(No Model.)

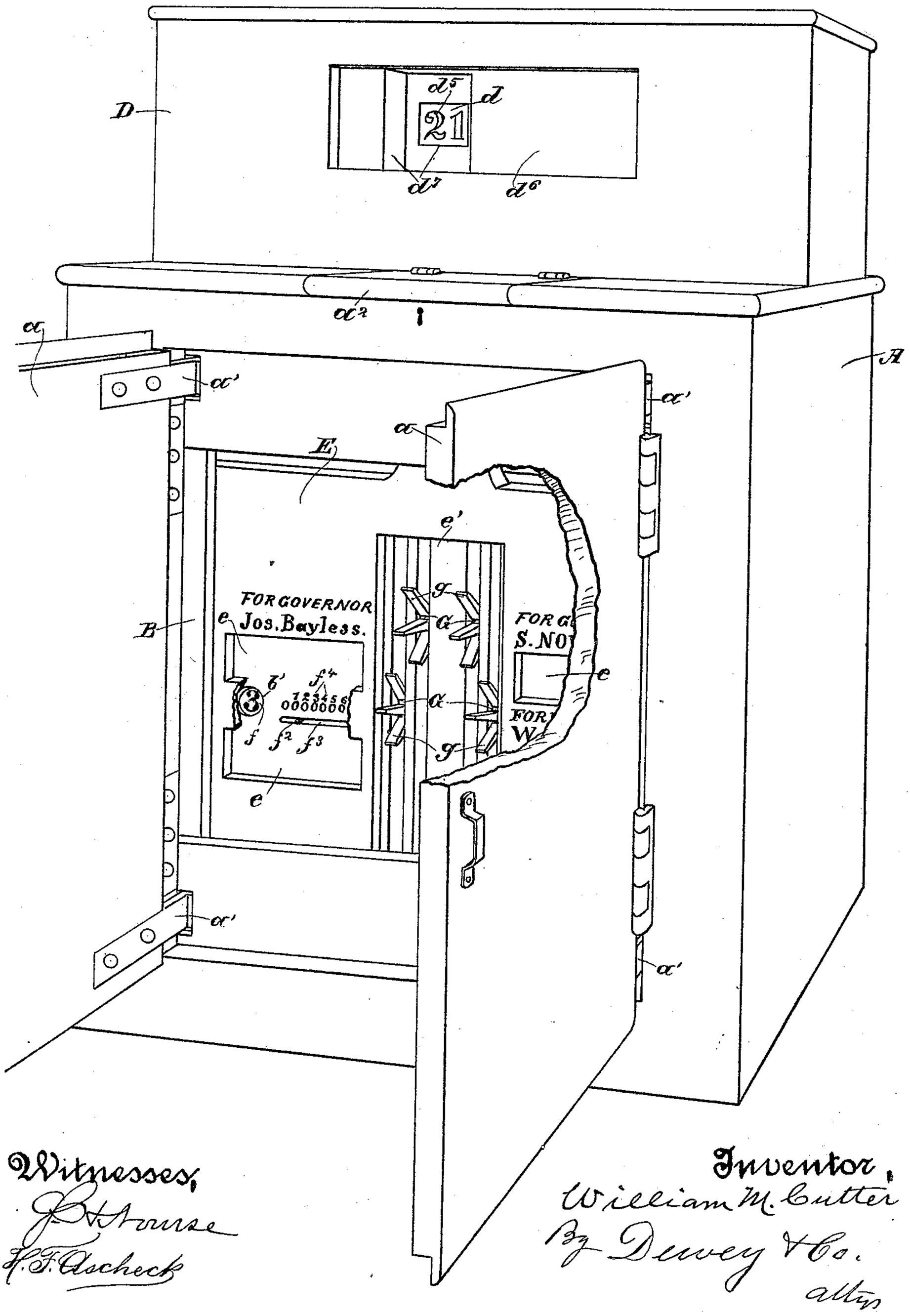
3 Sheets—Sheet 1.

W. M. CUTTER.

VOTING MACHINE.

