

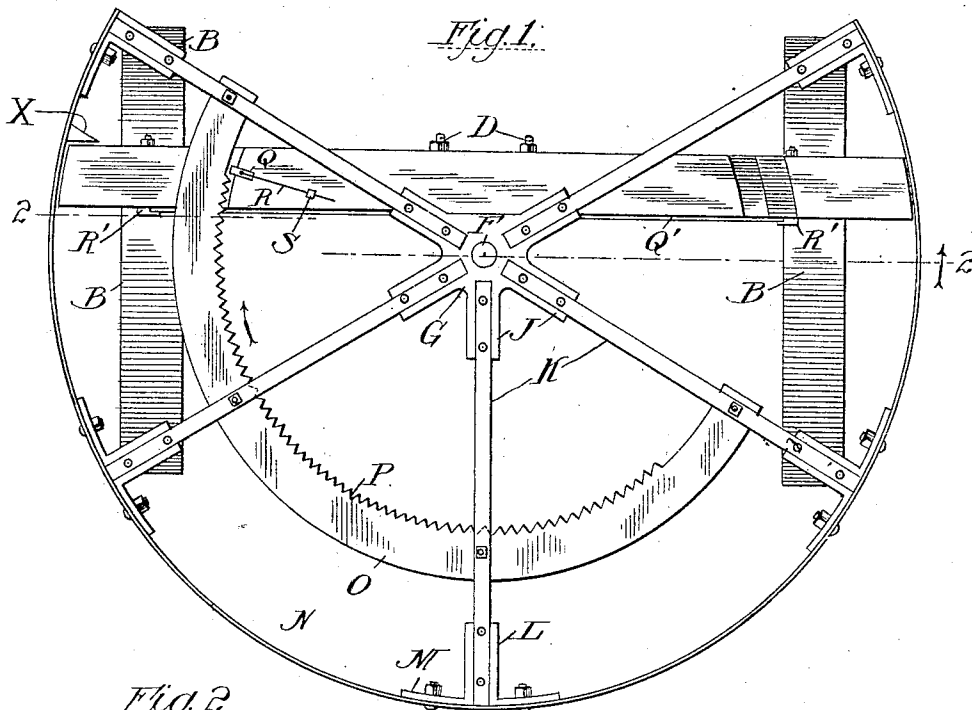
No. 879,114.

PATENTED FEB. 11, 1908.

J. H. McELROY.
VOTING MACHINE.

APPLICATION FILED MAY 18, 1904. RENEWED JULY 8, 1907.

