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VOTING MACHINE

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2 Sheets-Sheet 1

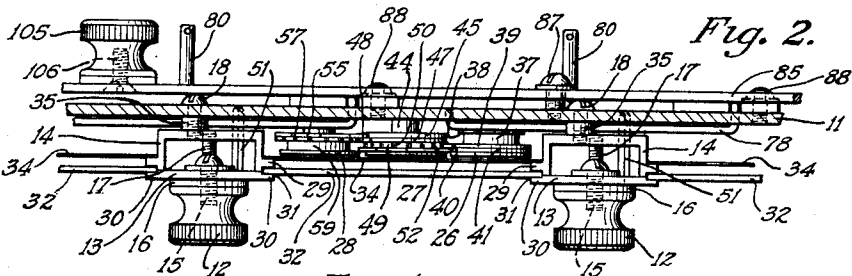


Fig. 1.

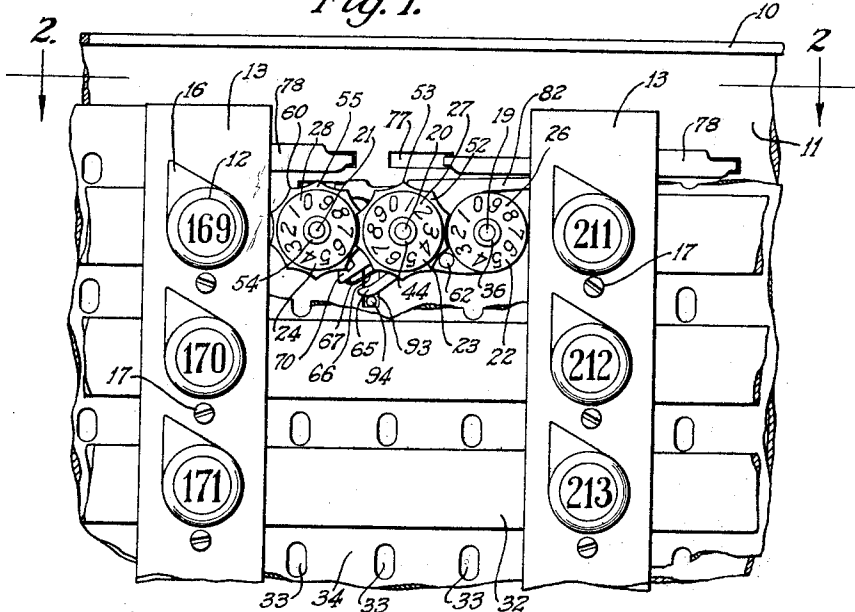
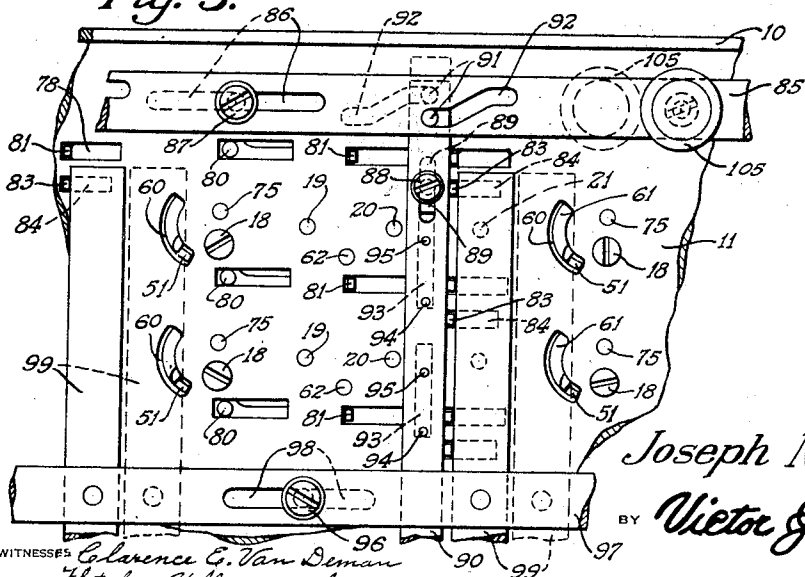


Fig. 3.