No. 519,494. Patented May 8, 1894.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

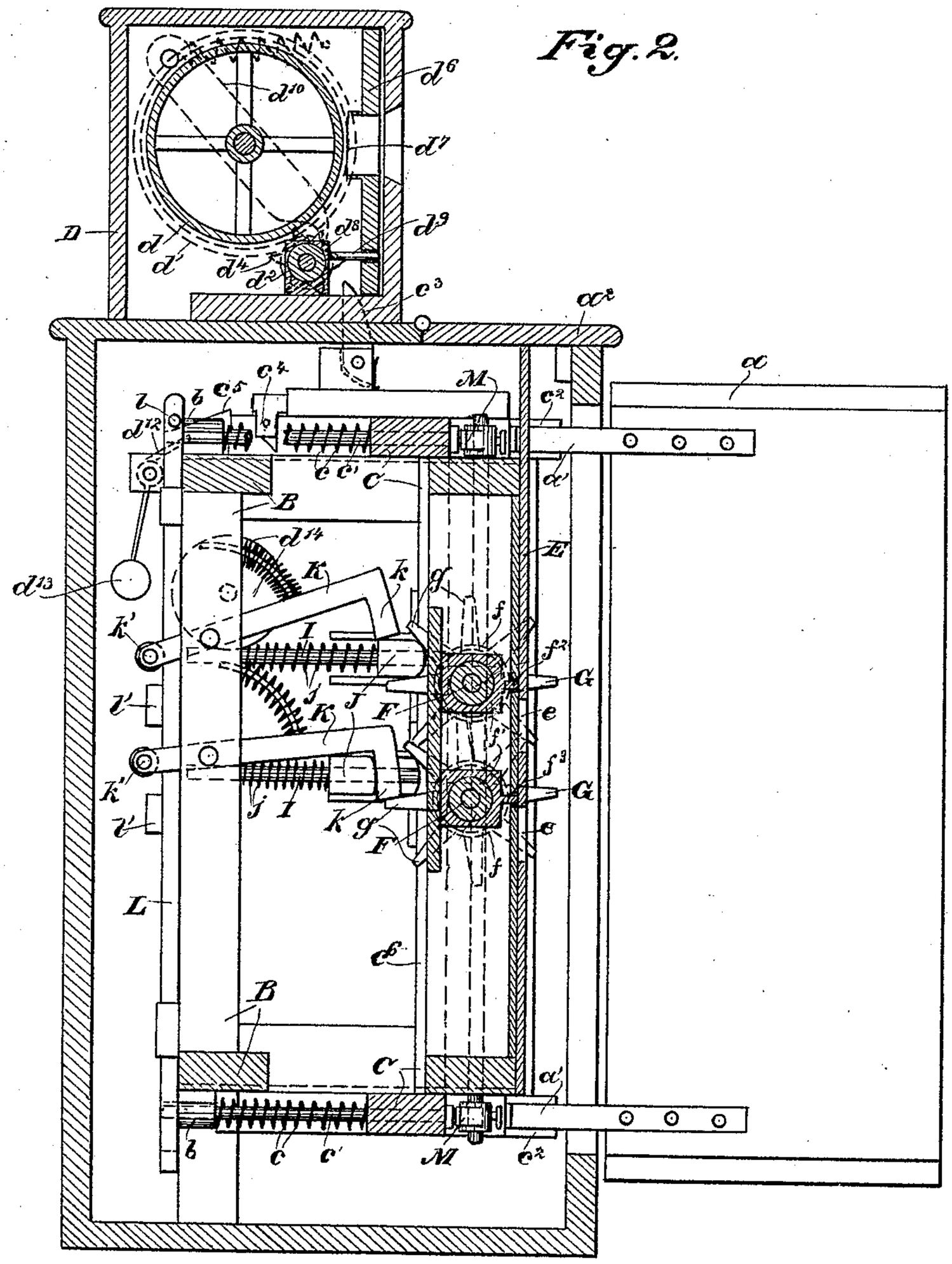

Fig. 3.

