

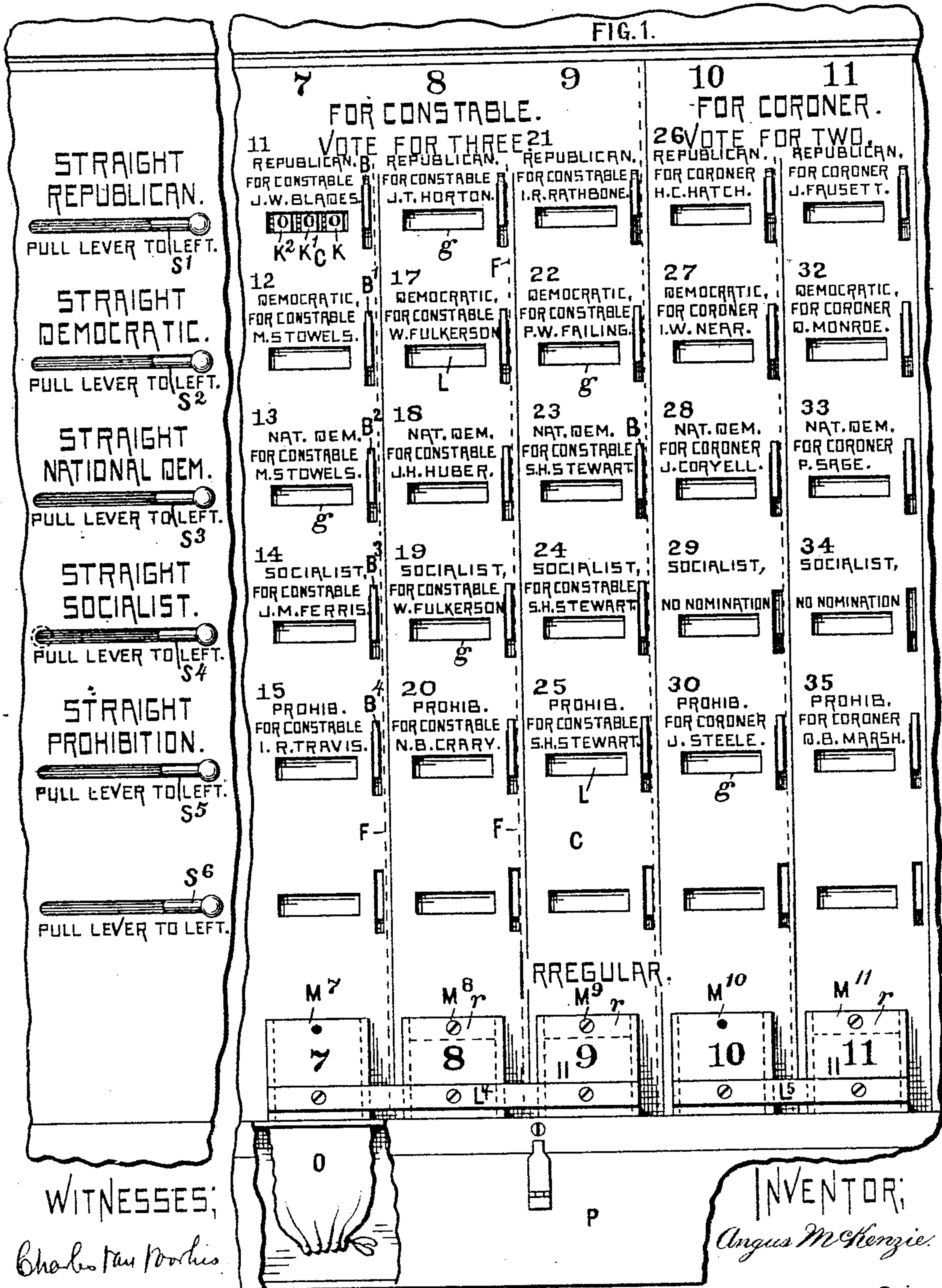
No. 855,334.

PATENTED MAY 28, 1907.

