E. F. CHAPMAN.

VOTING MACHINE.

APPLICATION FILED DEC. 27, 1912.

1,109,200. Patented Sept. 1, 1914.

2 SHEETS—SHEET 1.

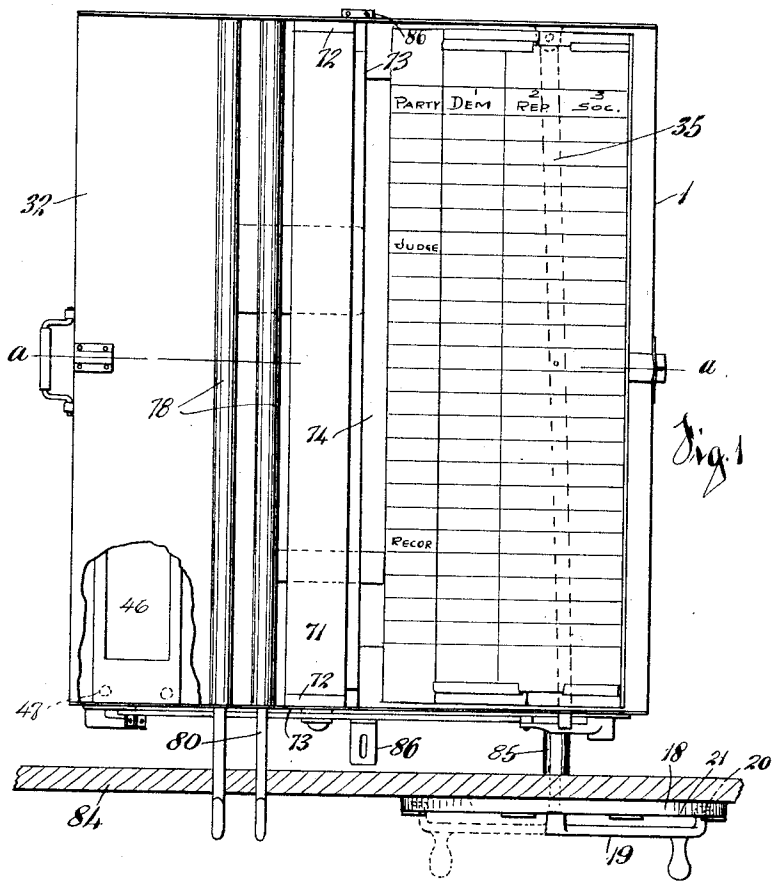
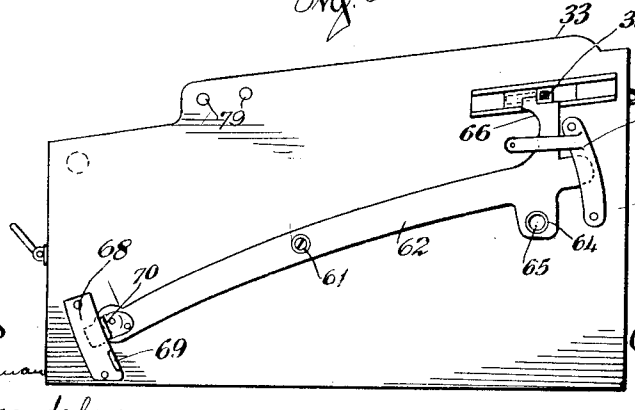