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VOTING MACHINE

Application filed May 3, 1930. Serial No. 449,624.

This invention relates to certain novel improvements in voting machines and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

Another object of the invention is the provision of a counting mechanism embodied in the invention.

Another object of the invention is the provision of a counting mechanism which will facilitate registering votes on a voting machine and which will render it impossible for the voter to register a vote on the counting mechanism while he is in the voting booth.

Still another object of the invention is the provision of a counting mechanism which will enable the voter, while in the voting booth, to move any voting button into and out of voted position any number of times without recording the vote.

A further object of the invention is the provision of a counting mechanism which will be operable by a mechanism associated with the exit gate of the voting booth and which will record the voter's final choice only when he is leaving the voting booth.

A still further object of my invention is the provision of a counting mechanism which may be conveniently adjusted for voting and which can be returned to zero position after the recorded votes are counted without dismantling the counting mechanism.

An additional object of the invention is the provision of a counting mechanism for a voting machine which will enable the machine embodying my invention to comply with the various legal requirements demanded of voting machines by various states and other political divisions.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings, showing the preferred form of construction and in which:

Fig. 1 is a fragmentary elevational front

view of one unit of my invention mounted on a voting machine;

Fig. 2 is a top view taken substantially on the line 22 of Fig. 1;

Fig. 3 is a fragmentary elevational rear view of the panel of a voting machine showing the parts of my invention associated therewith;

Fig. 4 is a fragmentary elevational front view showing parts of the counting mechanism in position before voting with the counters set at zero;

Fig. 5 is a fragmentary elevational front view of the mechanism illustrated in Fig. 4 showing parts of the counting mechanism in voted position but before the vote is counted;

Fig. 6 is a fragmentary elevational front view showing the counting mechanism illustrated in Figs. 4 and 5 when the voting button indicator is being returned to vertical position uncounted from the position shown in Fig. 5;

Fig. 7 is a fragmentary elevational front view partly similar to Fig. 5 with parts of the counting mechanism in different positions; and

Fig. 8 is an elevational front view of the counting gears with the dials removed.

The voting machine embodying my invention preferably comprises a cabinet within which are arranged the mechanisms to be described presently. This cabinet may be made of any suitable material and design to support a panel. As shown in Fig. 1 this panel embodies on the front thereof a plurality of voting buttons to be described presently. These buttons, as shown, are arranged in horizontal and in vertical rows and each button operates the count mechanism embodying my invention. It will, therefore, be understood that the description to follow is in general directed to one unit of the counting mechanism which is operated by one button. It is also to be understood that while in Fig. 1 I have shown only three horizontal rows and two vertical rows of buttons this number can be varied within a wide range since my invention is in general associated with each individual button.

Referring particularly to Figs. 1 and 2 it

will be seen that there is provided on the front of the panel 11 a plurality of voting buttons 12. These buttons 12 are rotatably secured to the plate 13 of the housing 14 by means of suitable screws 15 and these buttons carry an indicator 16. Integral with each of the indicators 16 is an arm 51 which is operable by the voting button 12 and attached indicator 16 and this arm moves in suitable slots 61 formed in the face plate 13 of the housing 14. The front plate 13 of the housing 14 is secured to the housing proper by means of screws 17 threaded into threaded openings in the back wall of the housing and the housing 14 is secured to the panel 11 by means of metallic screws 18. The screws 18 project through suitable spacers 35 which space the housing 14 from the panel 11. Formed in the side portions of the housing 14 are shoulders 29 and these shoulders 29 with projecting portions 30 of the face plates 13 define slots 31 in which ballot tickets 32 are slidably mounted opposite each voting button.

