heretofore applied two actuating members, mechanisms, or means, one of which acts when the actuation is caused by the straight ticket mechanism, and the other when it is due to the scratching mechanism. These means may be mechanical, as in the present application or in my prior application No. 725,213, filed July 27, 1899, or they may be actuated through the medium of fluid pressure, as in my application No. 703,068, filed January 23, 1899, or by electricity, as in my application No. 723,873, filed July 14, 1899; but while I have shown and described this invention and system in all of these applications, I herein claim it broadly and generically, leaving to the other applications claims for the specific forms therein shown.

In my present invention, I have also shown a modification of the mechanical structures shown in my application No. 725,213, above referred to. In the last mentioned application, rotary keys were employed, and in the present application I employ sliding push-keys, and thereby secure a simplification of the structure.

My invention further relates to certain details of construction, all of which will be fully set out in the body of the specification and embodied in the claims.

In order to fully illustrate my invention,

I annex hereto five sheets of drawings, in which the same letters of reference are used to designate identical parts in all the figures, of which—

- 5 Figure 1 is a top plan view of the complete machine, showing principally the arrangement of the booth, and the details of the mechanism for compelling a complete stroke or operation of the machine; Fig. 2
- 10 is a front elevation of the machine, in section on the line 2—2 of Fig. 1; Fig. 3 is a front elevation, on a larger scale, of the complete machine, on the line 3—3 of Fig. 6; Fig. 4
- 15 is a sectional view on the line 4—4 of Fig. 6; Fig. 5 is a top plan view of the interlocking and key-controlling mechanism; Fig. 6 is
- 20 an end view of the mechanism shown in Figs. 3, 4 and 5; Fig. 7 is a similar view in section on the line 7—7 of Fig. 4; Fig. 8 is
- 25 a perspective view of a portion of one of the straight ticket keys; Fig. 9 is a central sectional view through the operating keys, on a larger scale, showing the details of construction; Fig. 10 is a view of the same
- 30 mechanism, in section on the line 10—10 of Fig. 9; Fig. 11 is a sectional view on the line 11—11 of Fig. 10, showing the method of supporting the registers; Fig. 12 is a
- 35 similar view on the line 12—12 of Fig. 10; Fig. 13 is an extended view of the cam groove which serves to lower and raise the operating frame; Fig. 14 is a similar view of
- 40 the cam groove which serves to operate the re-setting mechanism; Fig. 15 is an elevation of the straight ticket key and its associated mechanism, in section on the same
- 45 plane as Fig. 10; and Fig. 16 is a perspective view of a candidate key with the piston detached.
- 50 Referring especially to Figs. 1 and 2, the general casing of the machine, which I designate by the letter A, is of a rectangular shape, and is supported by the legs B, of
- 55 which the pair in front extends forward farther than the rear pair, in order to bring the center of gravity of the entire structure as nearly over the center of support as possible. Fastened to the top part of the casing
- 60 A, near its center, is a bracket or support C, which I conveniently secure upon the frame by the bolts D passing therethrough and held in place by the customary nuts. This
- 65 bracket C is provided with a vertical cylindrical bearing aperture E, in which is placed the cylindrical stud or pinion F, which is rigidly secured to, or formed integral with,
- 70 the center of the spider G, which supports what I may call the rotating frame work of the booth. To form a simple and efficient
- 75 bearing, I insert the steel ball H between the bottom of the stud F and the bottom of the bearing E. The spider G, which is conveniently made of cast iron, has the arms or
- 80 legs J, conveniently five in number, which are slotted on their upper surface to receive

the bars K, which are secured therein in any convenient manner, as by bolts. These arms K have their outer ends secured in similar channels formed in the angle pieces L, which have the flanges M by which they are bolted 70 or otherwise secured to the circular sheet iron frame N, which, as shown in Fig. 2, preferably extends down below the body of the machine so as to conceal the voter and the keyboard from the public when the booth 75 is operated. It will be understood that instead of employing the solid metallic shield N, I might make merely the upper portion in the form of a strip or ring, and suspend therefrom a curtain which would give practically the same effect with less weight. 80 Bolted or otherwise secured on the under side of the arms K is the curved plate or bar O, which is conveniently constructed of cast metal, and which occupies substantially 85 the semi-circle. On its upper inner edge is formed the set of teeth or serrations P, which are designed to cooperate with the dog Q which is pivotally mounted on the top of the casing A, and has the elongated 90 leaf spring R secured to its rear end and passing through the staple S, which serves to hold the dog Q, by reason of its action upon the spring R, in the position shown in Fig. 1. When the cover is swung in the direction 95 shown by the arrow in Fig. 1, it will be seen that the first tooth P will swing the dog Q into a slanting position, in which it will be held by the teeth until the cover has been rotated until all the teeth are past the 100 dog, after which the dog can return to its normal position. It will be readily apparent that the action of the square end of the dog against the teeth will prevent the direction of movement being changed after 105 the cover is once started. The lug T formed on or secured to the shield N serves to limit the movement of the cover, its opposite sides contacting with the opposite ends of the casing A at the limit of its movement in 110 either direction. When the cover is swung around to its limit of movement, the keyboard is exposed to the public, so that they can familiarize themselves with it before voting but the keys are all locked from any 115 possible movement by mechanism to be subsequently described. When the voter enters the booth, he swings the cover from its open position back to the closed position of Fig. 1, he, of course, remaining inside of the 120 cover, and the reverse action of the dog Q and the teeth P compels the complete closure of the cover after it has once been started before it can be opened again. In addition to carrying the teeth P, the plate or bar O 125 carries two cam grooves for controlling the re-setting and operating mechanisms respectively, but these cam grooves will be described more at length in another part of the specification. 130

Referring now especially to Figs. 3 to 10, the novel interlocking mechanism will be first described. At either end of the mechanism under consideration, which is inclosed in the casing A, is a vertical metallic column U, the cross sections of the two columns differing slightly, as shown in Fig. 5, although having the same general shape and purposes. The main portions of these columns U are rectangular, and have running through them the tubular aperture W, which at the top is conveniently reamed or otherwise flared out into the conical shaped opening X, into which the heavy mineral oil, or whatever fluid is employed, is poured when the reservoirs are ready to be filled. Between these columns U are located a number of vertical columns Y, the number of these columns corresponding to the number of the parties for which the machine is arranged, and these columns Y are preferably metallic, and have bored or cast into the front face thereof the circular apertures Z, the depth of which is best shown in Fig. 9. Drilled or bored directly through these apertures Z, are the holes A', which are screw-threaded, and are arranged to have small pipes B', which can be conveniently constructed of small gas pipe, screwed therein, the ends of the pipes having right and left hand screw-threads to permit of the ready assembling of the parts. Opposite these holes A' in the columns Y are the holes C' in the portions V of the columns U, and the ends of the outer tubes B' are screwed into these apertures, which have their outer ends closed by the screw-threaded plugs D', which have the squared ends, or some such construction, by which they can be readily manipulated to increase or diminish the capacity of the reservoir formed by each horizontal row of pipes B' and the apertures Z. Interposed between each of the holes C' and intercepting the tubular aperture W are the stop cocks E', which can be adjusted, as will be readily seen from Fig. 4, so as to connect as many series of pipes as may be desired. By referring to Fig. 4, it will be seen that the first and second series of pipes are separated from each other and from the rest of the pipes by the position of the stop cocks E', and these two rows of pipes would correspond to the two rows of single candidate keys. The third, fourth and fifth rows of pipes are all connected by the position of the stop cocks E', so that the fluid in this set of pipes can circulate freely in all three of them, so that it is immaterial whether one key in each horizontal row is pressed in or three keys in one horizontal row. These three rows of pipes would correspond to a multi-candidate group in which three candidates were to be elected, such as the school trustees in this State. The last two rows of pipes that are shown in Fig. 4, it will be seen are entirely

disconnected from each other and from any other sets of pipes by the way their stop cocks E' are turned, and these will also be used for two single candidate rows of keys. The cross pieces F' and G' are conveniently placed between the upper and lower ends of the columns U, and over the upper and lower ends of the columns Y, to aid in forming a strong compact frame. It may be here noted that in Figs. 3 to 6, the registers are entirely omitted, so as to disclose the construction of the interlocking mechanism more clearly than would be the case if the registers were shown in place.