Fig. 1

Fig. 3



Witnesses
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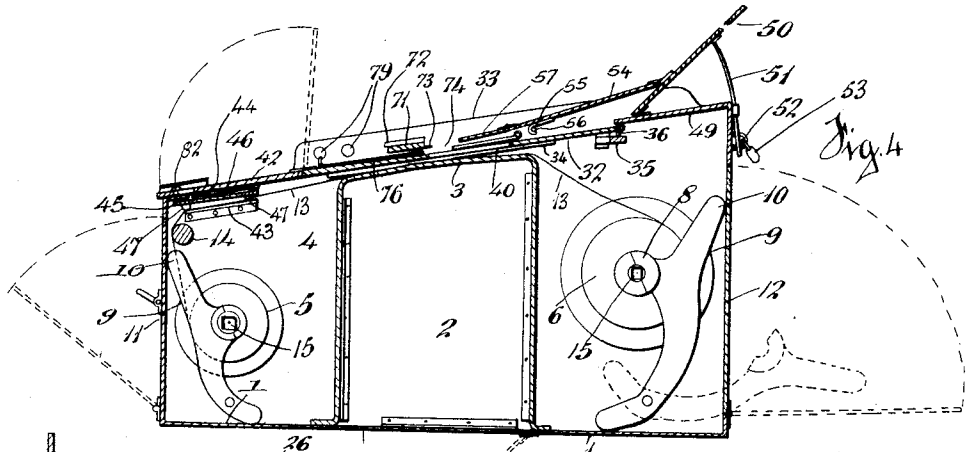