A. McKENZIE.
VOTING MACHINE.

APPLICATION FILED JUNE 19, 1899. RENEWED MAR. 15, 1907.

3 SHEETS—SHEET 1.



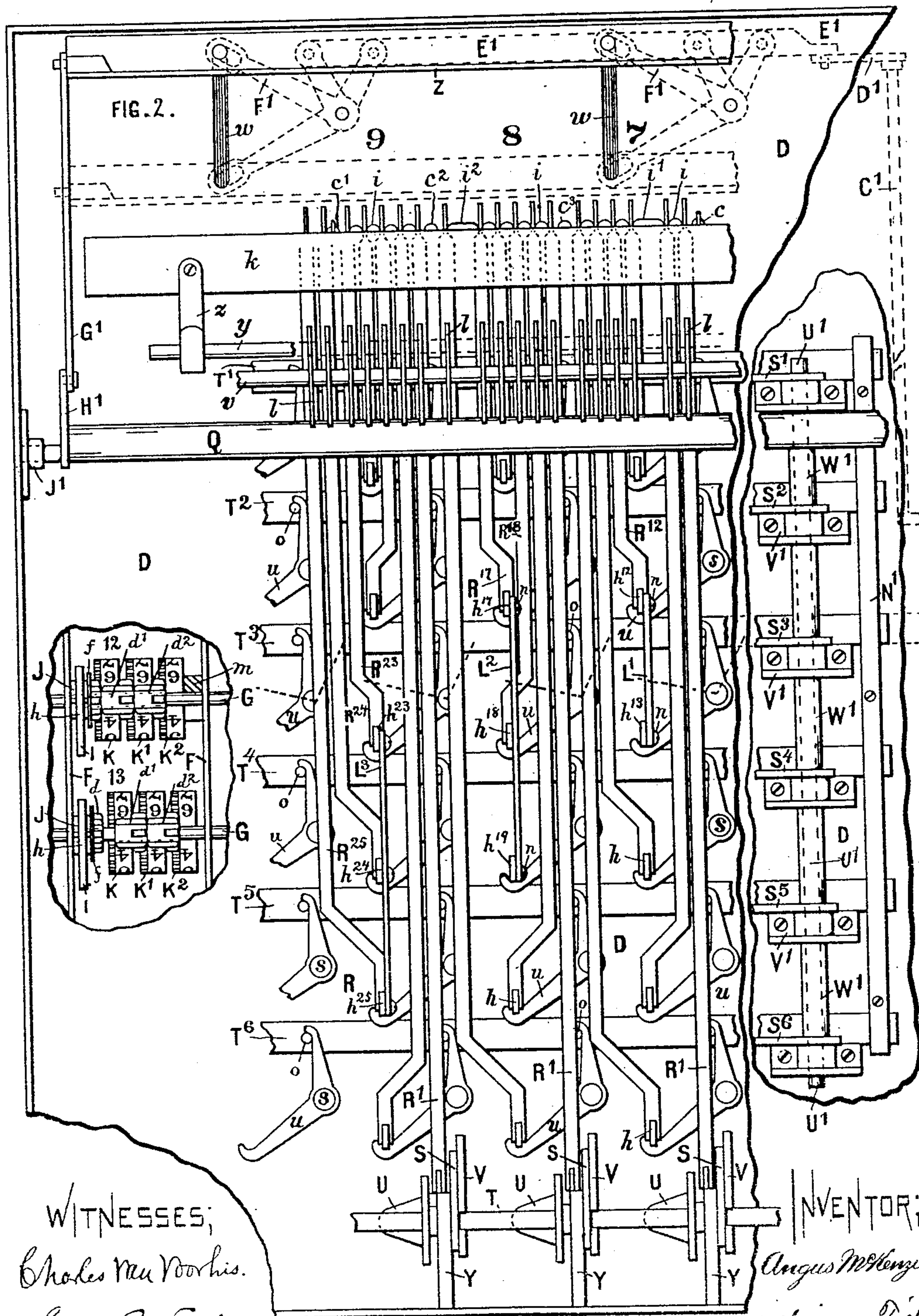