Referring now to Figs. 7 and 9 especially, it will be seen that the keys H' are of a generally square shape in cross section, and terminate in a shoulder J' formed by cutting the end of the key down to form the screw-threaded portion K', upon which is screwed the cylindrical piston L', which fits somewhat snugly in a cup M', which is screwed into the aperture Z. This cup is formed by boring nearly through a short cylinder, and the base of the cup is cut through with a square opening which permits the passage of the body portion of the key H', but prevents the key from turning. A metallic washer N' is placed directly against the shoulder J' inside of the cup, and a packing ring or washer O', of leather, rubber, or some other suitable material, is interposed between the washer N' and the piston L', and the piston L' is screwed on to the portion K' so tightly as to expand the packing O' so as to make a very close fit, and absolutely prevent any of the oil from leaking out of the reservoirs. When the key is in its outermost or unoperated position, as shown in Fig. 9, the space shown in dotted lines is filled by the oil, but when the key is pushed in, the piston L' occupies this space, thus forcing the oil out to fill up the vacant space, which will, of course, be at the top of the apertures Z. The piston L' being smaller in diameter than the aperture Z, it will be apparent that when the key is pushed in, the oil can flow around the piston L' so as to adjust itself in any manner that may be necessary, especially in the multi-candidate groups. I preferably shape the end of the piston L' so that when the key is pushed in to its operated position, it will fit squarely against the rear side of the aperture Z, so as to prevent the weight of the oil, which might be a serious matter in a large multi-candidate group, from pressing against the end of the plunger L' and tending to force it back to its unoperated position. When these parts are assembled and it is desired to fix up the machine for the various single candidate and multi-candidate groups, the two lowest stop cocks E' are turned to the position shown in Fig. 4, and as many keys are pushed in in each group as are intended to

be operated therein, and all the other stop cocks  $E'$  are turned so as to make the tube  $W$  open all the way through except where it is closed by the lowest cocks  $E'$ . The oil is then poured in at one of the funnel-shaped ends  $X$ , and the air escaping out the other aperture, the oil will settle itself on a level all through the reservoirs until they are completely filled. When they are thus filled, the stop cocks  $E'$  are turned as may be necessary to make the necessary grouping, and so far as the mechanism under consideration is concerned, the machine is ready for operation. Of course, before the election, it is tested carefully, and if any of the keys work too hard, or more than the required number of keys can be pressed in, the plugs  $D'$  are screwed out or in, as the case may be, until the operation of the keys is as perfect as may be desired.

The general system of construction and operation of the machine is the same as that shown in my application above referred to, No. 725,213, except that push keys have been substituted for rotary keys, and some other changes have been made which tend to simplify the construction, the details of which are best shown in Figs. 3, and 5 to 10. The ends of the keys  $H'$  project out through the front plate  $P'$ , which, as shown in Fig. 2, is conveniently made of sections so that it can be removed from the front of the machine to get at the registers, or it may be provided with a series of slots  $P^{12}$  in front of each register, as indicated by the dotted lines in Fig. 2, so that the readings of the registers can be inspected without removal of the front plates. The ballot sheet containing the names will be secured upon the front plate  $P'$ , which is then covered by the glass plate  $Q'$ , which is shaped to correspond to the plate  $P'$ , having the apertures to permit the passage of the ends of the keys and which is secured in place by the strips  $R'$ , which are bolted or screwed in place.

Instead of employing the rotary sleeves connected by the bar common to each office row of my previous machine, No. 725,213, by the employment of the push keys, I am enabled to produce a deflecting mechanism which is somewhat simpler in construction. Resting on the upper side of each row of keys, and also supported in the grooves  $S'$  in the column  $U$ , are the re-setting and controlling bars  $T'$ , which are preferably rectangular in cross section, and which have the downwardly projecting lugs  $U'$  thereon, which are furnished with the triangular deflectors  $V'$ , which serve to deflect the straight ticket hangers  $W'$  by reason of being contacted by their lugs  $X'$  when another key in the same row has been operated. Projecting from the under side of these bars  $T'$  are the spindles  $Y'$ , upon which are journaled the anti-friction rollers  $Z'$ , which

are contacted by the lugs  $A^2$  upon the right hand side of the keys  $H'$ , which lugs  $A^2$  have a double function. They have the inclined rear side  $B^2$  in a vertical plane, which coöperates with the anti-friction roller  $Z'$  to cam it and the bar  $T'$  to the right whenever any key is operated, thus bringing all the deflectors  $V'$  into position to deflect any straight ticket hanger  $W'$  that may be operated in that office row. When the bar  $T'$  is re-set, the anti-friction roller  $Z'$  coöperating with the surface  $B^2$  of the lug  $A^2$  serves to force the key  $H'$  out and to re-set it. The lug  $A^2$  has its upper surface  $C^2$  inclined downward, as shown in Figs. 3, 8, 10 and 16 to form a deflecting surface for the lug  $D^2$  on the scratched ticket hanger  $E^2$ , whenever the key is unoperated, but, as will be seen from Fig. 9, if the key has been operated, the lug  $A^2$  is moved out of the path of the lug  $D^2$ , so that when the hanger  $E^2$  descends, the lug  $D^2$  will not be deflected thereby. As in my prior machine, application No. 725,213, these scratched ticket hangers  $E^2$  are supported by a gridiron-shaped frame  $F^2$ , consisting of the vertical bars  $G^2$ , and the additional vertical end bars  $H^2$ , which are employed mainly to furnish a bearing against the vertical connecting pieces  $J^2$  which connect the vertical standards  $U$  and the front plate  $P'$ , as best shown in Fig. 5, and thus insure the rigidity of the frame and evenness of its movement. These vertical bars are connected by the top cross bar  $K^2$  and the lower cross bar  $L^2$ , the top cross bar having an upwardly extending arm  $M^2$ , located in the vertical line passing through the center of gravity of the frame, and extending upward to the end of the lever  $N^2$ , best shown in dotted lines in Fig. 2, which is pivotally mounted just back of the front plate, and has its inner end pivotally connected to the arm  $M^2$ , while its other end is provided with an anti-friction roller  $O^2$  which takes into the cam slot  $P^2$  formed in the bar or plate  $O$  previously described. An extended view of this cam slot  $P^2$  is shown in Fig. 13, and it will be seen that as soon as the cover is started to be swung from its closed to its open position, and the dog  $Q$  is caught by the teeth  $P$  so as to prevent any backward movement, the cam slot will cause the frame  $F^2$  to be lowered to operate the machine, and to be almost immediately raised, after which the re-setting mechanism comes into play, as will be subsequently described.