Mounted on the panel 11 in aligned relationship and projecting outwardly from the face thereof are studs 19, 20 and 21 which have shoulder portions 43, and mounted slidably and rotatably on these studs, and disposed outwardly from the face of the panel 11, are counters generically indicated at 22, 23, and 24 which include numeral dials 26, 27 and 28 and which are adapted to count in units, tens and hundreds, respectively, and the construction of which will now be explained: The counter 22 includes a substantially cylindrical body portion 37 and this body portion has a substantially cylindrical opening 75 extending therethrough. This body portion 37 includes a constricted shaft portion which terminates forwardly as indicated at 36. Formed in the body portion 37 at the rear thereof and disposed circumferentially thereon are teeth 38. Disposed on the constricted portion of the body portion 37 and spaced forwardly from the teeth 38 is a substantially cylindrical portion 39 which has a tongue portion 40 projecting therefrom for a purpose to be described hereinafter. Disposed forwardly of the portion 39 is a washer 41 which has a notch 42 formed therein and this notch 42 is in aligned relationship forwardly of the tongue portion 40 on the cylindrical portion 39. Disposed on the shaft portion 36 forwardly of the washer 41 is a numeral dial 26 which has the numerals zero to nine, inclusive, formed in the face thereof in any approved manner such as by means of numerals raised from the body portion of the dial, these numerals being arranged in increasing order counterclockwise, and this dial 26 is retained in position on the shaft portion 36 in any suitable manner such as by wedging engagement. Disposed between the housings 14 and slid-

able vertically inwardly of the shoulder portions 29 thereof are plates 34 which have aligned openings 33 formed therein and these plates 34 are adapted to enclose and conceal the counters and included numeral dials exposing to view through openings 33 only the numeral in topmost position on each dial.

The counter 23 includes a centrally disposed tubular shaft portion 44 and mounted on the rear portion of the shaft 44 in any suitable manner, such as by wedging engagement, is a substantially cylindrical portion 45 which has a notch 46 formed therein. Disposed on the shaft portion 44, forwardly of the cylindrical portion 45, is a substantially cylindrical portion 47 which has a tongue 48 integral therewith and projecting laterally therefrom. Mounted on the shaft portion 44 and disposed forwardly of this cylindrical portion 47 is a gear 49 which has teeth 50 formed therein. Mounted on the shaft portion 44 of counter 23, forwardly of the gear portion 49 thereon is a disc 52 which has an arcuated rim portion forming spurs 53, and disposed in front of this disc 52 is a numeral dial 27 which is substantially similar in construction to dial 26 but has the numerals thereon arranged in increasing order clockwise. As will be explained hereinafter, this dial 27 registers the vote count in tens.

Counter 24 includes a substantially cylindrical body portion 59 which has a cylindrical opening 72 extending therethrough and this body portion 59 terminates rearwardly in a constricted shaft portion. Mounted on this constricted shaft portion at the rear thereof, in any suitable manner, such as by wedging engagement, is a disc 55 having an arcuated rim portion forming spurs 60. Formed in the disc 55 is a notch 56, and projecting rearwardly from the body portion of the disc 55, and disposed opposite the notch 56, is a tongue 73. Mounted in any suitable manner such as by wedging engagement on the constricted portion of the body portion 59 forwardly of the disc 55 is a gear 57 which has teeth 58 formed circumferentially thereon, that one of these teeth 58 which is disposed in alignment with and forwardly of the tongue 73 being cut away even with the portion of the disc 55 defining the rear portion of the notch 56. Mounted on the body portion 59 of the counter 24, forwardly of the gear 57, is the numeral dial 28 which is secured to the body portion 59 in any suitable manner such as by wedging engagement as indicated at 54. As shown in Fig. 2 the numerals formed on this dial are arranged in increasing order in a counterclockwise direction and in use this counter is adapted for counting in hundreds.