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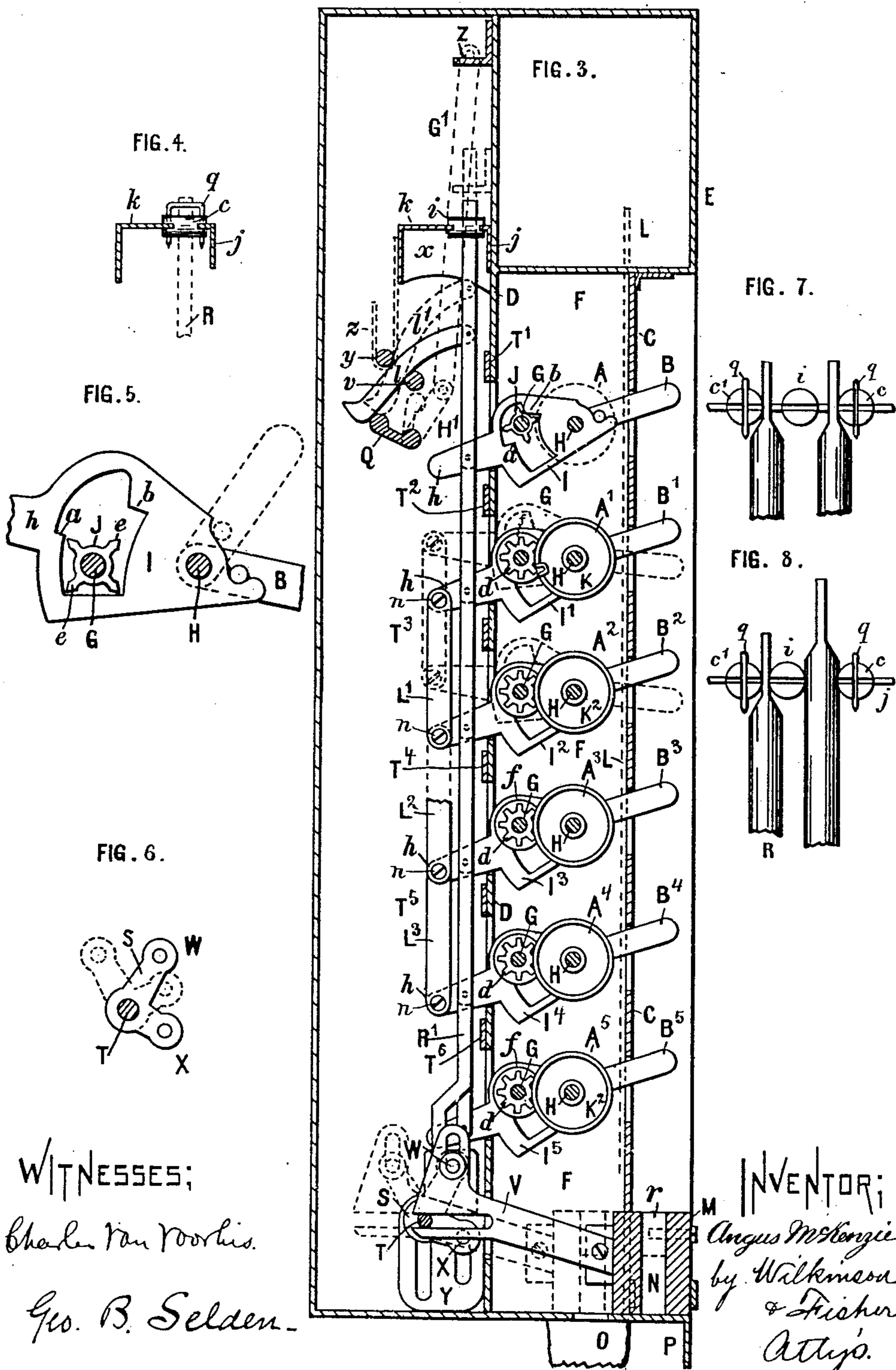
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UNITED STATES PATENT OFFICE.