The straight ticket hangers  $W'$  are loosely pivoted upon the straight ticket bars  $Q^2$ , which are supported in the straps  $R^2$  secured to the rear side of the front plate of the machine. The lower ends of these bars  $Q^2$  rest upon the spring support  $S^2$ , which, as in my prior machine, application No. 725,213, consists of the elongated body portion  $T^2$  se-

cured between the supports  $U^2$  fastened to the rear side of the front plate, and provided with the coiled expanding spring  $V^2$  surrounding it, and also with the nuts  $W^2$  and  $X^2$  thereon to respectively limit the upward movement of the support, and to regulate the tension of the spring. The upper ends of the bars  $Q^2$  are provided with the L-shaped switch pieces  $X^{21}$  pivoted thereto, which have the L-portions  $Y^2$  shaped as best shown in Fig. 3, where it will be seen that the upper surface which is contacted by the lug  $Z^2$  on the bar  $G^2$  is inclined upward slightly and is supplemental to the shape of the under side of the lug  $Z^2$ , so that when once the lug  $Z^2$  engages with the L-portion  $Y^2$ , the parts are engaged firmly and any disconnection of the parts is not permitted until they have returned to their normal position. The upper row of keys is devoted to the straight ticket keys, one of which is shown in perspective in Fig. 8, and it will be seen that these keys are provided with an extra lug  $A^2$ , (see Figs. 8 and 15) which has its upper side wider than the lower one at its rear side, and tapering down so as to hold the L-shaped switches  $X^{21}$  in the unoperative positions shown in Fig. 3 against the stress of the leaf springs  $B^2$ , which tend to throw them into operative position as soon as the key is pushed in, and the lug  $A^2$  is out of the way. The lug  $A^2$  has a beveled surface  $C^2$  thereon, which, as the operated straight key is forced back by the re-setting mechanism, serves to take against the switch piece  $X^{21}$  and force it back to its inoperative position.

From this description of these parts, it will be readily seen that when a straight ticket key is pushed in, as shown at the right hand of Fig. 3, the action of the leaf spring  $B^2$  will be to throw the switch piece  $X^{21}$  into the position shown, so that as the frame  $F^2$  descends, carrying with it all the scratched ticket hangers, it will also carry with it the bar  $Q^2$  corresponding to the straight ticket key operated so that all the straight ticket hangers on that bar will also be brought into possible operation. As these hangers descend, the straight ticket hangers  $W^2$  will, by their lugs  $X^2$ , operate the respective registers, to be described, except in such office rows as have a key operated, in which case the deflector  $V^2$  will cause the lug  $X^2$  to be swung out so that it does not strike the operating member of the register, to be subsequently described. At the same time, all of the scratched ticket hangers  $E^2$  will be deflected by reason of the lugs  $D^2$  contacting with the deflecting surfaces  $C^2$ , except of such candidate keys as have been pushed in, in which case there is nothing to deflect the hanger, and thus all the scratched ticket candidates will be voted for, while at the same time voting for all the candidates in

the party column for which a straight ticket has been cast, except such as may have been scratched.

The re-setting mechanism is best illustrated in Figs. 3, 5 and 6, and consists of mechanism for moving the operated bars  $T^2$  to the left, back to their normal position. To the left hand of the left hand connecting piece  $J^2$ , each bar  $T^2$  is provided with an anti-friction roller  $D^2$  which projects into the plane of the substantially vertical arm  $E^2$  of a bell crank lever  $F^2$ , the other arm of which,  $G^2$ , is pivotally connected to the vertically reciprocating bar  $H^2$ , which has at its upper end the anti-friction roller  $J^2$  (see Fig. 2), which takes into the cam groove  $K^2$  in the curved plate  $O$ . This cam groove  $K^2$ , as will be seen from the extended view thereof in Fig. 14, is on two levels, it standing on the upper level when the booth is entirely closed, so that the parts are in the position of Fig. 3, where it will be seen that the bars  $T^2$  can be moved to the right as the keys are operated. The cam groove descends from the upper level to the lower level just after the operating frame has been lowered and raised by the cam groove  $P^2$ , and as the inclined portion connecting the two different levels passes the roller  $J^2$ , the bar  $H^2$  will be forced down to its lower position, and as it moves down, the arms  $E^2$  contacting with the anti-friction rollers  $D^2$  will serve to reset all of the keys that have been operated. As will be readily seen, while the booth is open, the bar  $H^2$  is held in its lowermost position, and during this time the keys are absolutely locked from movement in their unoperated position, as it is impossible to force the bars  $T^2$  to the right, which is necessary before the keys can be pushed in. By this construction, I absolutely insure the machine against being tampered with while it is open for public inspection, and the voter must close the shield or screen about him so as to prevent the public from seeing how he votes before he can manipulate the keys.

In order to absolutely position the keys during the descent of the operating frame, I provide the following mechanism. In the side of the keys next to the bars  $G^2$ , I form two notches  $L^2$  and  $M^2$ , with which cooperate the slightly elongated lugs  $N^2$  suitably located on the inner side of the bars  $G^2$  above each key. These lugs  $N^2$  have their lower end beveled off on each side to form a point so that they readily enter either the notch  $L^2$ , or  $M^2$ , depending upon whether the key is unoperated or operated, and to absolutely insure the key being set to its exact position when it is a very small distance on either side of the half-way position, I bevel off both sides of the upper end of the lug  $O^2$  which is left between the grooves  $L^2$  and  $M^2$  in the ordinary candidate keys. By this construction, it will be readily seen that as soon

as the bar starts down, and before the register is operated, the key is cammed positively either into its exact operated or unoperated position, depending upon which position it most nearly approached. Similarly, to lock the bars  $T'$  in their operated or unoperated position during the descent of the bar, I form the lugs  $P^3$  on the rear side of the left hand bar  $H^2$ , and arrange the correspondingly shaped but inverted lug  $Q^3$  on the outer face of the bar  $T'$ , so that as the lug  $P^3$  contacts with one or the other sides of the lug  $Q^3$ , the bar  $T'$  will be forced accurately into its operated or unoperated position before the action of the registering mechanism can take place.