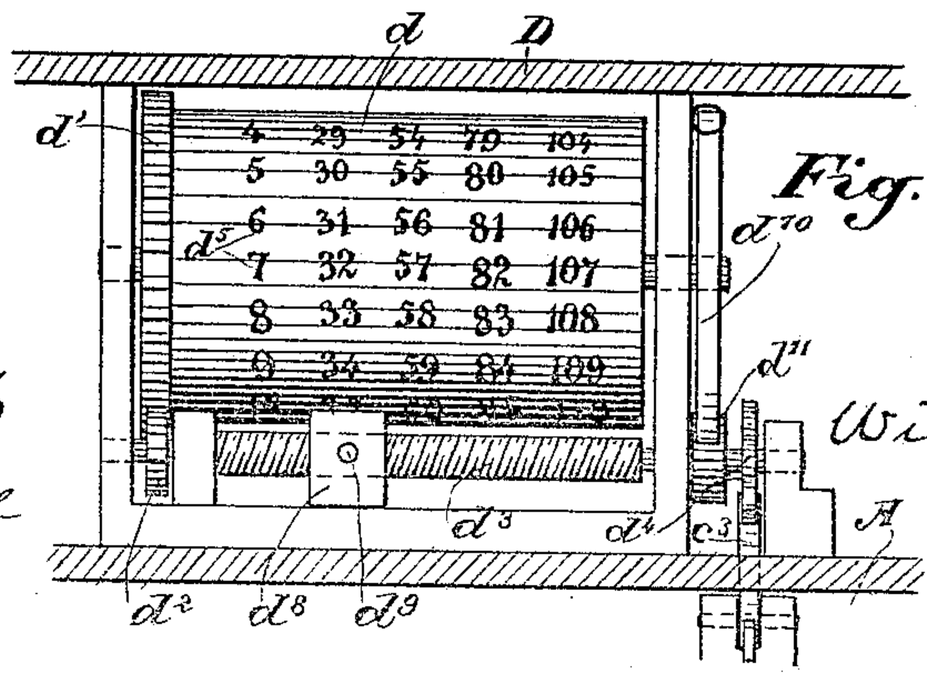

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Fig. 4.