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VOTING-MACHINE.

No. 855,334.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed June 19, 1899. Renewed March 15, 1907. Serial No. 362,528.

To all whom it may concern:

Be it known that I, ANGUS McKENZIE, a citizen of the Dominion of Canada, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Voting-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which this ap-
10 pertains to make and use the same.

The object of my invention is to prevent a voter from casting two or more votes for a single candidate and having them counted for said candidate, which will occur when a candi-
15 date in a group is nominated by one political party for an office and endorsed by one or more other political parties, unless special means to prevent such a result is used. I accomplish this object by the means hereinafter
20 described.

With this object in view, my invention consists in the construction and combination of parts, as hereinafter described and particularly pointed out in the claims.

25 In the accompanying drawings representing my improvements in voting machines,—Figure 1 is a front view of a portion of the key-plate, sufficient to represent my invention. Fig. 2 is a partial rear elevation, showing the interlocking mechanism, the straight-
30 ticket voting mechanism, and the connections between the counters. Fig. 3 is a side elevation of a line of counters,—the casing being shown in section. Fig. 4 represents one of the stationary abutments, with its removable staple. Fig. 5 represents the vibrating
35 sector and star-wheel. Fig. 6 represents the bell-crank lever of the irregular voting mechanism. Figs. 7 and 8 represent the inter-
40 locking-rods, blocks and abutments.

My present improvements may be used in connection with voting machines of several different types, but in the accompanying drawings I have represented them as applied
45 to a machine having a series of counters $A^1 A^2 \dots$, operated by the key-levers $B^1 B^2 \dots$.

The counters are supported in any suitable manner within a suitable casing and the key-
50 levers project through the key-plate C in slots which permit them to be pulled downward by the inventor so as to actuate the counters as indicated by the full and dotted lines on

the counters $A^1 A^2$, Fig. 3. The key-plate is preferably recessed behind the front E of the machine. D is a vertical plate arranged longitudinally within the casing, and to which the transverse plates F, Figs. 1 and 2, are secured. The plates F support the rods G and H, which carry the counters and the vibrat-
55 ing sectors, $I^1 I^2 \dots$, although any other suitable arrangements for this purpose may be adopted. The sectors are provided with the teeth or pallets a and b , Fig. 5, which engage with the teeth e of the star-wheel J and
60 impart to it a partial rotation on the rod G at each vibration of the segment. The wheel J is attached to a gear d , Fig. 3, which engages with a ring of teeth on the first or units disk K, Figs. 1, 2 and 3, and this disk on complet-
65 ing a revolution, turns the next or tens disk K^1 , a tenth of a revolution by the partially mutilated gear d^1 , Fig. 2.

In Fig. 2 the main plate D is represented as partially broken away to show the counters
75 beyond it. A circular plate f is placed between the star-wheel J and the gear d and rotates with them,—its edge projecting over the opening in the sector. The hundreds disk is operated from the tens disk, by another
80 similar arrangement of gears, d^2 , Fig. 2. Thus arranged the counter will handle 999 votes, which is more than enough for ordinary districts, which rarely contain more
85 than 600 voters. The key levers are arranged so that they may be folded within the key-plate for any counters which are not used,—such arrangement being indicated by the dotted lines in Fig. 5,—or they may be
90 removed entirely.

L is a movable shutter or series of shutters used to close the openings g , Fig. 1, in the key-plate through which the counters are inspected to ascertain the vote at the close of
95 an election. At the upper left-hand corner of Fig. 1, the shutter is omitted, so as to display the counter set at zero for the commencement of an election. Any suitable means are employed for moving the shutter, which is provided with a series of openings
100 which register with the openings in the key plate.

Provision is made for handling the irregular vote by the slides M, Fig. 3, which are provided with openings N, into which the
105 ballots (inclosed in a suitable ballot-holder)

are inserted by the voter, who then pushes the slide in, allowing the ballots and ballot-holders to drop down into the bags or other suitable receptacles O, from which they are removed and the irregular vote counted at the end of an election. P is a folding door which is locked to protect the irregular vote while an election is going on.