Mounted in the panel 11 and projecting from the face thereof is a stud 62 and mounted movably on this stud 62 is a dog 63 which

has formed therein a tongue portion 63 and an arm portion 65. Secured to the dog 63 in the notch 68 formed therein in any suitable manner, such as by wedging engagement between the shoulder 74 of the dog and the arm 65 thereof, is a flat spring 66 which has an angularly formed end portion 67 at one end thereof.

Supported movably on the shoulder 43 of the stud 20 is a dog 69 which has an arm portion 70 formed therein and this arm portion 70 has a notch 71 formed therein.

Mounted in the panel 11 and projecting outwardly from the face thereof is a stud 75 and mounted rotatably on this stud is a pawl 76. Formed in the panel 11 are substantially rectangular slots 77 and adapted to be slidable horizontally in these slots is a sliding bar 78 which has end portions 81 formed annularly therein and these end portions 81 are adapted to be slidable in slots 77. Integral with the bar 78 and projecting rearwardly therefrom and slidable laterally with the bar 78 in a suitable slot 79 formed in the panel 11 is a pin 80 which is adapted for moving horizontally an interlocking strap as described in the applicant's copending applications Ser. No. 449,295 and 449,296, filed on or about May 2, 1930.

Operable in the manner presently to be described is a pawl 82 which has an angularly formed end portion 83 at one end thereof and this end portion 83 is adapted to be slidable laterally in a suitable slot 84 formed in the panel 11.

Supported on the panel 11 at the rear thereof is an arm 85 which has suitable slots 86 formed therein. Projecting through these slots 86 and mounted in the panel 11 are suitable screws 87 and arm 85 is adapted to be slidable horizontally on these screws 87 by means of manual force exerted laterally on a knob 105 which is attached to arm 85 by means of a suitable connecting element such as screw 106. Mounted in the panel 11 and projecting rearwardly therefrom are suitable screws 88 and these screws 88 project through slots 89 in a vertically extending bar 90 which is adapted to be slidable vertically inwardly of the arm 85 in a manner now to be described: Mounted in the bar 90 adjacent the top thereof and projecting rearwardly therefrom is a stud 91. Formed in the arm 85 is a slot 92. Arm 85 is moved laterally by means of knob 105 and when this arm is moved leftwardly as shown in Fig. 3 it will be seen that stud 91 on bar 90 will be moved upwardly in slot 92, in this manner lifting bar 90 which is prevented from lateral movement by screws 88 which guide bar 90 in the slots 89 formed therein. Mounted in bar 90 and projecting therefrom through a suitable slot 93 in the panel 11 are pins 94 and 95 and it will be seen that when bar 90 is moved in the manner described above pins 94 and 95 will like-

wise be moved for a purpose to be explained presently.

Mounted in the panel 11 and projecting rearwardly therefrom are screws 96 which project through suitable slots 98 in arms 97 and these arms 97 are adapted to be slidable laterally on the screws 96 by means of a mechanism constituting a part of the applicant's copending application Ser. No. 465,671, filed on or about July 3, 1930. Supported in vertical position on the arms 97 by means of suitable connecting elements such as studs 100 and movable laterally with the arms 97 are bars 99, the function of which will be explained presently.

In Figs. 4, 5, 6, and 7 a button 12 has been shown in dotted outline but it is to be understood that this button is disposed at the face of the panel 11 and in these front views the button shown in dotted outline has been removed to show the operating mechanisms disposed inwardly thereof and these buttons shown in dotted outline are shown for the purposes of illustration.