The details of the registering mechanism are best shown in Figs. 9 to 12, and this may be said to be substantially the same as the registering mechanism shown in my aforesaid application No. 725,213, as it consists of a series of registering wheels  $R^3$  provided with the ordinary deep-notch carrying mechanism, and operated by the pawl bar  $S^3$  carried by the arms  $T^2$ , which are rigidly secured to the rock shaft  $U^2$  passing through the registering wheels inside of the sleeve  $V^3$ , which furnishes a bearing for the rock shaft and also carries washers to prevent the movement of one wheel being communicated to the other except when it may be desired. The shaft  $U^2$  has the arms  $W^2$  projecting therefrom, one of them being in the path of the cooperating lug  $X'$  of the straight ticket hanger  $W'$ , while the other is directly beneath the cooperating lug  $D^2$  of the scratched ticket hanger  $E^2$ . The top and bottom portions of these lugs  $X'$  and  $D^2$  are concaved slightly so as to prevent their slipping off of the arms  $W^2$  when they come in contact with them. As will be seen from Figs. 3 and 10, the lugs  $X'$  on the straight ticket hangers are a short distance below the corresponding lugs  $D^2$  on the scratched ticket hangers, this difference being made to make up for the distance that the frame  $F^2$  must move before the lug  $Z^2$  contacts with the arm  $Y^2$  of the L-shaped switch piece  $X^2$ , so that the lugs will all strike the arms  $W^2$  at the same time, to operate the registers simultaneously. A convenient method of mounting the registers, I form the enlarged ends of the straps  $X^2$ , which form the casing of the register, with the hooks  $Y^2$  and  $Z^2$ , the hooks  $Y^2$  fitting directly over the connecting pipes  $B'$ , while the hooks  $Z^2$  fit over the hooks  $Y^2$ , and both of them are held in place by the set screws  $A^4$ .

The especial advantage of my novel interlocking system is the readiness with which it adapts itself to changes in the grouping of any row of keys from single candidate to multi-candidate groups. All that is necessary is to properly adjust the stop cocks  $E^2$  to which access is provided by a door (not

shown) in the rear of the casing, and to screw the cross bars  $T^4$ , shown in Fig. 3, to the bars  $T'$  that are to be connected together, as it will be necessary to unite all the bars  $T'$  of any multi-candidate group to prevent beating the machine by voting fully for scratched candidates and leaving some of the bars  $T'$  of the group unmoved.

While I have herein shown and described a novel interlocking mechanism, I do not herein claim the same, but reserve the same for the subject-matter of my divisional application No. 216,309, filed July 13, 1904.

While I have herein shown and described a novel booth construction, I do not herein claim the same, but reserve the same for the subject-matter of my divisional application No. 208,513, filed May 18, 1904.

While I have shown my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of numerous modifications, and that I do not desire to be limited in the interpretation of the following claims, except as may be necessitated by the state of the art.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a voting machine, the combination of a register, and a key therefor, having a controlling member attached thereto, with another controlling member in connection with said key but movable independently thereof, and two actuating members for said register, one of which is thrown out of operation by the controlling member on the key when it is unoperated and the other of which is thrown out of operation by the second controlling member when it is operated.

2. In a voting machine, the combination of a series of registers, and a corresponding series of keys therefor; with a corresponding series of controlling members carried by said keys, a second series of controlling members moved by said keys but movable independently thereof, and connections between the controlling members of said second series to cause them to move in unison; and two actuating members for each of said registers, one of which is thrown out of operation by the combined operation of both key and the independent controlling member, while the other is permitted to operate when the key and the independent member are unoperated, and both of which are thrown out by the operation of the independent controlling member without the operation of the key.

3. In a voting machine, the combination with the actuating members, and the register actuating arms with which they cooperate, of controlling means interposed between said members and arms to prevent the actuation of the arms by the actuating members consisting of the keys carrying a controlling

surface which in one position deflects one of said actuating members, and a controlling surface moved by said key but movable independently thereof which in one position deflects the other actuating member.

4. In a voting machine, the combination with the actuating members, and the register actuating arms with which they cooperate, of controlling means interposed between said members and arms to control the actuation of the arms by the members, said means consisting of a key and a bar moved thereby but movable independently thereof, each having a controlling surface which in one position deflects one of the actuating members and which in the other position does not deflect it.

5. In a voting machine, the combination with a series of registers having register actuating arms, and actuating members cooperating with said arms; controlling means interposed between said members and arms to prevent the actuation of the arms by the members, said controlling means comprising a movable bar common to all of the registers and having a deflecting surface thereon for each register, and the keys, each provided with a deflecting surface, and connections between the bar and the keys whereby the movement of any of the keys moves the bar.

6. In a voting machine, the combination with a series of registers having register actuating arms, and the actuating members cooperating with said arms; controlling means interposed between said members and arms to prevent the actuation of the arms by the members, said controlling means comprising a movable bar common to all of the registers and having a deflecting surface thereon for each register, and the keys, each provided with a deflecting surface, and connections between the bar and the keys whereby the movement of any of the keys moves the bar comprising a cam lug on each key cooperating with a corresponding projection upon the bar.

7. In a voting machine, the combination of the frame A carrying the candidate registers, and the associated setting keys therefor, and the reciprocating operating mechanism for operating such registers as have their keys set for operation, resetting mechanism for returning the keys to their normal position; with the reciprocating cover rotatably mounted in said frame, connections between said cover and the frame for compelling the complete movement of the cover from its closed to its open position and vice versa, connections between said cover and the operating mechanism for reciprocating said mechanism, and connections between the cover and the resetting mechanism; all the parts being so arranged and connected that when the cover is moved from its closed position to its open position, that immediately

after the complete stroke mechanism comes into play, the operating frame will be reciprocated, and the resetting mechanism will then be operated, all before the cover is entirely open and the complete stroke mechanism has been disengaged.

8. In a voting machine, the combination of the horizontally reciprocating bars  $T'$ , with the keys, the movement of which reciprocate the bars, and which in turn are reset by their backward movement, and the bell cranks  $F^2$ , the projections  $D^2$  on the bars  $T'$ , the vertical bar  $H^2$  to which the bell cranks are pivotally connected, and connections for raising and lowering the bar  $H^2$ , and for locking it in either position.

9. In a voting machine, the combination of the horizontally reciprocating bars  $T'$ , with the keys, the movement of which reciprocate the bars, and which in turn are reset by their backward movement, and the bell cranks  $F^2$ , the projections  $D^2$  on the bars  $T'$ , the vertical bar  $H^2$  to which the bell cranks are pivotally connected, and connections for raising and lowering the bar  $H^2$ , and for locking it in either position, comprising a reciprocating cam slot cooperating with a projection on the bar  $H^2$ .

10. In a voting machine, the combination of the bars  $T'$  having the lugs  $Q^2$  thereon, with the reciprocating register actuating member carrying the lugs  $P^2$  cooperating with the lugs  $Q^2$  to position the bars  $T'$  before the actuation of the register occurs.

11. In a voting machine, the combination of the candidate keys movable into and out of operative position, corresponding registers controlled by said keys, with a member movable relative to the keys and causing the operation of the registers for which the keys are set, and connections between said member and the keys whereby they will be accurately positioned in their set or unset positions prior to the actuation of the registers.

12. In a voting machine, the combination of the candidate keys movable into and out of operative position, corresponding registers controlled by said keys, with a member movable relative to the keys and causing the operation of the registers for which the keys are set, and connections between said member and the keys whereby they will be locked in their set or unset positions prior to the actuation of the registers.

13. In a voting machine, the combination of the candidate keys movable into and out of operative positions, corresponding registers controlled by said keys, with a frame movable relative to the keys and causing the operation of the registers for which the keys are set, and connections between said frame and the keys whereby they will be accurately positioned in their set or unset positions prior to the actuation of the registers, com

prising the lugs  $N^3$  upon the frame adapted to cooperate with the lugs  $O^3$  upon the keys.