Fig. 4

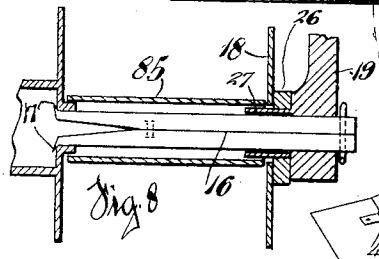


Fig. 8

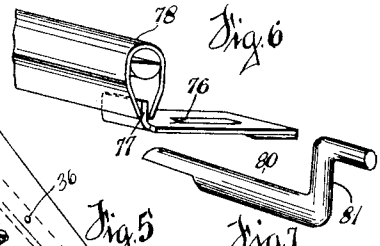


Fig. 6

Fig. 7

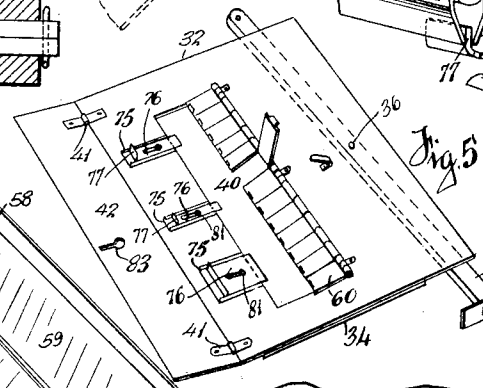


Fig. 5

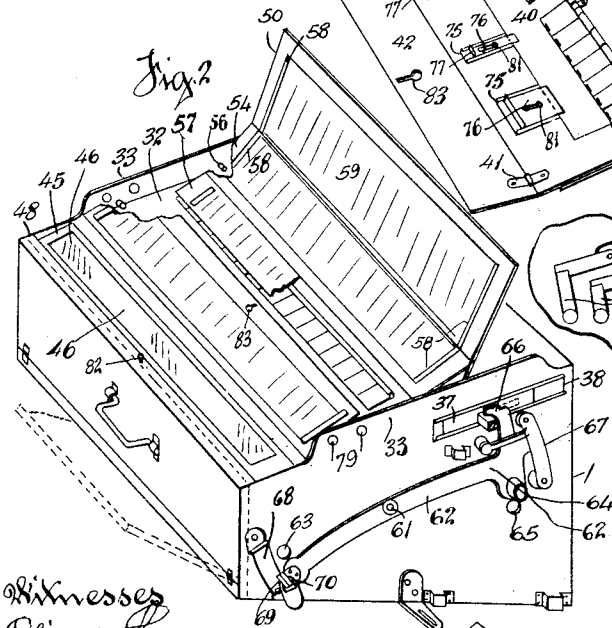


Fig. 2

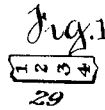


Fig. 10

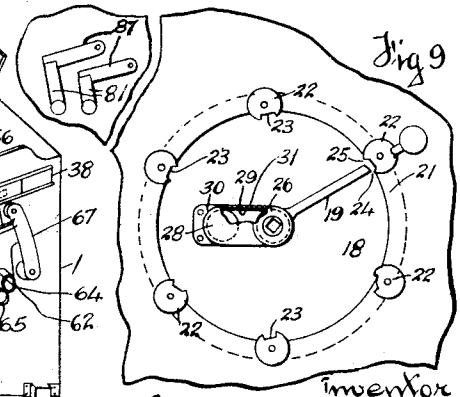


Fig. 9

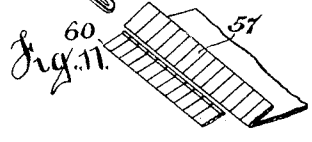


Fig. 11

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UNITED STATES PATENT OFFICE.

EUGENE F. CHAPMAN, OF FORT COLLINS, COLORADO.

VOTING-MACHINE.

1,109,200. Specification of Letters Patent. Patented Sept. 1, 1914.

Application filed December 27, 1912. Serial No. 738,857.

To all whom it may concern:

Be it known that I, EUGENE F. CHAPMAN, a citizen of the United States, and a resident of Fort Collins, county of Larimer, and State of Colorado, have invented a new and useful Voting-Machine, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to voting machines of that class in which the votes are marked or recorded by the voters on a continuous sheet, or web, of paper or other suitable material, which web is securely housed in a convenient case, in which, and in connection with which, suitable mechanism is provided for the advancement, step by step, of the web to receive successively the vote of each individual elector.

One of the objects of my invention is to provide a voting machine of the class mentioned, in the use of which the act of voting is so simplified as to reduce to a minimum the opportunity for failure of the voter legally to record his choice either in the matter of candidates or submitted propositions, and in which a minimum of working parts is necessitated, thereby reducing the possibility of injury to the machine in operation and assuring a perfectly operating machine at all times.

A further object of my device is to provide simple, yet efficient, means for preventing illegal voting and the voting by certain classes of electors, as, for instance, females, barred by local laws from voting for prohibited offices or on prohibited propositions.

In the drawings: Figure 1 is a plan view of my machine in position for use; Fig. 2 is a perspective of the same, with the web advancing mechanism removed; Fig. 3 is an end elevation; Fig. 4 is a section on line *a*—*a* of Fig. 1; Fig. 5 is a perspective of the sliding top; Fig. 6 is a detail of the blocking out mechanism; Fig. 7 is a detail; Fig. 8 is a section of part of the web advancing mechanism; Fig. 9 is an elevation of the tally plate; Fig. 10 is a detail; Fig. 11 is a perspective of a detail.