The vibrating sectors I are provided with the arms *h*, which extend through slots in the supporting plate D, and are connected to the interlocking rods R, which are suitably beveled and engage with the interlocking blocks *i*. Any suitable form of joint may be used between the arms *h* and the interlocking rods. The interlocking blocks are supported in any suitable way, so as to be movable laterally, as by the race-way formed by the plates *j k*, which are sustained from plate D in any suitable manner. The plate *j* is attached to the plate D and the plate *k* is supported by brackets shown at *x*, Fig. 3. The ends of the interlocking blocks and of the stationary abutments are slotted to fit on the opposing edges of the plates *j k* forming the race-way. The abutments are made stationary by the staples *q*, Fig. 4,—space enough being left for insertion of one interlocking rod, so that voting on one counter in the ordinary use of the machine prevents voting on any other counter in the same line.

Each of the interlocking rods is provided with a locking dog 1, which, when the rod is raised, engages with the rock-shaft Q, as indicated by the dotted lines 1¹ in Fig. 3, to hold the rod in the elevated position. The irregular slide M is interlocked with the counters by means of the rod R¹, which is moved lengthwise when the slide is pushed in by the bell-crank S, Figs. 3 and 6, which is pivoted to the rod T, supported by suitable standards U, Fig. 2, attached to the plate D. An arm V reaches back from the irregular slide, and receives the pivot W of the bell-crank lever S in a slot. The lever S has at its other end the pin X which engages in a slot in a plate Y attached to the lower end of the interlocking rod R¹. Both the arm V and the plate Y are slotted to permit of their movements at right angles with the rod T.

On pushing in one of the irregular slides, the ballot-holder in the opening N falls down through a hole in the base into the bag O, the bell-crank lever S is turned on the rod T, the interlocking rod R¹ is moved relatively to the interlocking blocks, the wedge on it with the blocks fills the space between two of the stationary abutments in the interlocking mechanism,—thus preventing the use of any of the counters in the same line of candidates,—and the dog 1 engages over the rock-shaft Q, as indicated by the dotted lines 1¹ in Fig. 3, and the parts are then held in this position, until the voter on leaving the voting compartment passes through the door or turn-

stile and by moving it restores the machine to its normal condition,—the rock-shaft Q returning to its former place and the restoring bar Z descending and forcing the interlocking rods down, if necessary,—thus pushing the slide M outward again. It will be understood however that any other suitable irregular voting mechanism may be employed, and that any other suitable connections between the irregular voting device and the interlocking rod may be adopted. The restoring bar Z receives its motion from the shaft C¹, Fig. 2, of the door or turnstile in any suitable manner, such for instance as the cam D¹, the reciprocating bar E¹, and the bell-crank levers F¹. The rock-shaft Q is operated from the restoring bar Z by the link G¹ and the crank H¹,—the rock-shaft being turned so as to release the dogs at 1¹ before the bar Z acts on the interlocking rods. The rock-shaft Q is supported in suitable journals J¹, attached to the side casing or other suitable part. The interlocking rods of the counters are in a similar manner released and restored to normal position by the bar Z.

w, Fig. 2, represents slots in the main-plate, in which the pins on the restoring bar slide,—which pins connect the restoring bar with the levers F¹.

y, Fig. 3, is a rod which runs along the back of the locking dogs 1, and which may be used to insure their engagement with the rock-shaft Q,—being supported by arms *z*, so that it may yield upward slightly.

v is a fixed rod extending across the machine between the locking-dogs and the interlocking-rods.