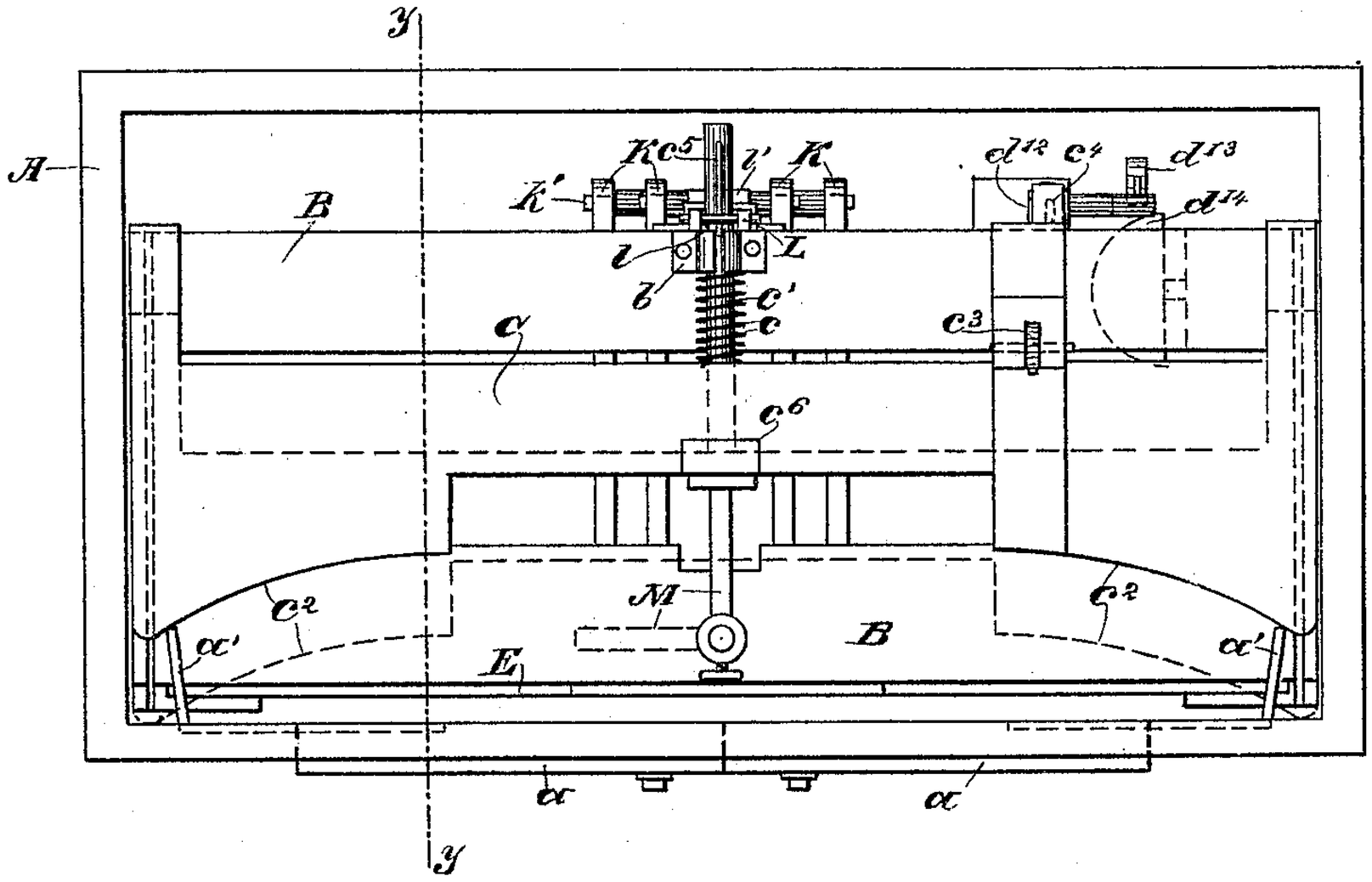
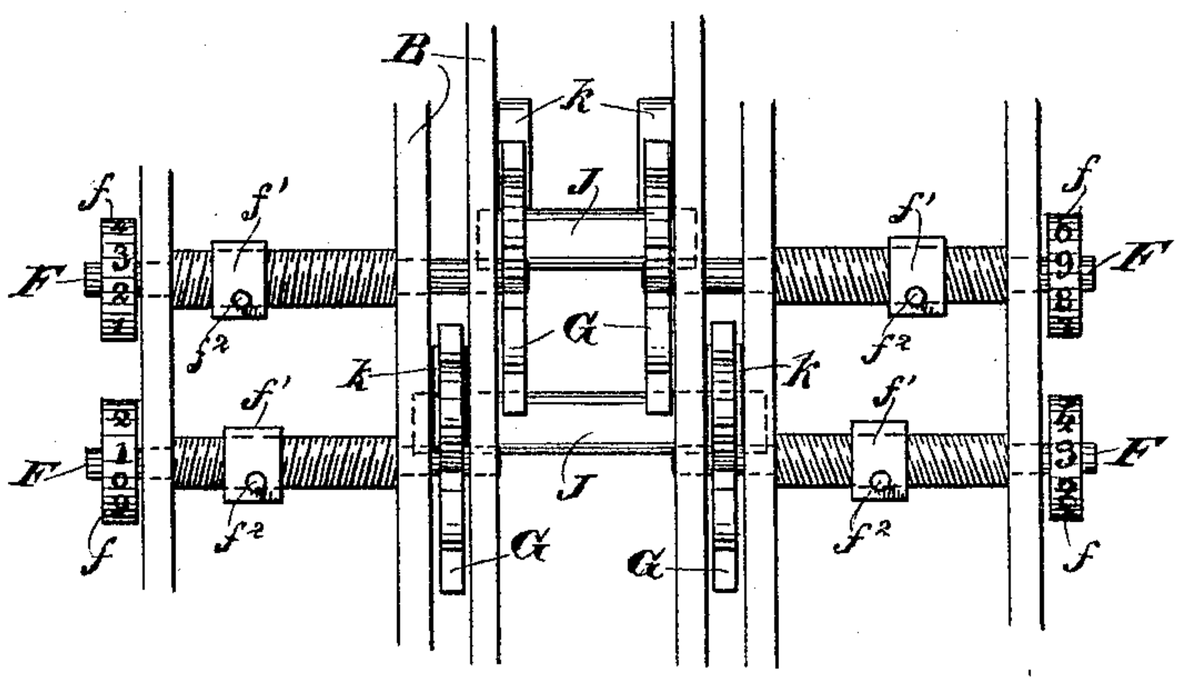