In preparing the voting machine embodying my invention for use and in order to set the counters in zero position, the proper election official moves arm 85 leftwardly at the rear of the panel by means of knob 105 thus raising bar 90 into the position shown in Fig. 7 with pin 94 on bar 90 abutting the arm 65 of the dog 63 thus releasing the tongue 64 of the dog 63 from the teeth 38 of counter 22. Releasing the tongue 64 on dog 63 from the teeth 38 of gear 37 in counter 22 allows counter 22 to be rotated in either direction and the rotation of counter 22 will rotate counter 23, the tongue 40 of counter 22 engaging once in every revolution the teeth 50 in counter 23 in the manner shown in Fig. 8 and in this rotation of counter 23 when the tongue 40 of counter 22 is in engagement with the gear teeth 50 of counter 23 the particular spur tooth 53 on counter 23 that happens to be disposed opposite tongue 40 on counter 22 will project into the notch 42 of counter 22 allowing these two counters to pass. In a similar manner the particular spur tooth 60 on disc 55 of counter 24 that happens to be disposed opposite tongue 48 when tongue 48 is in engagement with teeth 58 will project into slot 46 in counter 23 and thus allow counter 23 to pass counter 24 in this position but in no other position. This rotation of counter 23 likewise rotates counter 24, the tongue 48 on counter 23 engaging once in each revolution the teeth 58 in counter 24. However, as shown in Fig. 7, with pin 94 abutting the arm 65 of dog 63 and the angled end portion 67 of spring 66 abutting dog 69, when the counter 24 is rotated the tongue portion 73 thereon will fall into locked engagement in the notch 71 of dog 69 and in this manner counter 24 is locked in zero position with the zero numeral of dial 28 there-

on in position to appear through the proper opening 33 in plate 32 and in this position counter 24 cannot be moved until the proper election official so desires. At the time
 5 counter 24 moves into locked zero position as explained above the tongue 48 on counter 23 extends horizontally, as in Fig. 8, and is then in locked engagement between two teeth 58 on counter 24. At this time the tongue 40
 10 on counter 22 also extends horizontally and is in locked engagement between two teeth 50 on counter 23, as in Fig. 8, and when the counters are thus interlocked, as in Fig. 8, no one of the three counters can be rotated in
 15 either direction until the tongue 73 on counter 24 is released from engagement with notch 71 of dog 61.

When the proper election official desires to release the counters from locked position
 20 as explained above, arm 85 is moved laterally to the right, looking toward the rear of the panel 11, (Fig. 3) by means of the knob 105 and this lateral movement of arm 85 lowers pin 91 in slot 92 and the lowering
 25 of pin 91 likewise lowers bar 90 attached thereto. When bar 90 is lowered attached pins 94 and 95 are also lowered, pin 94 releasing the arm 65 of dog 63 from abutting engagement with spring 66 which urges the
 30 dog 63, counterclockwise Fig. 8, while pin 95 during this downward movement of bar 90 engages dog 69 and pivots the same counterclockwise (Fig. 6), thus moving the
 35 notched portion 71 of dog 69 out of engagement with the tongue 73 on counter 24 thereby releasing the counter 24 so that counter 24 is then in movable position for recording
 40 votes, with the zero numerals on the dials 26, 27 and 28 visible through the openings 33 in plate 32.

When the counters are set at zero and counter 24 is released for counting movement as explained above, and the voting button 12
 45 associated with the counters is in position ready for voting with its attached indicator 16 in upright position, the head portion 100 of the pawl 82 is disposed between the arms 101 and 102 of the pawl 76 and the angled
 50 end portion 83 of the pawl 82 is disposed at the right hand end of its slot 84. When the voter moves the button 12 and attached indicator 16 into position as shown in Fig. 5, the voter thus having indicated his choice, the
 55 pawl 76 is rotated leftwardly on its stud 75 by means of the upward movement of arm 51 which is integral with the indicator 16, arm 51 moving in its slot 61, and in this leftward rotation of the pawl 76 the arm portion
 60 101 thereof engages the head portion 100 of the pawl 82 moving the pawl leftwardly, the angled end portion 83 of the pawl being guided in its slot 84, and as seen in Fig. 5 the
 65 shoulder portion 103 of the pawl is then disposed leftwardly of the teeth 38 of gear 37 in counter 22, the body portion of the pawl