14. In a voting machine, the combination of the candidate keys movable into and out of operative position, corresponding registers controlled by said keys, with a frame movable relative to the keys and causing the operation of the registers for which the keys are set, and connections between said frame and the keys whereby they will be accurately locked in their set or unset positions prior to the actuation of the registers, comprising the lugs  $N^3$  upon the frame adapted to cooperate with the channels  $M^3$  and  $L^3$  upon the keys.

15. In a voting machine, the combination of the scratched ticket operating frame, with the straight ticket operating frames, each carrying a switch member tending to connect it with the scratched ticket frame, and the straight ticket keys having lugs thereon which in their inoperative position hold their switches out of the connecting position, and which in their operative position permit the switches to move into the connecting position.

16. In a voting machine, the combination of the keys having the lugs  $A^2$  thereon provided with the inclined surfaces  $B^3$  and  $C^2$ , with the bar having the lug cooperating with the surface  $B^2$ , and carrying the inclined surface  $D'$ .

17. In a voting machine, the combination with the parallel members, such as the tubes  $B'$  of the registers having the frames provided with the hooks  $Y^3$  and  $Z^3$ , the hook  $Y^3$  being adapted to take over the tube  $B'$ , and the hook  $Z^3$  over the hook  $Y^3$ , and the set screws  $A^4$ , all cooperating substantially as and in the manner set forth.

18. In a voting machine, the combination with a series of registers and a corresponding series of keys arranged in rows and each key carrying a cam projection, of a resetting bar lying adjacent said keys and carrying a corresponding number of projections cooperating with said cam-projections, said cam projections and projections being so arranged that the operation of a key moves the bar longitudinally and the opposite movement of the bar resets the keys, and means for returning said bar; substantially as described.

19. In a voting machine, the combination with a plural series of registers and a corresponding series of keys arranged in party columns and office rows and each key carrying a cam projection, of a resetting bar for each office row lying adjacent to the keys therein and carrying a corresponding number of projections cooperating with said cam projections, said cam projections and projections being so arranged that the operation of any key will move the resetting bar for that office row, and means for simultane-

ously returning any of said resetting bars that may have been moved to reset the operated keys; substantially as described.

20. In a voting machine, the combination with a plural series of keys arranged in party columns and office rows and each key carrying a cam projection, of a resetting bar for each office row lying adjacent to the keys therein and carrying a corresponding number of projections cooperating with said cam projections, said cam projections and projections being so arranged that the operation of any key will move the resetting bar for that office row, and means for simultaneously returning any of said resetting bars that may have been moved to reset the operated keys, said means consisting of a series of bell crank levers, one for each resetting bar having one end cooperating with a lug on the resetting bar and its other end connected to a common bar to which movement is imparted to move all of the bell cranks; substantially as described.

21. In a voting machine, the combination with a series of scratching keys grouped according to parties and a corresponding series of ballot indicating devices, said scratching keys being retractable to correct mistakes in operation, of selecting mechanism for voting any desired party group straight, operating mechanisms for said ballot indicating devices, and two controlling means for each of said operating mechanisms settable independently of each other, one means connected with its scratching key and the other with the straight ticket selecting mechanism.

22. In a voting machine, the combination with a series of scratching keys grouped according to parties and according to offices and a corresponding series of ballot indicating devices, of selecting mechanism for voting any desired party group straight, operating mechanisms for said ballot indicating devices, two controlling means for each of said operating mechanisms settable independently of each other, one means connected with its scratching key and the other with the straight ticket selecting mechanism, and connections between said two controlling means for preventing the operation of a ballot indicating device in any office group by the straight ticket controlling mechanism if a scratching key is operated in said group before or after the operation of the straight ticket mechanism.

23. In a voting machine, the combination with a series of scratching keys grouped according to parties and a corresponding series of ballot indicating devices, said scratching keys being retractable to correct mistakes in operation, of straight ticket keys one for each party, for voting any desired party group straight, operating mechanisms for said ballot indicating devices, and two controlling means for each of said operating

mechanisms settable independently of each other, one means connected with its scratching key and the other with the straight ticket selecting mechanism.

- 5 24. In a voting machine, the combination with a series of scratching keys grouped according to parties and according to offices and a corresponding series of ballot indicating devices, of straight ticket keys, one  
10 for each party, for voting any desired party group straight, operating mechanisms for said ballot indicating devices, two controlling means for each of said operating mechanisms settable independently of each other,  
15 one means connected with its scratching key and the other with the straight ticket keys, and connections between said two controlling means for preventing the operation of a ballot indicating device in any office group  
20 by the straight ticket keys if a scratching key is operated in said group.

- 25 25. In a voting machine, the combination of candidate registers grouped according to parties and according to offices, with selecting mechanism for said registers adapted to be operated individually or by party groups, and actuating mechanism subsequently operated to advance any register which may have been set individually and all the registers in  
30 any party group for which the selecting mechanism may have been operated except the registers of the candidates for offices in which other candidates have been selected individually either before or after the party  
35 group operation.

26. In a voting machine, the combination of candidate registers grouped according to parties and according to offices, with selecting mechanism for said registers adapted to  
40 be operated individually or by party groups, actuating mechanism subsequently operated to advance any register which may have been set individually and all the registers in any party group for which the selecting  
45 mechanism may have been operated except the registers of the candidates for offices in which other candidates have been selected individually either before or after the party group operation, and interlocking mechanism  
50 to prevent the operation of the registers for more candidates than the number to be elected.

27. In a voting machine, the combination of candidate registers grouped according to  
55 parties and according to offices, with selecting mechanism, such as keys, for said candidate registers adapted to be operated individually, and straight ticket selecting mechanism adapted to operate all the candidate registers in any desired party group independently of the individual selecting  
60 mechanism except the registers of the candidates for offices in which other candidates have been selected individually either before  
65 or after the party group operation.

28. In a voting machine, the combination of candidate registers grouped according to parties and according to offices, with selecting mechanism, such as keys, for said candidate registers adapted to be operated individually, said selecting mechanism being retractible to correct mistakes in operation  
70 straight ticket selecting mechanism adapted to operate all the candidate registers in any desired party group independently of the  
75 individual selecting mechanism, and connections between said individual and straight ticket selecting mechanism to prevent the operation by the straight ticket selecting mechanism of any candidate registers for any office in which the candidate of  
80 another party has been selected by the individual mechanism.

29. In a voting machine, the combination of candidate registers grouped according to  
85 parties and according to offices, with selecting mechanism, such as keys, for said candidate registers adapted to be operated individually, straight ticket selecting mechanism adapted to operate all the candidate registers in any desired party group independently of the individual selecting mechanism,  
90 and means for simultaneously actuating all the registers corresponding to the individual selecting mechanisms which are set and all  
95 of the registers in the party group for which the straight ticket selecting mechanism has been set except the registers of the candidates for offices in which other candidates have been selected individually.  
100

30. In a voting machine, the combination with plural series of registers grouped in rows according to offices and in transverse rows according to parties, of selecting mechanism for said registers adapted to be operated  
105 individually or by party groups, interlocking devices for each party group adapted to prevent the operation of more than a certain number of registers in each group, said interlocking devices only being operated  
110 in such groups as have selecting mechanism operated individually.

31. In a voting machine, the combination with plural series of registers grouped according to offices and according to parties,  
115 of selecting mechanism for said registers adapted to be operated individually or by party groups, interlocking devices for each party group adapted to prevent the operation of more than a certain number of  
120 registers in each group, said interlocking devices only being operated in such groups as have selecting mechanism operated individually, and mechanism for securing the operation of such registers as are selected  
125 not exceeding the required number in each office group.