The numeral 1 designates the casing of my new voting machine; said casing is substantially rectangular in plan, and I prefer to make the same somewhat higher at the rear than in front, as clearly shown in Figs. 2 and 3, this, however, not being entirely essential. Said casing is provided with a middle compartment 2, running from end to end thereof, the top 3 of said compartment being slightly below the plane of the top of the casing and substantially parallel thereto. On each side of the compartment 2, a compartment 4 is thus provided for the rollers 5 and 6; said rollers being rotatably mounted therein by means of segmental journals, each composed of a segment attached to the wall of the casing and a segment 8 provided on an arm 9; said arm being pivotally mounted in the casing. The arms 9 are provided with upward projections 10, which are adapted to abut against doors 11 and 12 comprising the front and rear sides of the casing respectively, when said doors are closed, thus holding the segments 8 of the journals in position to complete the bearings for the rollers 5 and 6. When the doors are opened, the arms 9 are allowed to fall backward, thus separating the segments of the journals and permitting the removal of the rollers for whatever purpose desired. When the doors are again closed, however, they carry with them into position the arms 9, thus completing the bearings once more, and properly journaling the rollers in the casing. The web 13, upon which the votes are to be recorded, or marked, is wound upon the roller 5 in the compartment 4 of the casing. The free end of the web passes over an auxiliary roller 14, the top 3, and is secured to roller 6, upon which it is to be wound, step by step, as the votes are recorded. One end of each of the rollers 5 and 6 is provided with a square opening 15, which is adapted to receive the end of the operating shaft 16, shown in Fig. 8. Said shaft is composed of two parts adapted to fit together, the contiguous sides being beveled toward the ends thereof which engage the roller, said ends being also provided with flaring flanges 17 adapted to engage the inside of the roller. Said parts are hinged or otherwise secured together so that the free ends thereof may be separated and the flanged ends correspondingly contracted, thus permitting the insertion or removal of the shaft. Said shaft, near its outer end passes through the tally plate 18, and is adapted to receive the operating arm 19, which fits thereon and locks together the outer ends of the parts, thus se-