In order to arrange the machine for a group of three candidates nominated by each political party for any particular office, the abutments *c c*¹, Fig. 2, are held stationary, while the intermediate abutments *c*² *c*³ are allowed lateral movement. Then the voter can operate one counter in each of the vertical rows 7, 8 and 9, or three counters in any one of the rows, or two in one and one in any of the others,—that is, he has his absolute choice of three of the candidates out of the eighteen, (if there are six parties and each party nominates three candidates,) but he can only vote for three and the machine automatically cuts him out from voting for any more. Thus in the instance shown in the drawings, Fig. 1, he can vote in line 7 for Stowels, on counter 12, and in line 8 for Huber on counter 18, and in line 9 for Failing, on counter 22, and then the interlocking rods have occupied with their wedges all the space between the fixed abutments *c* and *c*¹, and no more counters can be actuated in the group, because no more interlocking rods with their bevels can be inserted between the interlocking blocks *i*. Similarly the voter can vote for any three candidates in line 7, or in line 8, or in line 9, or for any two in any of

the lines and for another in one of the other lines but he has then gone to his limit in the group. In a similar manner, for a group of two, there will be two fixed and one intermediate movable abutment, and for a group of four or more there will be a corresponding number of movable abutments between two, at the ends of the group, which will be fixed or stationary.

But in the practical use of voting machines, the case occurs very frequently,—and in fact it may be said that it recurs regularly,—when a candidate, say Stowels, for instance, in line 7, is nominated in a group by two or more parties, or is nominated by one party and indorsed by another, and it is then indispensable that the voters be prevented from voting twice for this particular candidate,—although they are permitted to vote for any two other candidates in a group of three. It also happens that another candidate, Fulkerson, is nominated by one party on counter 17, and indorsed by another party on counter 19. So also with Stewart, on counters 23, 24 and 25. My present invention is intended to provide for these cases, and to prevent voting more than once for any candidate who may be indorsed in a group, and for this purpose I connect the counters of the indorsed candidate together, and take the vote off from either of them at the end of the election. Or the counters may be thrown out of gear, except one, which gives the vote for the particular candidate. This idea may be carried out in practice in many different ways, but in the construction herein shown, I employ suitable connections such as L^1 L^2 L^3 , Figs. 2 and 3, by which two or more of the counters are connected together so that both or all will be operated at the same time. The connection L^1 provides for the case shown in Fig. 1, where Stowels is nominated on counter 12 and indorsed on the adjacent counter 13. The connection L^2 is used for the case where a candidate, Fulkerson, is nominated on counter 17 and indorsed on counter 19,—there being no connection with the intermediate counter 18.

L^3 is adapted to the case where Stewart, for instance, is put in nomination by three parties on counters 23, 24 and 25. The connections may be arranged in various different ways, but in the arrangement illustrated I attach the connection to the counter-operating mechanisms, preferably to the arms h , by the screws n . Other arrangements of the connections may however be adopted. The counters devoted to the indorsed candidate may remain in operative relation with their actuating mechanisms, in which case either of the counters will give the vote, or they may be disused all but one, as indicated at the left in 2, where counter 12 is shown engaged with its sector and pinion, while counter 13 is thrown out of gear by being shifted

laterally by the removal of a block or collar m . In this case the vote for the indorsed candidate is taken off from counter 12. The interlocking rod for counter 13 is omitted, as indicated in Fig. 2, and an interlocking block i^1 , Fig. 2, of increased width is inserted in the ways. The interlocking rod R^{12} is retained, being connected with the arm h^{12} of the counter 12. The connection L^1 attaches the arms h^{12} and h^{13} of the counters 12 and 13 together, so that by operating either of the counters, the rod R^{12} will be inserted between the interlocking blocks, and will take up its portion of the space between the fixed abutments. In a similar manner the interlocking rod on the arm h^{19} , is omitted and an interlocking block i^2 is supplied. In the arrangement shown at the left of Fig. 2, the rods R^{24} R^{25} are retained, but are placed outside the stationary abutment c^1 , so that they may travel lengthwise without affecting the interlocking,—the rod R^{23} serving to interlock any of the counters 23, 24, or 25 with the rest of the group.

It will be understood that my improvement of connecting the counters together may be employed to handle the vote for an indorsed candidate in groups of any number and for any number of indorsements in any possible relative location.