32. In a voting machine, the combination with candidate registers grouped according to parties and offices, of interlocking devices  
130

for preventing the operation of more than a certain number of registers in each party group, candidate keys controlling the operation of each register, the movement of any of which operate the interlocking devices in their respective groups, and straight ticket keys controlling the operation of all the registers in any party group except those in office groups in which a candidate key has been selected individually either before or after the operation of the party group key.

33. In a voting machine, the combination with candidate registers grouped in rows and transverse rows according to parties and offices, of selecting mechanism for controlling the operation of said registers capable of being operated individually or by party groups, and a member in each office group operated by the individual movement of any selecting mechanism in said group, the operation of which prevents the operation of any of the registers in said group by the party group operation.

34. In a voting machine, the combination of plural series of registers grouped according to parties and according to offices, corresponding series of keys, with double series of actuating members for each party group of registers, and means for moving one of said double series of actuating members for one party group and the other ones of said series of actuating members for all the party groups at one operation of the machine.

35. In a voting machine, the combination of plural series of registers grouped according to parties and according to offices, corresponding series of candidate keys, and a set of straight ticket keys; with double series of actuating members for each party group of registers, and means for moving one of said double series of actuating members for the party for which a straight ticket key has been operated, and the other ones of said series of actuating members for all the party groups at one operation of the machine.

36. In a voting machine, the combination of plural series of candidate registers grouped according to parties and according to offices, corresponding series of candidate keys, and a series of straight ticket keys; with a double series of actuating members for each party group of registers controlled by the position of the keys, and means for moving one of said series of actuating members for the one party group in which a straight ticket key has been operated, and the other ones of said series of actuating members for all the party groups at one operation of the machine to operate such registers as are permitted to be operated by the position of their candidate keys.

37. The combination of plural series of registers grouped according to parties and according to offices, corresponding series of candidate keys whose positions control the operation of the registers, interlocking mechanism between the keys of each office group to prevent the effective operation of more than the desired number of keys, and a group of straight ticket keys; with a double series of actuating members for each party group of registers; and means for moving one of said double series of actuating members in the group for which the straight ticket key has been operated and the other ones of said double series of actuating members in all the party groups at one operation of the machine.

38. In a voting machine, the combination of plural series of candidate registers grouped according to parties and according to offices, corresponding series of candidate keys whose positions control the operation of the registers, a group of straight ticket keys, and interlocking mechanism between the keys of each office group and the straight ticket group to prevent the effective operation of more than the desired number of keys; with a double series of actuating members for each party group of registers; and a frame carrying all of one series of actuating members for all of said party groups, and means controlled by the operation of the straight ticket keys for connecting all of the actuating members of the other series for one party group with said frame so as to be moved therewith.

39. In a voting machine, the combination of plural series of candidate registers grouped according to parties and according to offices, corresponding series of keys, with double series of actuating members for each party group of registers, means for moving one of said double series of actuating members for one party group, and the other ones of said series of actuating members for all the party groups at one operation of the machine, and re-setting mechanism for said keys operating after the movement of the actuating members.

40. In a voting machine, the combination of plural series of registers grouped according to parties and according to offices, corresponding series of candidate keys whose positions control the operation of the registers, a group of straight ticket keys, and interlocking mechanism between the keys of each office group and the straight ticket group to prevent the effective operation of more than the desired number of keys in any one group; with a double series of actuating members for each party group of registers, means for moving one of said double series of actuating members in the group for which the straight ticket key has been operated and the other ones of said double series of actuating mem-

bers in all the party groups at one operation of the machine; and connections between the keys of the same office group whereby the movement of a key outside of the group for which the straight ticket key has been operated prevents the operation of the corresponding register in the straight ticket group unless it has also been operated.

41. In a voting machine, the combination of a series of candidate registers in the same office group, and a corresponding series of keys, with a double series of actuating members, two for each register, and means for moving both of said actuating members for one register and one of them for each of the other registers to cause the actuation thereof; and a corresponding series of controlling members regulating the operation of the registers by the actuating members and moved by the operation of their corresponding keys, and connections between said controlling members so that the movement of one key in the group moves all of them.

42. In a voting machine, the combination of a series of candidate registers in the same office group, a corresponding series of candidate keys, interlocking mechanism between said keys to prevent the operation of more than the desired number during the casting of a single ballot; with a double series of actuating members, two for each register, and means for moving both of said actuating members for one register, and one of them for each of the other registers; and a corresponding series of controlling members regulating the operation of the registers by the actuating members and moved by the operation of the associated key, and connections between said controlling members so that the movement of one in the group moves all of them.

43. In a voting machine, the combination of a register, and a key therefor, with a controlling member in connection with said key but movable independently thereof, and two actuating members for said register, one of which is out of operation when the key is unoperated and the other of which is out of operation when the controlling member is operated.

44. In a voting machine, the combination of a register, and a key therefor, with a controlling member in connection with said key but movable independently thereof, and two actuating members for said register, one of which is out of operation when the key is operated, while the other is free from the action of said key.

45. In a voting machine, the combination of the register, and a key therefor, with a controlling member in connection with said key but movable independently thereof, and two actuating members for said register, one of which is out of operation by the combined action of the key and controlling member,

while the other is permitted to operate when both the key and controlling member are unoperated, and both of which are out of operation by the operation of the controlling member without the operation of the key.

46. In a voting machine, the combination of a series of registers, and a corresponding series of keys therefor; with a corresponding series of controlling members in connection with said keys, moved thereby but movable independently thereof, and connections between said controlling members to cause them to move in unison; and two actuating members for each of said registers, one of which is out of operation by the combined operation of both key and controlling member, while the other is permitted to operate when both key and controlling member are unoperated, and both of which are out by the operation of the controlling member without the operation of the key.

47. In a voting machine, the combination with plural series of registers, keys, and controlling members grouped according to parties and according to offices, of a double series of actuating members for said registers, two members for each register; and a common frame carrying one-half of the members of said double series, being one member for each register, and another frame for each party group carrying all the remaining members for said party group.

48. In a voting machine, the combination with plural series of registers, keys, and controlling members grouped according to parties and according to offices, of a double series of actuating members for said registers, two members for each register; and a common frame carrying one-half of the members of said double series, being one member for each register, with another frame for each party group carrying all the remaining actuating members for said party group, and means for connecting one of said party group frames to the common frame.

49. In a voting machine, the combination with plural series of candidate registers, keys, and controlling members grouped according to parties and according to offices, and a series of straight ticket keys; of a double series of actuating members for said registers, two members for each register; and a common frame carrying one-half of the members of said double series, being one member for each register, and another frame for each party group carrying all the remaining actuating members for said party group, and means controlled by said straight ticket keys for connecting any desired one of said party group frames to the common frame.

50. In a voting machine, the combination with plural series of registers, keys, and controlling members grouped according to parties and according to offices; of a double

series of actuating members, two members for each register; and a common frame  $G^2$  carrying one-half of the members of said double series, being one member for each register, and another frame as  $Q^2$  for each party group carrying all the remaining actuating members for said party group.