curing the shaft in the roller by means of the flanges 17. The operating arm 19 is provided with a tongue 20 which engages the under side of a circular track 21, which track is secured to the tally plate 18, as shown in Figs. 1 and 9. Rotatably mounted on said track 21, at suitable intervals, are baffles 22; said baffles being in the form of disks, and being mounted in such position on said track that the circumference of each will lie inside the inner rim of the track, where it is adapted to check the movement of the operating arm 19. Notches 23 are provided in the baffles, however, which, when properly placed by the operator with reference to the inner rim of the track, permit the passage of the arm 19, and at the same time automatically revolve the disk so that it is again in position to intercept the movement of the arm.

From the above it will be seen that, when the shaft 16 and arm 19 are in position, the web may be advanced step by step, by manually operating the arm 19, the space from one baffle to the next being sufficient to advance the web the distance required for one vote, the arm 19 then being stopped by the baffle. When ready for the next advance, the engaged baffle is manually set so that the front point 24 of the notch therein will lie in the path of the tongue 20 of the arm 19, and the rear point 25 of the notch will lie behind said tongue. When the baffle is so placed, the operating arm may again be advanced, the tongue 20 revolving the baffle so that the arm may pass and, at the same time, bringing the circumference at the point 25 inside the inner rim of the track, where it is in position to engage the tongue 20 in the next revolution of the arm 19 to stop the movement of said arm. Attached to the arm 19 is a spool 26, said spool being adapted to fit on a sleeve 27 of the arm 19 and to turn with the arm. Rotatably mounted on the tally plate 18 is a similar spool 28; said spool 28 carrying a tape or web 29 on which consecutive numbers are marked at suitable intervals, as shown in Fig. 10. In the operation of the machine, the free end of the tape is attached to the spool 26, upon which it is wound as the arm 19 is revolved, the tape 29 being thus advanced from number to number as the web 13 is advanced, and the total number of advances of the web 13, or of votes cast, may thus at all times be indicated as will be readily apparent. The spools 26 and 28 are suitably protected in a box 30, in the top of which a glass plate 31 is provided so that the current numeral may be seen.

For the purpose of exposing only such portions of the web 13 as are required respectively for the recording and counting of the votes, I provide a sliding top 32, which is adapted to fit in the casing and to slide between upright flanges 33 of said casing, the ends of the top being also provided with short, depending, flanges 34, which slide upon the top 3 of the middle compartment of the casing beyond the edges of the web 13, and support the top 32 so that the web will have free movement under the same. Pivotally mounted at one end of the casing, on the inside thereof, is a bar 35, upon the upper side of which is a stud 36 which engages a perforation in the sliding top 32. The free end of said bar extends through a slot in the opposite end of the casing, and has affixed to it at a point near the end, a plate 37 adapted to slide longitudinally in a guide plate 38 attached to the outside of the casing. The end of said bar is provided with a knob or handle 39 for convenience in moving said bar. Movement of the bar in either forward or backward direction will carry with it the sliding top, as will be readily apparent. The sliding top 32 is provided with a rectangular opening 40, which opening is so located with reference to the sliding top, that when said top is in the position shown in Fig. 4, *i. e.* in the position which it assumes when votes are to be recorded, the opening will be above the top 3 of the middle compartment of the casing, and the top 3 will thus serve as a table or desk for the web 13 during the recording of votes. Said sliding top is divided and the parts hinged together as shown at 41 to provide a flap 42 for the purpose hereinafter set forth.