3 SHEETS—SHEET 1.



Witnesses
Edw. L. Alter
W. H. Dwyer

Inventor:
John Howard McElroy

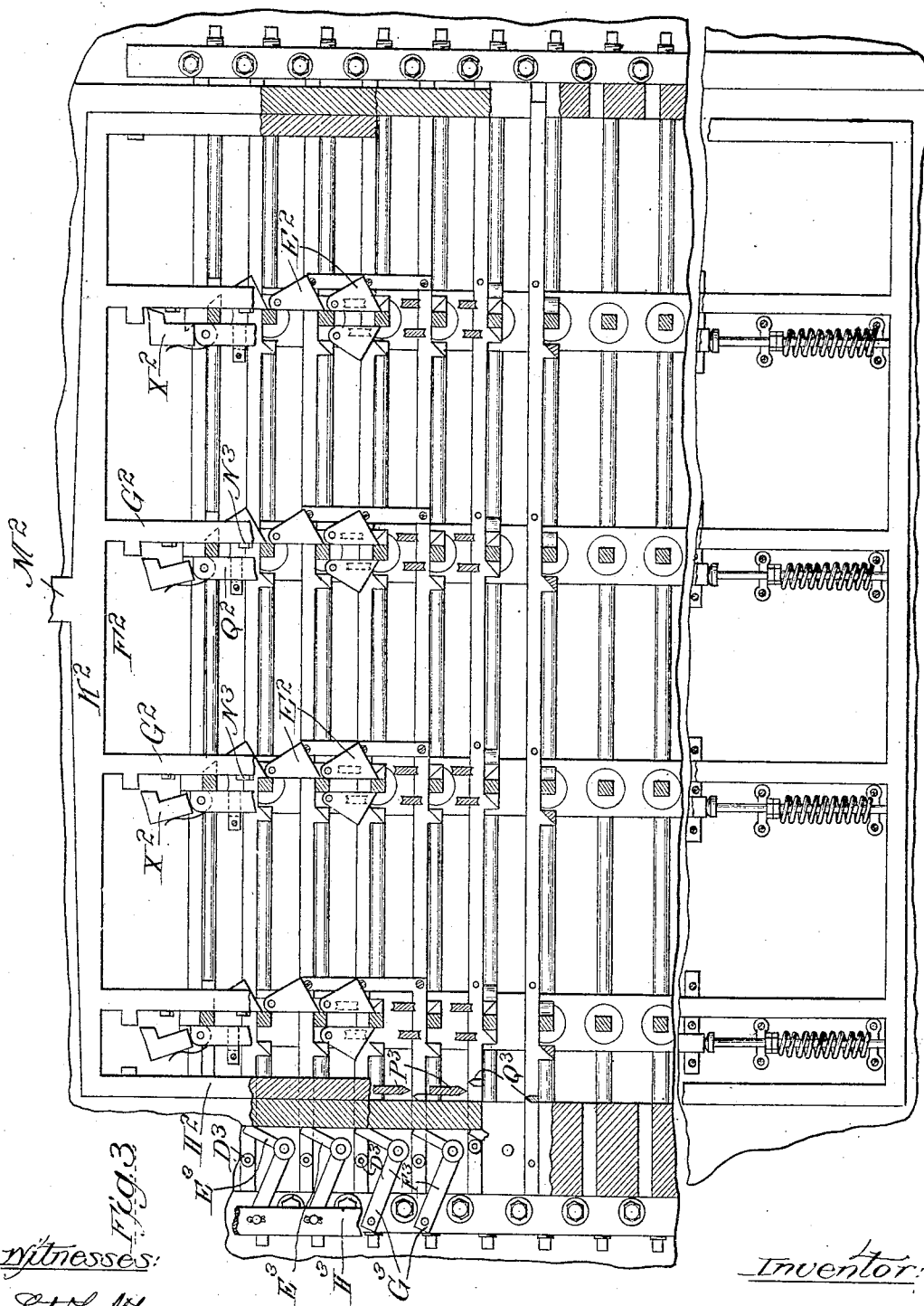
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3 SHEETS—SHEET 2.



Witnesses:

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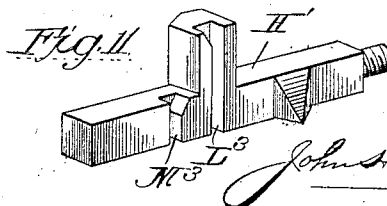
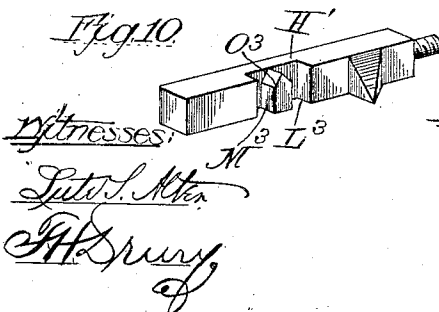
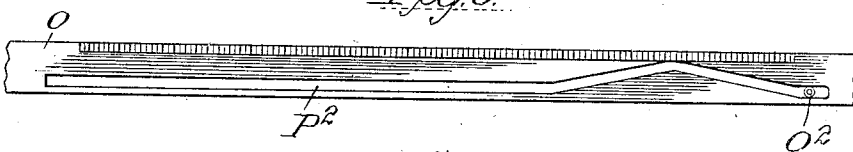
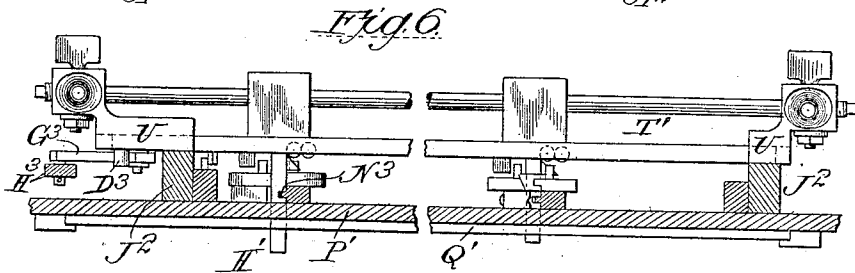
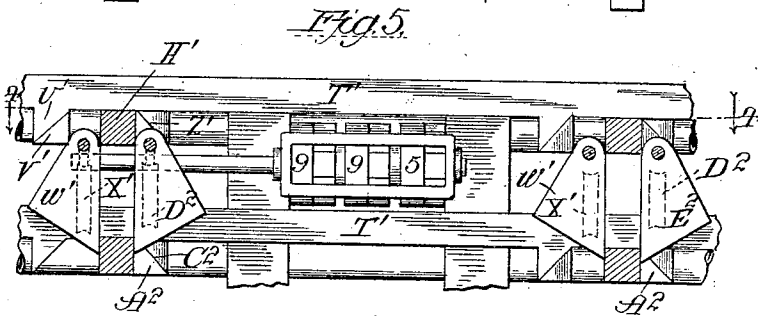
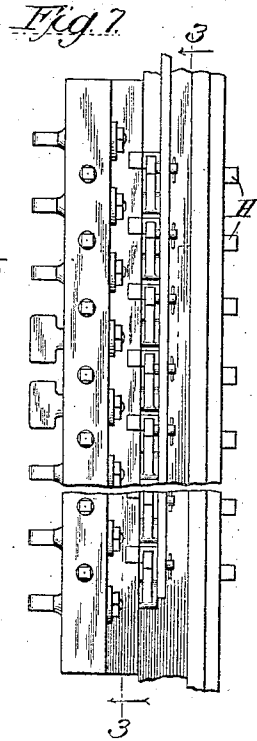
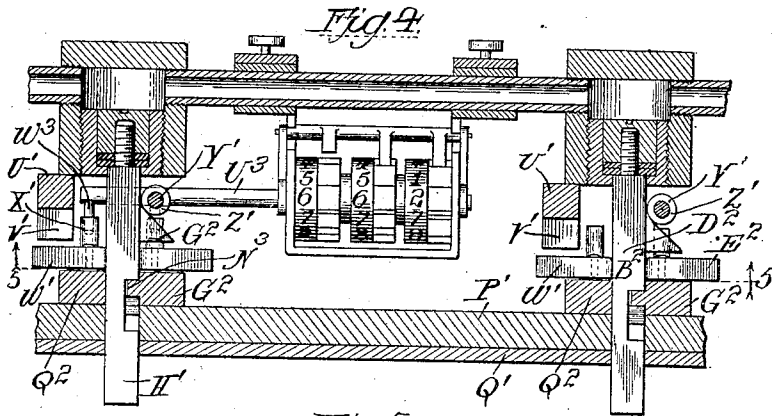
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3 SHEETS—SHEET 3.



Inventor:

John Howard McElroy

UNITED STATES PATENT OFFICE.

JOHN HOWARD McELROY, OF CHICAGO, ILLINOIS.

VOTING-MACHINE.

No. 879,114.

Specification of Letters Patent.

Patented Feb. 11, 1908.

Original application filed September 2, 1899, Serial No. 729,274. Divided and this application filed May 18, 1904, Serial No. 208,513.
Renewed July 8, 1907. Serial No. 382,720.

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 present application, which is a division of my application No. 729,274, filed September 2, 1899, is concerned with the novel booth mechanism and the locking and controlling mechanism for the machine proper operated thereby, as will be fully set out in the specification, and particularly pointed out in the claims.

To illustrate my invention, I annex hereto three sheets of drawings, in which the same reference characters are used to designate identical parts in all the figures, of which,—

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 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 machine proper, on the line 3—3 of Fig. 7; Fig. 4 is a central sectional view through some of the operating keys, on a larger scale, on the line 4—4 of Fig. 5, showing details of construction; Fig. 5 is a view of the same mechanism, in section on the line 5—5 of Fig. 4; Fig. 6 is a top plan view of the interlocking and key-controlling mechanism; Fig. 7 is an end view of the same mechanism; Fig. 8 is an extended view of the cam groove which serves to lower and raise the operating frame; Fig. 9 is a similar view of the cam groove which serves to operate the re-setting mechanism; and Figs. 10 and 11 are perspective views of one of the candidate or scratching keys and one of the straight-ticket keys, respectively.