51. In a voting machine, the combination with plural series of registers, keys, and controlling members grouped according to parties and according to offices; of a double series of actuating members for said registers, two members for each register; and a common frame  $G^2$  carrying one-half of the members of said double series, being one member for each register, another frame for each party group carrying all the remaining members for said party group, and means for connecting any one of said party group frames to the common frame, said means consisting of the pivoted switch  $X^2$  on the party group frames coöperating with the projection  $Z^2$  upon the common frame.

52. In a voting machine, the combination with plural series of candidate registers, keys and controlling mechanisms grouped according to parties and according to offices, and a series of straight ticket keys; of a double series of actuating members for said registers, two members for each register, a common frame carrying one-half of the members of said double series, being one member for each register, and another frame for each party group carrying all the remaining actuating members for said party group; and means controlled by the operation of the straight ticket keys for connecting any desired one of said party group frames to the common frame, said means comprising the lug  $A^2$  upon the straight ticket key coöperating with the pivoted switch  $X^2$  upon the party group frame to move it into engagement with the lug  $Z^2$  upon the common frame.

53. In a voting machine, the combination of the common frame, and means for moving it to and from an abnormal position, with the party group frames, and springs for returning the party group frames to normal position.

54. In a voting machine, the combination of the common frame, and means for moving it to and from an abnormal position, with the party group frames, and means for connecting the party group frames to the common frame, and springs for returning the party group frame to normal position.

55. In a voting machine, the combination of the common frame, and means for moving it to and from an abnormal position, with the party group frames, and means for connecting any desired one of the party group frames to the common frame so as to be carried to abnormal position thereby,

and springs for returning the party group frames to normal position, and means for regulating the tension of said springs.

56. In a voting machine, the combination of the common frame, and means for moving it to and from an abnormal position, with the party group frames, and means for connecting any desired one of them to the common frame to be moved thereby to abnormal position, supports for the party frames, and springs acting on said supports to return the party frames to normal position, and stops to regulate the position of said supports.

57. In a voting machine, the combination of the common frame  $G^2$ , and means for moving it to and from an abnormal position, with the party group frames  $Q^2$ , and means for connecting the party group frames to the common frames, the supports  $T^2$  for said party group frames, the springs  $V^2$  for yieldingly holding said supports in their normal position, and the stops  $X^2$  and  $W^2$  for regulating the tension of the springs and the location of the supports respectively.

58. In a voting machine, the combination with plural series of registers, keys, and controlling members grouped according to parties and according to offices; of a double series of actuating members for said registers, two members for each register; and a common frame carrying one-half of said double series, being one member for each register, means for moving it to and from an abnormal position, with the party group frames each carrying all the remaining actuating members for said party groups, and springs for returning the party group frames to normal position.

59. In a voting machine, the combination with the registers, of the vertically reciprocating frame carrying the actuating members for said registers, the lever pivotally attached at one end to said frame, and a movable member carrying a cam slot coöperating with said lever to raise and lower the frame, substantially as described.

60. In a voting machine, the combination with the registers, of the vertically reciprocating frame carrying the actuating members, a lever pivotally attached to said frame, and a door carrying a cam slot coöperating with said lever to raise and lower the frame as the door is moved.

61. In a voting machine, the combination with the registers, of the reciprocating frame carrying the actuating members for said registers, a lever pivotally attached to said frame, and a reciprocating door having a cam slot coöperating with said lever to raise and lower the frame.

62. In a voting machine, the combination with the registers, and the keys for controlling the operation of the same, of the re-

reciprocating frame carrying the actuating members for said registers, a lever pivotally attached to said frame, re-setting mechanism to return the keys to their normal position, and a reciprocating door carrying a cam slot cooperating with said lever to reciprocate the frame and also having connections with the re-setting mechanism to operate it.

63. In a voting machine, the combination with the actuating members, and the register actuating arms with which they cooperate, of controlling means interposed between said members and arms to prevent the actuation of the arms by the actuating members.

64. In a voting machine, the combination with a plurality of registers, of selective mechanism for determining which of said registers shall be operated, a frame separate from the supports for the registers and selective mechanism and movable relative to said registers and carrying a plurality of actuating members corresponding to the registers, and means operated subsequently to and not by the operation of the selective mechanism for moving said frame to actuate the registers selected.

65. In a voting machine, the combination with a plurality of registers arranged in party columns and office rows, of selective mechanism for determining which of said registers shall be operated, a frame separate from the supports for the registers and selective mechanism and movable relative to said registers having vertical columns corresponding to the office columns, each column containing actuating members corresponding to the office rows, and means for moving said frame to actuate the registers selected.

66. In a voting machine, the combination with a plurality of registers, of selective mechanism for determining which of said registers shall be operated mounted upon a support always stationary relative to the registers, a frame movable vertically relative to said registers and carrying a plurality of actuating members corresponding to the registers, and means for raising and lowering said frame to actuate the registers selected.

67. In a voting machine, the combination with the registers arranged in party columns and office rows, of selecting mechanism the position of which governs the registers to be actuated, a movable frame, and actuating members for each of said registers carried by said frame and engaging the registers corresponding to the adjustment of the selecting mechanism to operate them as the frame is moved.

68. In a voting machine, the combination with the registers arranged in party columns

and office rows, of selecting mechanism the position of which governs the registers to be actuated, a vertically movable frame, and actuating members for each of said registers carried by said frame and engaging the registers corresponding to the adjustment of the selecting mechanism to operate them as the frame is moved downward.

69. In a voting machine, the combination with the registers arranged in party columns and office rows, of selecting mechanism the position of which governs the registers to be actuated, a movable frame, and actuating members for each of said registers carried by said frame and adapted to engage the selecting mechanism for the non-selected registers and to be deflected thereby, and to engage the registers selected to operate them as the frame is moved.

70. In a voting machine, the combination with a register, of a key therefor whose final position prior to resetting determines the operation of the register, a member movable relatively to the key whose movement accurately positions it in its operated or unoperated position, and means for resetting the key.

71. In a voting machine, the combination with a plurality of registers, of a corresponding plurality of keys therefor whose final positions prior to resetting determine the operation of the respective registers, a member movable relatively to the keys whose movement accurately positions them in their operated or unoperated position, and means for resetting the keys.

72. In a voting machine, the combination with a register, of a key therefor whose final position prior to resetting determines the operation of the register, two contacting surfaces on said key, a member movable relatively to the key whose movement by contact with one or the other of said surfaces accurately positions it in its operated or unoperated position, and means for resetting the key.

73. In a voting machine, the combination with a plurality of registers, of a corresponding plurality of keys therefor whose final positions prior to resetting determines the operation of the registers, two contacting surfaces on each of said keys, a member movable relatively to the keys whose movement accurately positions them in their operated or unoperated positions, and means for resetting the keys.

74. In a voting machine, the combination with a series of scratching keys grouped according to parties and a corresponding series of ballot indicating devices, of selecting mechanism for voting any desired party group straight, said selecting mechanism being changeable after operation to correct mistakes, operating mechanisms for said

ballot indicating devices, and two controlling means for each of said operating mechanisms settable independently of each other, one means connected with its scratching key and the other with the straight ticket selecting mechanism.

75. In a voting machine, the combination with a series of scratching keys grouped according to parties and a corresponding series of ballot indicating devices, of selecting mechanism for voting any desired party group straight, simultaneously acting operating mechanisms for said ballot indicating devices, and two controlling means for each of said operating mechanisms settable independently of each other, one means connected with its scratching key and the other with the straight ticket selecting mechanism.