Adapted to fit into the casing between flanges 43 and 44, a pair of flanges being provided at each end of the casing near the front thereof, is a narrow frame 45 containing a glass panel 46, under which the web 13 passes from roller to roller, the ends of the frame being provided with short studs 47 which rest on the flanges 43 and slightly raise the frame and glass panel to allow free motion to the web. The front side of said frame, when in position, lies under an overlapping flange 48 of the front side of the casing, as shown in Fig. 4. The rear side of the top 32 slides under a broad flange 49 of the casing, which forms a cover for the rear part of said casing. Pivotally mounted between the upright flanges 33, above, and near the front edge of the flange 49, is a cover 50, which is provided with a hasp 51 adapted to engage a staple 52 on the back of the casing, where it may be locked or sealed, by a pad-lock or seal 53; the hasp furnishing a support as well as a means of locking, for the cover. Hinged to the cover 50 is a panel 54, the lower corners of which are provided with hooks 55 adapted to engage studs 56 in the ends of the casing when the cover 50 and panel 54 are open, *i. e.* in the position shown in Figs. 2 and 4, thus locking the panel in said position. Hinged

to the free edge of the panel 54 is a leaf 57, which extends over approximately the upper half of the opening 40 in the top 32. The cover 50 and panel 54 are provided with guides 58, into which a sheet or card 59 may be inserted, said card containing the names of the various candidates to be voted for under proper party designations. Similar guides are provided on the leaf 57 for the insertion of a sheet containing a list of the various offices to be filled, together with any propositions to be voted upon. These are arranged on the sheet between rulings which are in line with and register with longitudinal rulings on the web. Pivotally secured to the sliding top 32, under the leaf 57, is a series of blocks 60, each of which is of a width sufficient to cover the space between two longitudinal rulings on the web, and of such length as to extend approximately to the free edge of the leaf 57 under which they lie.

Pivotally secured to one end of the casing at 61, on the outside thereof, is an arm 62, one end of which is adapted to cover the opening 63 in the casing, which opening is provided for access to the square opening in the end of roller 5. The opposite end of arm 62 is provided with a lug which has an opening and sleeve 64 adapted to register with opening 65 in the casing when the arm is in the position shown in Fig. 3, and the operating shaft 16 may be inserted into the opening in roller 6 when the arm 62 is in such position. On the end of arm 62 having the lug is an upward projection 66 adapted to engage the end of the bar 35 either in front or in back of said bar to hold the same in either of its positions required properly to place the sliding top 32 for either of the operations hereinafter described. Straps or plates 67 are provided on the casing behind which one end of the arm 62 moves, and these add rigidity and firmness to the construction. The opposite end of the arm slides behind a plate 68 on the casing for the same purpose. The plate 68, however, has a perforated lug 69, the end of the arm having a corresponding lug 70, and when the arm is in the position shown in Fig. 2 a padlock may be applied to the lugs, locking the arm in said position for the purpose hereinafter set forth. A strip 71 is provided, which fits under flanges 72 on the upright flanges 33 of the casing. Said strip has a narrow edge 73 of pliable metal, and when the strip is in position, the edge 73 extends partly over the opening 40 in the sliding top 32, leaving a narrow space 74 between the edge 73 and the edge of the leaf 57, in which the web 13 is exposed to receive the votes. On the sliding top 32, in front of the opening 40 is a series of flanged slideways 75, in which sliding plates 76 are adapted to fit and operate; each of the plates 76 being of a width equal to the width of one or more of the blocks 60, and in such position as to register with said blocks. These plates 76 slide under the strip 71, and said strip helps to retain the plates in the slideways 75. Each of the plates 76 has a flange 77 on its rear end which is adapted to fit in a slot in the lower edge of a rock bar 78, as shown in Fig. 6, there being usually two of said rock bars on a machine. The rock bars are mounted between the flanges 33, through perforations 79, by means of shafts 80 provided, for operation, with crank arms 81. The bars may be readily removed when the machine is not in use, and more or less of such bars may be provided as occasion may require. The plates 76 are slotted, as shown, and lugs 81 on the slideways fit into said slots to limit the movement of the plates. The plates 76 and operating mechanism just described are provided to prevent ineligible classes of voters from voting upon the propositions with reference to which local laws prevent their exercise of the elective franchise, and one rock bar with connected plate or plates 76 is provided for each class against whom restrictions lie.