Referring especially to Figs. 1 and 2, the general casing of the machine, which I designate by the letter A placed upon the front or face plate, is of a rectangular shape, and is supported by the legs B, of which the pair in front extends forward farther than the rear pair, in order to bring the center of gravity of the entire structure over the center of support. Fastened to the top part of the casing 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 bracket C is provided with a vertical cylindrical bearing aperture E, in which is placed the cylindrical stud or pintle F, which is rigidly secured to or formed integral with the center of the spider G, which supports what I may call the rotating framework of the booth. To form a simple and efficient 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 legs J, which are slotted on their upper surfaces 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 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 key-board from the public when the booth is occupied. 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.

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 a semicircle. 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 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 indicated 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 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 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 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 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 cover, and the reverse action of the dog Q and the teeth T 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 T, the plate or bar O 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.

Any desired form of interlocking mechanism may be employed, but I have, for convenience, partially illustrated the fluid interlocking mechanism employed in my aforesaid original application, to which reference is made for a full disclosure of said mechanism. Any desired system of operation may be employed, such as the keys directly actuating the registers, as in my application No. 8,568, filed March 12, 1900, or the key set and deferred operation shown in my application No. 655,060, filed October 13, 1897; the specific form illustrated being that of my aforesaid application No. 729,274, to which reference is again made for details not concerned with the present application.

In the specific form of interlocking mechanism shown, a body of incompressible fluid confined in a suitable reservoir is operated on by each key as it is moved to operative position, the keys when in operative position serving to reduce the capacity of the reservoir, so that when keys for all the offices for which the voter is entitled to vote have been moved to operative position, no more of them can be moved, thus limiting the number of registers that can be actuated and the possibility of fraud in the customary manner. By dividing this reservoir into a system of channels devoted to the candidates for the different offices, and by connecting the office channels with transverse channels provided with stop cocks between the office channels, I am enabled to group as many registers together as may be necessary for forming multi-office groups of candidates.

Each of the keys H', which are shown as of a generally square shape in cross section, have their inner ends arranged in any suitable manner so as to pass into the reservoir and diminish the space therein. The ends of the keys H' project out through the front plate P', which, as shown in Fig. 2, is con-

veniently 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 P¹² in front of each register, as indicated by the dotted lines in Fig. 2, so that the reading of the registers can be effected 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 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. Resting on the upper side of each row of keys, and also supported in grooves in the columns 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. It may be here stated that at each operation of the machine, the rectangular gridiron-shaped frame F² is raised and lowered, and each of its vertical bars G² carries a series of hangers E², one for each candidate register, and which have projecting rearwardly therefrom the lugs D² which are intended to engage with the registering lug W³ on the register-actuating rock-shaft U³, if the register is to be actuated as a scratched vote. On the other side of each vertical column of keys H' is a suitably-supported vertically-movable straight-ticket bar Q², which is normally held upward yieldingly by the spring-pressed bar T³, suitably supported, as shown in Fig. 3. The rear of each of the straight-ticket bars Q² is provided with the straight-ticket hangers W', which carry the rearwardly-projecting straight-ticket lugs X', which are adapted to cooperate with and actuate the registers through their rock-shaft U³ and the outermost lug W³. A latching member X², normally held out of engagement with the lugs Z² on the main frame F², is arranged so as to be held inward in operative position, as indicated by full lines at the right-hand end of Fig. 3, when a straight ticket is to be cast, by the operation of one of the straight-ticket keys H', which constitute the uppermost row.