The straight ticket mechanism will be understood from Fig. 1 and 2. S^1 S^2 S^3 are the straight ticket levers, one for each party, which operate all the counters in any one of the horizontal rows. In the construction shown, the voter who desires to vote a straight ticket, pulls the lever corresponding to his party to the left and this movement is transmitted to the counters by the sliding bars T^1 T^2 T^3 and the bent levers u , Fig. 2. A rod U^1 is supported from the plate D by the arms V^1 , and the straight ticket levers are pivoted on the rod, projecting outward through the slots in the face plate C . W^1 represents thimbles on the rod U^1 to hold the levers in place. The bars T^1 T^2 T^3 are arranged to slide lengthwise in suitable guides on the plate D ,—one of such guides being shown at N^1 . The bars are notched on their lower edges, where they engage with the straight ticket levers S^1 S^2 S^3 . The bars are provided with a series of lugs or pins, which actuate the upper ends of the levers u . The levers are pivoted to the plate on the studs s and their lower ends bear against the arms h and serve to operate and interlock the counters by raising up the arms and rods. The arms are not connected with the levers, but simply bear on them, so that any of the counters may be operated independently of the levers or the straight ticket mechanism. On operating the lever S^3 the bar T^3 is drawn to the right in Fig. 2, and its corresponding levers u actuate the arms h^{13} , h^{18} and h^{23} and the corresponding counters. The connec-

tion L^1 actuates the arm h^{12} , and this operates the counter 12 and rod R^{12} . The arm h^{18} is not attached to the connection L^3 , and consequently the rod R^{18} and its counter may be operated independently, if desired. The arm h^{24} by the connection L^3 operates counters 23, 24 and 25 and inserts the rod R^{23} between the interlocking blocks. The rods R^{24} and R^{25} are also operated but they are outside the abutment c^1 at that side of the group. It will then be seen that in this group of three, three interlocking rods have been used and that the group is consequently locked against any further voting in it.

If the counter 13 has been thrown out, as indicated on the left in Fig. 2, the vote for the indorsed candidate Stowels will be recorded on counter 12 only. If counter 13 remains in mesh it will indicate the same vote as 12, and the count can be taken from either. It will then be seen that a voter cannot register his vote so that it will be counted twice for an indorsed candidate.

The machine is arranged for a group of two candidates for each party by allowing lateral movement in only one abutment between two stationary ones. In a similar manner the machine is adapted to larger groups by allowing two or more of the adjacent abutments to move laterally. In the construction shown the abutments are fastened to the ways by the staples q , Figs. 4, 7, and 8, which pass through holes or slots in the abutments and engage in openings in the ways. To render an abutment movable it is only necessary to remove its staple, and it is fixed stationary by again inserting the staple. The groups vary in number and in the number of candidates from one election to another, and the indorsements are of course very variable but my invention provides for any of these variations. It allows any number of groups of any number of candidates to be used, and covers the indorsements while at the same time it can be reset so as to be used for single candidate voting on any one of the vertical lines of counters.

In using groups I connect the irregular slides together and close the opening in all but one of them. Thus for a group of two, indicated in Fig. 1 by the lines of counters 10 and 11, I attach the irregular slides M^{10} M^{11} together, in any suitable way, as by the bar L^5 , and I close the opening N in one of the slides by the plate r Fig. 3 held in place by a screw or other suitable device. I thus prevent voting in more than one of the irregulars in a group of any size. Where the two slides M^{10} M^{11} are pushed in, their interlocking rods are inserted between the interlocking blocks in the group so that none of the counters in the group can be actuated. In this case, the voter may be entitled to write two names on the ballot to be de-

posited in the irregular slide M^{10} . The slides may be connected together in any suitable manner, and the connection may be placed behind the key plate. Where the machine is set for single candidate voting, the connection between the slides is removed. For a group of three, the three irregulars M^7 M^8 M^9 are fastened together, by the bar L^4 or other suitable connection and the openings in two of them are closed. Groups of larger numbers are treated in the same way.

I claim.