76. In a voting machine, the combination with a series of scratching keys grouped according to parties and a corresponding series of ballot indicating devices, of selecting mechanism for voting any desired party group straight, operating mechanisms for said ballot indicating devices acting subsequently to the setting of the keys and selecting mechanism, and two controlling means for each of said operating mechanisms settable independently of each other, one means connected with its scratching key and the other with the straight ticket selecting mechanism.

77. In a voting machine, the combination of candidate registers grouped according to parties and according to offices, with selecting mechanisms, such as keys, for said candidate registers adapted to be operated individually, straight ticket selecting mechanism adapted to operate all the candidate registers in any desired party group independently of the individual selecting mechanism, said selecting mechanism being changeable after operation to correct mistakes, and connections between said individual and straight ticket selecting mechanism to prevent the operation by the straight ticket selecting mechanism of any candidate register for any office in which the candidate of another party has been selected by the individual mechanism.

78. In a voting machine, the combination of candidate registers grouped according to parties and according to offices, with selecting mechanisms, such as keys, for said candidate registers adapted to be operated individually, straight ticket selecting mechanism adapted to operate all the candidate registers in any desired party group independently of the individual selecting mechanism, connections between said individual and straight ticket selecting mechanism to prevent the operation by the straight ticket selecting mechanism of any candidate register for any office in which the candidate of another party has been selected by the individual mechanism, and means for simultaneously actuating all the registers selected.

other party has been selected by the individual mechanism, and means for simultaneously actuating all the registers selected.

79. In a voting machine, the combination of candidate registers grouped according to parties and according to offices, with selecting mechanisms, such as keys, for said candidate registers adapted to be operated individually, straight ticket selecting mechanism adapted to operate all the candidate registers in any desired party group independently of the individual selecting mechanism, connections between said individual and straight ticket selecting mechanism to prevent the operation by the straight ticket selecting mechanism of any candidate register for any office in which the candidate of another party has been selected by the individual mechanism, and means for subsequently actuating all of the registers selected.

80. In a voting machine, the combination with plural series of registers grouped according to offices and according to parties, of selecting mechanism for said registers adapted to be operated individually or by party groups, said selecting mechanism being changeable after operation to correct mistakes, and interlocking devices for each party group adapted to prevent the operation of more than a certain number of registers in each group, said interlocking devices only being operated in such groups as have a selecting mechanism operated individually.

81. In a voting machine, the combination with plural series of registers grouped according to offices and according to parties, of selecting mechanism for said registers adapted to be operated individually or by party groups, interlocking devices for each party group adapted to prevent the operation of more than a certain number of registers in each group, said interlocking devices only being operated in such groups as have a selecting mechanism operated individually, and means for simultaneously actuating all the registers selected.

82. In a voting machine, the combination with plural series of registers grouped according to offices and according to parties, of selecting mechanism for said registers adapted to be operated individually or by party groups, interlocking devices for each party group adapted to prevent the operation of more than a certain number of registers in each group, said interlocking devices only being operated in such groups as have a selecting mechanism operated individually, and means for subsequently actuating all of the registers selected.

83. In a voting machine, the combination with candidate registers grouped according to parties and offices, of selecting mechanism for controlling the operation of said registers.

ters capable of being operated individually or by party groups, said selecting mechanism being changeable after operation to correct mistakes, and a member in each office group operated by the individual movement of any selecting mechanism in said group the operation of which prevents the operation of any of the registers in said group by a party group operation.

84. In a voting machine, the combination with candidate registers grouped according to parties and offices, of selecting mechanism for controlling the operation of said registers capable of being operated individually or by party groups, a member in each office group operated by the individual movement of any selecting mechanism in said group the operation of which prevents the operation of any of the registers in said group by a party group operation, and means for simultaneously actuating all the registers selected.

85. In a voting machine, the combination with candidate registers grouped according to parties and offices, of selecting mechanism for controlling the operation of said registers capable of being operated individually or by party groups, a member in each office group operated by the individual movement of any selecting mechanism in said group the operation of which prevents the operation of any of the registers in said group by a party group operation, and means for subsequently actuating all the registers selected.

86. In a voting machine, the combination of plural series of candidate registers grouped according to parties and according to offices and corresponding series of keys retractable to correct mistakes, with double series of actuating members for each party group of registers, means for moving one of said double series of actuating members for one party group, and the other ones of said series of actuating members for all the party groups, and resetting mechanism for said keys operating after the movement of the actuating members.

87. In a voting machine, the combination with the candidate registers, of the candidate keys cooperating therewith, the straight-ticket bar carrying register-operating members corresponding to the candidate registers of a certain party, and a movable frame adapted to move the bar to actuate the registers of the corresponding party.

88. In a voting machine, the combination with the straight-ticket party keys, of the candidate-scratching keys, the corresponding candidate registers, the straight-ticket bars carrying register-operating members corresponding to the candidate registers of their respective parties, and a movable frame adapted to move the bar correspond-

ing to the operated straight-ticket key to actuate the registers of the candidates of the selected party.

89. In a voting machine, the combination with the candidate registers, of the candidate keys, a straight-ticket key, a straight-ticket bar carrying register-operating members corresponding to the candidate registers of a certain party, and a movable frame adapted to move the bar to actuate the registers of the candidates of that party when the straight-ticket key has been operated.

90. In a voting machine, the combination with the candidate registers, of the candidate-scratching keys, straight-ticket selecting mechanism, straight-ticket bars carrying register-operating members corresponding to the candidate registers of their respective parties, and a movable frame adapted to move the bar corresponding to the movement of the straight-ticket selecting mechanism to actuate the registers of the candidate of the selected party.

91. In a voting machine, the combination with a register, of an operation controlling member therefor movable into and out of operative position, a mechanism adapted to position the member exactly in one or the other position to correct careless operation thereof, and means for finally determining the operation or non-operation of the register according to the position of the member operating after the positioning mechanism.

92. In a voting machine, the combination with a register, of an operation controlling member therefor movable into and out of operative position, a mechanism adapted to position the member exactly in one or the other position to correct careless operation thereof, means for finally determining the operation or non-operation of the register according to the position of the member operating after the positioning mechanism, and re-setting mechanism for the member operating after the determining means.

93. In a voting machine, the combination with a plurality of registers, of a corresponding plurality of operation controlling members therefor movable into and out of operative position, interlocking mechanism to limit the number of members that may be simultaneously moved to operating position, a mechanism adapted to position all of the members exactly in one or the other position to correct careless operation thereof, and means for finally determining the operation or non-operation of the registers according to the position of the members operating after the positioning mechanism.

94. In a voting machine, the combination with a plurality of registers, of a corresponding plurality of operation controlling members therefor movable into and out of

operative position, interlocking mechanism to limit the number of members that may be simultaneously moved to operating position, a mechanism adapted to position all of the members exactly in one or the other position to correct careless operation thereof, means for finally determining the operation or non-operation of the registers according to the position of the members operating after the positioning mechanism, and re- 10 setting mechanism for the members operating after the determining means.

JOHN HOWARD McELROY.

Witnesses:

LOUISE E. SERAGE,

HATTIE O. HALVORSON.