Projecting from the under side of the bar T', are the pintles Y', upon which are journaled the anti-friction rollers Z', which are contacted by the lugs A² upon the right-hand side of the keys H', which lugs A² have a double function. They have the inclined rear side B² in a vertical plane, which cooperates with the anti-friction rollers Z' to cam it and the bar T' to the right whenever any key is operated, thus bringing all the de-

5 flectors V' into position to deflect any straight-
 ticket hanger W' that may be depressed in
 that office row. When the bar T' is re-set,
 the anti-friction roller Z' , coöperating with
 10 the surface B^2 of the lug A' , serves to force
 the key H' out and to re-set it. The lug
 A^2 has its upper surface C^2 inclined down-
 ward, as is shown in Figs. 3, 4, 5 and 10, to
 form a deflecting surface for the lug D^2 on
 15 the scratched-ticket hanger E^2 whenever the
 key is unoperated; but, as will be seen from
 Fig. 4, if the key has been operated, the lug
 A^2 is moved out of the path of the lug B^2 , so
 that when the hanger E^2 descends, the lug
 20 B^2 will not be deflected thereby. The top
 cross bar K^2 of the frame F^2 has an up-
 wardly-extending arm M^2 located in the ver-
 tical line passing through the center of grav-
 ity of the frame and extending upward to the
 25 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-
 30 friction roller O^2 which takes into the cam
 slot P^2 formed in the bar or plate O previ-
 ously described. An extended view of the
 cam slot P^2 is shown in Fig. 8, and it will be
 seen that as soon as the cover is started to be
 35 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 im-
 40 mediately raised, after which the re-setting
 mechanism comes into play, as will be sub-
 sequently described.

The re-setting mechanism is best illus-
 45 trated in Figs. 3, 6 and 7, and it consists of
 mechanism for moving the operating bars P'
 to the left, back to their normal position. To
 the left hand of the left-hand connecting-
 piece J^2 , each bar T' is provided with an anti-
 friction roller D^3 which projects into the
 50 plane of the substantially vertical arm E^3 of
 a bell crank lever F^3 , the other arm of which,
 G^3 , is pivotally connected to the vertically-
 reciprocating bar H^3 , which has at its upper
 end the anti-friction roller J^3 (see Fig. 2)
 55 which takes into the cam groove K^3 of the
 curved plate O . This cam groove K^3 , as
 will be seen from the extending view thereof
 in Fig. 9, is on two levels, it holding the anti-
 friction roller J^3 and the bar H^3 on the upper
 60 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' can be
 moved to the right as the keys are operated.
 The cam groove descends from the upper
 65 level to the lower level just after the operat-
 ing frame has been lowered and raised by
 the cam groove P^2 , and as the inclined por-
 tion connecting the two different levels passes
 the roller J^3 , the bar H^3 will be forced down
 to its lower position, and as it moves down,

the arms E^3 contacting with the anti-friction
 rollers D^3 will serve to re-set all of the keys
 that have been operated. As will be readily
 seen, when the booth is open, the bar H^3 is
 70 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' to the right,
 which is necessary before the keys can be
 pushed in. By this construction, I absolutely
 75 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 manipu-
 80 late 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 bar G^2 , I form two
 85 notches L^3 and M^3 , with which coöperate the
 slightly elongated lugs N^3 suitably located
 on the inner side of the bars G^2 above each
 key. These lugs N^3 have their lower ends
 beveled off on each side to form a point, so
 90 that they readily enter either the notch L^3 or
 M^3 , depending upon whether the key is unop-
 erated 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
 95 the half-way position, I bevel off both sides
 of the upper end of the lug O^3 , which is left
 between the grooves L^3 and M^3 in the ordi-
 nary candidate keys. By this construction,
 it will be readily seen that as soon as the bar
 100 starts down, and before the register is op-
 erated, 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'
 105 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
 110 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.

115 While I have herein shown and described
 some features not claimed in the present ap-
 plication, it will be understood that I do
 not thereby disclaim them, but specifically
 reserve the subject matter thereof for the
 120 original application, No. 729,274, or any
 further divisions thereof.

While I have herein shown and described
 the subject matter of the present applica-
 125 tion as embodied in the form which at the
 time of its invention I considered best adapt-
 ed to carry out its purposes, it will be under-
 stood that it is capable of modification, and
 that I do not desire to be limited in the in-
 130 terpretation of the following claims, except

as may be necessitated by the state of the prior art.

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

5 1. In a voting machine, a face plate, a movable curtain support, and a curtain movable with the support, the closed curtain and face plate together constituting the booth to inclose the voter.

10 2. In a voting machine, a face plate, a curtain support having a curtain thereon and adapted to be moved in the arc of a circle to cover or uncover the face plate, the closed curtain and the face plate together
15 constituting the booth to inclose the voter.