1. In a voting machine, the combination of a plurality of counters devoted to the same candidate for an office and arranged on as many different party tickets, and means for compelling each of said counters to register a vote cast on any one of them.

2. In a voting machine, the combination of a plurality of counters devoted to the same candidate for an office and arranged on as many different party tickets, and means for compelling each of said counters to register the votes given directly to it and to register the votes given directly to the other counters as well.

3. In a voting machine, the combination of a plurality of counters devoted to the same candidate for an office and arranged on as many different party tickets, means for causing the successive registration of votes on said counters, and means for compelling all of said counters to register an equal number of votes at every stage of the election.

4. In a voting machine, the combination of a plurality of voting keys suitably interlocked, and a plurality of counters devoted to the same candidate nominated for the same office by as many different parties, and means for causing the operation of all of said counters upon the actuation of any one of said counters by the movement of the voting key corresponding to said counter.

5. In a voting machine, the combination of a series of counters devoted to candidates for a single office, an actuator for each of said counters, and means for directly connecting the actuators of any two or more of the counters of said series for simultaneous operation, leaving the remaining actuators free for independent operation.

6. In a voting machine, the combination of a series of voting keys arranged in party rows and suitably interlocked, a counter for each of said keys, and means for causing the operation of one of said counters when either of a plurality of a predetermined number of keys is operated.

7. In a voting machine, the combination of a series of voting keys suitably interlocked, a series of counters, one for each of said keys, a plurality of said counters being devoted to the same candidate nominated for the same office by as many different parties, and means

for causing the operation of all of said counters devoted to the same candidate upon the actuation of any one of said counters, resulting from the voting movement of the key of said counter.

8. In a voting machine, the combination of a series of keys arranged in party rows and suitably interlocked, counters to register the votes indicated by said keys, means co-acting with a predetermined number of said keys or their counter actuators belonging to the same candidate, so that any one of the counters belonging to said keys will suffice to register all of the votes indicated by all of the keys of said predetermined number.

9. In a voting machine, the combination, in a multicandidate group, of a plurality of balloting means devoted to candidates nominated by more than one political party for the same office, and means for causing said balloting means to operate simultaneously.

10. In a voting machine, the combination, in a multicandidate group, of a plurality of balloting means devoted to candidates for the same office, two or more of said balloting means belonging to the same candidate, and means compelling the operation of all of said balloting means by the operation of any one of them.

11. In a voting machine, the combination, in a multicandidate group, of a plurality of ballot indicators devoted to candidates for the same office, a plurality of registers, one for each indicator, and connections between registers devoted to the same candidates for causing the simultaneous operation of said registers.

12. In a voting machine, the combination, in a multicandidate group, of a series of counters, actuators therefor, direct connections between two or more of said actuators, and suitable interlocking mechanism between said connected counters and the counters which are not connected together.

13. In a voting machine, the combination, in a multicandidate group, of two or more counters devoted to the same candidate and their actuating mechanisms, with a connection between said actuating mechanisms.

14. In a voting machine, the combination, in a multicandidate group, of two or more counters provided with actuating mechanisms, comprising oscillating arms, with a link pivoted to said arms and joining said actuating mechanisms together.

15. In a voting machine, the combination, in a multicandidate group, of two or more counters, the actuators of which are directly connected together so as to be operated simultaneously, with suitable interlocked irregular voting mechanism.

16. In a voting machine, the combination, of counters arranged in groups, a direct connection between the actuators of two or more of said counters in the multicandidate group of said machine, and suitable straight ticket voting mechanism.

17. In a voting machine, the combination of counters arranged in groups, a direct connection between the actuators of two or more of said counters in the multicandidate group of said machine, suitable straight ticket voting mechanism, and suitable irregular voting mechanism.

18. In a voting machine, the combination, in a multicandidate group, of two or more counters devoted to the same candidate, means for actuating said counters, and means directly connecting said actuating means together, thereby compelling said actuating means to actuate all of said counters whenever one of said actuating means is operated to cast a vote.

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Witnesses:

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