82 in this position riding loosely on the teeth 38. Should the voter decide, after having moved the indicator 16 into voted position as shown in Fig. 5, that he desires to cancel his
 70 vote thus indicated, he may rotate indicator 16 upwardly by means of attached button 12 and cancel his vote, and as shown in Fig. 6, in this upward rotation of the indicator 16 and pawl 76 movable therewith, the arm 102
 75 of the pawl 76 engages the shoulder portion 104 of the pawl 82 and merely lifts the pawl upwardly without moving it to the right, and in this manner the shoulder portion 103 of the pawl is not brought into engagement
 80 with the teeth 38 of gear 37 in counter 22 and the cancelled vote is not counted. It will be seen, therefore, that the voter may cancel a vote any number of times before making his final choice, the final choice being recorded
 85 in the counting mechanism in the manner now to be described: When the voter has made his final choice and the several parts of the counting mechanism are in the position shown in Fig. 5, a mechanism constituting a
 90 part of the exit gate and operated by the voter on leaving the voting booth, this mechanism constituting a part of the applicant's copending application Ser. No. 465,671, filed on or about July 3, 1930, moves arm 97 laterally
 95 and this lateral movement of arm 97 moves bar 99 into abutting engagement with the angled end portion 83 of pawl 82 and as bar 99 is moved to the right, looking from the front of the panel 11, it moves the pawl 82
 100 into the position shown in Fig. 4, and in this movement of the pawl 82 the shoulder portion 103 thereof engages the teeth 38 on gear 37 in counter 22 and counter 22 is moved clockwise and thus registers the vote.

It is apparent that the rotation of counter 22 being clockwise the rotation of counter 23
 105 will be counterclockwise while counter 24 will in turn rotate in a clockwise direction. It will likewise be seen that counter 22 will make 10 revolutions for each revolution of counter 23, and counter 23 will accordingly make ten
 110 revolutions for each revolution of counter 24, these counters counting the votes in terms of units, tens, and hundreds, respectively. It will be apparent, therefore, that when the counters have registered nine hundred
 115 ninety-nine votes one more vote will throw the counters into zero position.

When the proper election official has recorded the vote as shown through the openings 33, plate 32 may be readily removed
 120 from the face of the counters by being withdrawn upwardly in the slot 31 and the counters set in zero position in the manner described hereinbefore.

It will be seen from the foregoing description of the invention that the counting mechanism embodied therein is conveniently accessible while being fraud proof, and since the operating parts thereof that are disposed
 125 130

at the rear of the panel 11 are locked in the housing 10 by a mechanism constituting a part of the applicant's co-pending application Ser. No. 465,671, filed on or about July 3, 1930, it is apparent that only persons properly authorized to do so can in any way manipulate these parts.

From the foregoing description of the invention it will be seen that I have provided a counting mechanism of improved construction which will be conveniently adjustable and fraud proof in use while being efficient in use and economical in manufacture. It will likewise be seen from the foregoing description of the invention that a voting machine embodying the invention will be enabled to meet the various requirements of the different states and other political divisions concerning voting machines.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification, without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. In a voting machine registering mechanism, intermeshing counting units, tens and hundreds gears, a ratchet rotatable with the units gear, a tongue projecting from the hundreds gear, a pivotal spring-urged latching dog for the units gear and a pivotal latching dog for the hundreds gear, the latching dog for the hundreds gear being provided with a notch for the reception of said tongue, a slidable member, and spaced elements on said slidable member engageable with and for pivoting said dogs.

2. In a voting machine registering mechanism, intermeshing counting units, tens and hundreds gears, a tongue projecting from the hundreds gear, a ratchet rotatable with the units gear, a pivotal latching dog for the units gear and a pivotal latching dog for the hundreds gear, the latching dog for the hundreds gear being provided with a notch in which said tongue is adapted to be disposed, a spring between said dogs urging the units gear dog into latching engagement with said ratchet, a slidable member, and a pair of spaced elements on said slidable member engageable with and for pivoting said dogs.

In testimony whereof I affix my signature.
JOSEPH M. GARR.