The operation of my machine is as follows: The cover 50 and connected parts are first opened and locked in the positions shown in Fig. 4 in the manner hereinabove set forth, and the sheet 59, and the sheet containing the list of offices to be voted for, inserted in the proper respective positions; the sliding top 32 is normally in proper position for the recording of votes when the cover 50 and connected parts have been opened, but, if not in such position, the same is next moved backward by means of bar 35, until it is in the position shown in Figs. 1 and 4; when in such position the arm 62 is moved into the position shown in Fig. 3, so that the notch in the rear side of the projection 66 will engage the bar 35 and hold the same, and the sliding top, in position. When arm 62 is in this position the sleeve 64 registers with opening 65 in the casing and the square opening in the roller 6, so that the shaft 16 may be inserted in the roller, as above set forth. The shaft being inserted, the arm 62 is thus locked in said position, in which the opposite end thereof covers the opening 63 in the casing preventing access to the roller 5 to rotate the same. In said position of the cover and sliding top the narrow space 74 is left between the metal edge 73 of strip 71 and the edge of leaf 57, through which access may be had to the web 13 for the purpose of marking votes. In this position, also, the flap 42 will be locked by means of key 82, which engages the neck of an opening 83 in the flap, preventing access to the

glass panel and web. The machine is now in position for the first voter to record his choice, and this he does by marking on the web his selection of candidates in any manner provided by local laws. For the purpose of illustration, I have shown in the drawings and will now describe one method of voting by the use of numbers or characters for which my new machine is well adapted. On the sheet 59, supported by the cover 50 in such position as to be readily readable by the voter, is a list of all candidates to be voted upon, arranged under the ordinary party designations or names, as, for instance, Democratic and Republican. Each of the parties is given a number, which is printed on the sheet, the numeral 1, in the drawings, being applied to the Democratic party and the numeral 2 to the Republican party. On the leaf 57, a sheet contains, at the left hand side, the word "Party," and then, from left to right, a list of the offices and propositions to be voted upon. The web 13 contains longitudinal rulings with which the office names etc. on leaf 57 register. When, now, a voter desires to vote a straight ticket, Democratic, for instance, he places the party numeral "1" on the web in the space registering with the word "Party." This signifies that he has voted for all candidates listed on the sheet 59 under Party "1," which is the Democratic party. If he does not desire to vote straight, he is at liberty to enter a party numeral in each of the spaces on the web registering with the several offices named on the leaf 57; thus a "2" under the word "Governor" indicates a vote for the Republican candidate for that office, and is not a vote for any other office; and the voter must designate his choice for the other offices by similar markings. Where, however, a voter does not desire to vote for any of the candidates listed on the sheet 59, but for some person not named thereon, he raises the leaf 57 and thus gains access to the blocks 60. On the back of leaf 57 are spaces for a list of offices etc. as illustrated in Fig. 11 similar to the one on the face thereof, and the blocks 60 register with the rulings on the web and with the said list. He next raises the block 60 registering with the office to which he desires his candidate elected and writes the candidate's name in the blank space on the web uncovered by the block. To facilitate straight voting, a star or other indicia may be placed on the leaf 57 to register with the "Party" column, if authorized by local laws, so that illiterate voters may have less difficulty in placing the party numeral in the correct space. On the sheet 59, too, the party numeral may be printed after each candidate's name also to serve as an aid to such voters. When the vote has been marked by the first voter, the official in charge turns the operating arm 19 until it is stopped by the next baffle 22; this takes up a part of the web 13 on the roller 6 and leaves a new blank space for the recording of the next vote. After the next vote is recorded, the baffle 22 is set to permit advancement of the operating arm, and the arm is again advanced, the baffle being automatically set again to stop the arm 19 on its next revolution, as above set forth. With each advance of the web, the tape 29 is advanced, thus indicating at all times the total vote cast. If an elector unqualified by local laws to vote upon certain propositions or for certain candidates, presents himself, the official in charge, turns one or more of the crank arms 81 operatively connected with a plate or plates 76 as above described, and such plate, or plates, is, or are, moved forward to block out the spaces on the web in which such vote would otherwise be recorded. In moving forward the plate, or plates, slide over the ends of the registering blocks 60 and prevent lifting of the same. It will be understood that the operating arm 19 and the arms 81 are outside the booth, through the wall 84 of which they operate, and the official, while thus having control over the operating mechanism, is unable to intrude upon the secrecy of the votor, and at the same time the shaft 16 is protected against meddling in the booth by a sleeve 85. Arms 87, pivotally mounted outside the booth are provided to lock plates 76 in blocking out position. When all of the votes have been cast, the shaft 16 is removed from the roller 6, and the arm 62 moved so that the end of bar 35 is enabled to clear the top of the projection 66 thereof; the bar 35 is then moved forward, carrying forward the sliding top 32, after which the arm 62 is moved into the position shown in Fig. 2, in which position the projection 66 engages the back of bar 35 and prevents the return of the table; the arm 62 is then sealed or locked in this position by means of a lock or seal in perforated lugs 69 and 70. In this position of the arm, the shaft 16 may be inserted in either roller 5 or 6 through openings 63 and 65 both of which are uncovered. In this position of the top 32 the voting space 74 is entirely closed by the blocks 60, which move forward with the table and engage under the strip 71, and no more votes can thus be recorded. The flap 42 is then raised, the head of key 82 passing through the enlarged part of the opening 83; this uncovers the glass panel 46 through which the web 13 is visible. The shaft 16 is next inserted in roller 5 and the web wound upon the said roller, the votes being counted as they pass under the glass panel. When the machine is not in use the rock bars 78 and plates 76 together with the

other removable parts may be detached and stored in the compartment 2 of the casing. When in use the casing has means 86 whereby it may be locked to its support.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A voting machine comprising a casing, a web mounted in said casing, said web being adapted to receive a record of votes marked thereon successively by individual electors, a sliding top for said casing to protect said web, an opening in said top through which access may be had to said web to record such votes, means whereby said web may be advanced intermittently to receive such record, a hinged flap on said top whereby a section of said web may be exposed to permit the reading of the record thereon, means whereby said web may be returned for such reading, and means to operate said sliding top alternately to permit the marking and the reading of such record during the advance and return respectively of said web.

2. A voting machine comprising a casing, a web mounted in said casing, said web being adapted to receive a record of votes marked thereon successively by individual electors, a tally plate, an operating arm for the actuation of said web, baffles mounted at intervals on said tally plate, and means whereby said baffles are adapted successively to engage said operating arm to stop the movement thereof.

3. A voting machine comprising a casing, said casing being provided with hinged doors in the front and rear sides thereof, a web mounted on rollers in said casing, said web being adapted to receive a record of votes marked thereon successively by individual electors, and segmental bearings for said rollers, one segment of each of said bearings being attached to the wall of said casing, and the other segment being carried by an arm pivotally mounted in said casing, the free end of said arm being adapted to bear against one of said doors, whereby, upon the opening or closing of said door, said bearing is automatically broken or completed.

4. A voting machine comprising a casing, a web mounted in said casing, said web being adapted to receive a record of votes marked thereon successively by individual electors, means whereby said web may be advanced intermittently to receive such record, a card containing a list of candidates to be voted upon, means to support said card in proper relative position with reference to said web, and a hinged leaf on said support, said leaf being provided with a list of offices to be filled, said offices being in alinement with the spaces between longitudinal rulings on said web.