3. In a voting machine, a face plate, and a movable curtain support and a curtain adapted to be opened and closed by a voter, the closed curtain and the face plate to-
20 gether constituting the booth to inclose the voter, which curtain support when restored to normal position causes a movement of selected indicators and their registers.

4. In a voting machine, a curtain, part of
25 which is normally in the rear of the machine, a curtain support and means for moving the support and curtain simultaneously to cover the face of the machine.

5. In a voting machine, a face plate and a
30 curtain support carrying a curtain in a fixed position on the support at all times and adapted to be moved to constitute a booth bounded by the curtain and the face plate and inclosing the voter on all sides.

35 6. In a voting machine, a curtain support and a curtain movable horizontally in the arc of a circle, the axis of the support being attached to the machine at its top.

7. In a voting machine, a curtain support
40 movable in a plane above and over the top of the machine.

8. In a voting machine, re-setting mechanism and a movable curtain support connected to the re-setting mechanism on the
45 top of machine, said support being movable in a plane above and over the voting mechanism.

9. In a voting machine, indicators, a curtain support attached to the top of the machine and movable in a plane above and over
50 the voting mechanism and intermediate devices, whereby the support when in normal position locks all the indicators against movement, and when in the reverse position
55 permits the movement of indicators.

10. In a voting machine, a curtain, a support therefor, said support having radiating arms extending from an axis situated immediately over the voting mechanism.

60 11. In a voting machine, the combination of the vertical frame A containing the registering mechanism, with the segmental cylindrical cover pivotally mounted in relation thereto and movable without collapsing, and

arranged to inclose one side of said frame 65 when it is in one position, and to leave it exposed when it is in the other position.

12. In a voting machine, the combination of the vertical frame A containing the registering mechanism, and having the bracket 70 C thereon, with the segmental cylindrical cover carrying a pintle mounted to rotate in said bracket, and having the open work at the top and the side portions thereof closed.

13. In a voting machine, the combination 75 of the stationary frame A, with the segmental cylindrical cover rotatably mounted in connection therewith, the stop T carried by said cover and adapted to contact with the stationary frame at the limit of its movement in 80 either direction.

14. In a voting machine, the combination of the frame A, with the rotating cover pivotally mounted in relation thereto and movable without collapsing, and adapted to 85 cover the front of the frame when it is in one position and to leave it exposed in the other position, and a circular segmental plate carried by said frame and provided with complete stroke mechanism to compel a full 90 movement thereof in either direction.

15. In a voting machine, the combination of the frame A, with the rotatable cover mounted thereon and movable without collapsing, re-setting mechanism in said frame, 95 and the segmental plate O mounted on the cover and having connections with the re-setting mechanism, to operate it as the cover is moved.

16. In a voting machine, the combination 100 of the frame A for the registers carrying operating mechanism, with the cover rotatably mounted upon said frame, the circular segmental plate O carried by said cover, complete stroke mechanism between said 105 frame and said plate, and connections between said plate and the operating mechanism whereby the reciprocation of the cover will cause the operation of the registering mechanism. 110

17. In a voting machine, the combination of the frame containing the registering mechanism, together with operating mechanism, and a vertically movable re-setting 115 bar, with the cover rotatably mounted on said frame, and carrying the segmental plate O, and connections between said plate O and the operating and re-setting mechanism whereby the reciprocation of the cover will first operate the registers and subsequently 120 re-set the machine.

18. In a voting machine, the combination with the casing having a face plate, of the curtain-carrying support movably mounted 125 thereon, the curtain carried by the support and movable therewith as the support is operated at each operation of the machine and when in its closed position with the face

plate forming a booth, and resetting mechanism operated by the movement of said support.

19. In a voting machine, the combination
5 with the casing having a face plate, of the curtain-carrying support movably mounted thereon, the curtain carried by the support and movable therewith as the support is operated at each operation of the machine
10 and when in its closed position with the face

plate forming a booth, complete stroke mechanism interposed between said casing and the curtain-carrying support to compel a complete movement of the lever in either direction, and resetting mechanism operated 15 by said movement.

JOHN HOWARD McELROY.

Witnesses:

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