5. A voting machine comprising a casing, a web mounted in said casing, said web being adapted to receive a record of votes marked thereon successively by individual electors, a top for said casing to protect said web, an opening in said top through which access may be had to said web to record such votes, means whereby said web may be advanced intermittently to receive such record, a card containing a list of candidates to be voted upon, means to support said card in proper relative position with reference to said web, and a hinged leaf on said support, said leaf being provided on each side with a list of offices to be filled, said offices being in alinement with the spaces between longitudinal rulings on said web.

6. A voting machine comprising a casing, a web mounted in said casing, said web having longitudinal rulings and being adapted to receive a record of votes marked thereon successively by individual electors, a top for said casing to protect said web, an opening in said top through which access may be had to said web to record such votes, a series of blocks pivotally mounted on said top, said blocks being adapted to extend across a portion of said opening and each block to cover the space between two of such longitudinal rulings on said web throughout the length of said block, and means whereby said web may be advanced intermittently to receive such record.

7. A voting machine comprising a casing, a web mounted in said casing, said web having longitudinal rulings and being adapted to receive a record of votes marked thereon successively by individual electors, a top for said casing to protect said web, an opening in said top through which access may be had to said web to record such votes, a card containing a list of candidates to be voted upon, means to support said card in proper relative position with reference to said web, a hinged leaf on said support, said leaf being provided on each side with a list of offices to be filled, said offices being in alinement with the spaces between longitudinal rulings on said web, a series of blocks pivotally mounted on said top, said blocks being adapted to lie under said leaf and to extend across a portion of said opening, each block to cover the space between two of such longitudinal rulings on said web throughout the length of said block, and means whereby said web may be advanced intermittently to receive such record.

8. A voting machine comprising a casing, a web mounted in said casing, said web being adapted to receive a record of votes marked thereon successively by individual electors, a top for said casing to protect said web, an opening in said top through which access may be had to said web to record such votes, a sliding plate mounted on said top

whereby a portion of said web exposed through said opening may be temporarily covered during the process of voting to prevent the marking of votes thereon, means for the operation of said sliding plate, and means whereby said web may be advanced intermittently to receive such record.

9. A voting machine comprising a casing, rollers mounted in said casing, a web mounted on said rollers, said web being adapted to receive a record of votes marked thereon successively by individual electors and to be wound upon either of said rollers, a removable shaft for the operation of said rollers, said shaft comprising sections hinged together and adapted to be inserted into either of said rollers, the inner ends of said sections being provided with flanges and being adapted to expand in the roller when the outer ends of said sections are secured together, to lock said shaft in either of said rollers.

10. A voting machine comprising a casing, rollers mounted in said casing, a web mounted on said rollers, said web being adapted to receive a record of votes marked thereon successively by individual electors and to be wound upon either of said rollers, a removable shaft adapted to be inserted into, and to be locked in, either of said rollers, whereby one of said rollers may be rotated intermittently to wind thereon a portion of said web at each movement to receive such successive markings, and the other of said rollers may be rotated to return said web, and means whereby, when said shaft is in said intermittently rotated roller, access to the return roller is prevented.

11. A voting machine comprising a casing, a web mounted in said casing, said web being adapted to receive a record of votes marked thereon successively by individual electors, a sliding top for said casing to protect said web, an opening in said top through which access may be had to said web to record such votes, means whereby said web may be advanced intermittently to receive such record, a hinged flap on said top whereby a section of said web may be exposed to permit the reading of the record thereon, means whereby said web may be returned for such reading, means to operate said sliding top alternately to permit the marking and the reading of such record during the advance and return respectively of said web, and means to lock said sliding top in either of said positions.

EUGENE F. CHAPMAN.

Witnesses:
ARTHUR H. EWALD,
FREDK. J. WENDELER.

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