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM M. CUTTER, OF MARYSVILLE, CALIFORNIA.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 519,494, dated May 8, 1894.

Application filed November 17, 1893. Serial No. 491,247. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. CUTTER, a citizen of the United States, residing at Marysville, county of Yuba, State of California, have invented an Improvement in Voting-Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of voting machines, and it consists in a box having swinging doors, which, by their movement in affording access to the interior, adjust and set suitable devices within, adapted to be operated by the voter, whereby his vote is registered.

It also consists in the voting mechanism, the means for controlling it and insuring its proper and restricted use, the means for registering the votes for the different candidates, the means for registering the total votes cast, and various details of construction, arrangement and combination, all of which I shall hereinafter fully describe and claim.

The object of my invention is to provide a simple, effective and accurate voting machine, in which provision is made for the necessities of the election and the proper conditions of exercising the electoral franchise.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a perspective front view of my machine, the doors *a* being shown open. Fig. 2 is a vertical cross section on the line *y*—*y* of Fig. 4. Fig. 3 is a vertical section through the box D, showing the interior mechanism. Fig. 4 is a top view of the machine, the upper wall of case A, and the box D being removed. Fig. 5 is a front view of the voting mechanism.

A is a box or case of suitable size. Within this is firmly secured a fixed frame B composed of a front and a back portion separated from each other and suitably connected. Within this frame, between its front and back portions, is a slidable frame C supported and suitably guided in a vertical position. This slidable frame is normally held pressed to the front, by means of a spring *c* above and below, said spring encircling a rod *c'* projecting backwardly from the frame C and moving through a suitable bearing *b* on the back of the fixed frame B. The spring bears between this bearing *b* and the sliding frame and by its expansion holds the frame normally forward.

Upon the front of the sliding frame C, above and below, is a fixed incline c^2, one at each corner.

The front of the box A has swinging doors *a*, each of which, above and below, has secured to it, a presser arm *a'*, the inner extremity of which is adapted to bear upon the incline c^2. When the doors are wide open, these arms are not in contact with the inclines c^2, and the frame C is then held forward by its spring *c*. But upon closing the doors, the arms *a'* come in contact with the inclines c^2 and thereby press and hold the frame C back, while the forward pressure of the spring pressed frame upon the angular arms or levers *a* causes them to hold the doors closed. This is due to the fact that the arms or levers *a'* project beyond the hinged edges of the doors. Upon opening the doors again the arms *a'* gradually relieve the inclines c^2 and thereupon the springs *c* force the frame C forward again. This reciprocation of the frame thus effected and controlled by the opening and closing of the doors is taken advantage of to register the total number of operations of the doors, and ultimately to register the total votes cast, because, as will be presently described, each voter, in order to cast his vote, must open the doors, or have them opened for him, and they must be closed again to reset the voting mechanism. Thus each full operation of the doors represents a vote. This result is effected by the following mechanism: On top of box A is a closed box D, in which is journaled a drum *d*, having a gear *d'*, with which meshes a pinion d^2 on a screw shaft d^3. The other end of this screw shaft carries a ratchet d^4. Upon the slidable frame C is a pawl c^3 spring controlled and so mounted that as the frame is pressed back, the pawl will engage the ratchet (being rigid in that direction) and will turn the screw shaft and through the gearing will turn the drum *d*. As the frame moves forward again, the pawl c^3 yields in this direction and slips the ratchet. Upon drum *d* are spirally arranged the figures d^5 in continuous series. In front of the box is a slide cover d^6 with a sight aperture d^7 adapted to expose a single num-

ber. Upon the screw shaft d^3 is a traveler nut d^8 having an arm d^9 which engages the slide d^6. The movement of the slide, the rotation of the drum and the arrangement of the figures on the drum are such that at each operation of the drum, the slide will move and will expose a succeeding figure of the series. In operation, therefore, when the doors are opened, the pawl slips the ratchet and the drum does not move. But the voter having finished and retired, and the doors closed again, the pawl engages the ratchet and the drum is turned and thus continuously exhibits the total votes. A spring-controlled retaining pawl d^{10} engages a ratchet d^{11} on the screw shaft and prevents its backward rotation and holds it accurately to its movement. In order to call attention, however, to the act of opening the doors, there is a trigger c^4 on the frame C, which, when the frame is sliding forwardly, vibrates a contact d^{12} connected with a hammer d^{13} adapted to strike a gong d^{14}. Returning, the trigger pawl slips the contact and the gong is not sounded.

The voting mechanism is as follows:—Upon the front of the frame B, is a vertically movable face plate E, having sight slots e, above each of which are affixed, in suitable manner, the names of the candidates to be voted for. It has also a central opening e', and the slots e are arranged in corresponding horizontal planes on each side of this central opening. The names of opposing candidates for the same office are set in the same lines. For convenience I have here shown provision made for but two parties, though it will be readily understood that the machine may be extended to provide for as many parties as may be in the field. In the frame B are mounted horizontally any number of shafts F. Four are here shown, two being in each line. Upon each shaft is a hand wheel G projecting through guide slots in the front of the frame, and are exposed in the central opening of the face-plate. Upon each shaft F is a drum f. Upon these drums are figures which may be exposed through sight openings b' in the front of frame B and through the slots e in the face-plate, when the latter is raised. Now, by turning the hand wheel corresponding to the candidate, the voter will record his choice, by means of the rotation of the drum f. To obtain the necessary secrecy during voting, the face-plate E is normally depressed so as to cover the sight openings b', and it is held in this position by means of a locked door a^2 in the top of box A. By opening this door access may be had to the face-plate and it may be raised to enable the officers to see at the beginning of the day, that the drums are all started at zero, and at any time thereafter to inspect them if required, and at the end of the day to see the full amount of votes for each candidate.

In order to prevent the voter from voting for more than one candidate for the same office, and to prevent him from voting twice for the same candidate, there is the following mechanism:—As before stated the names and the voting hand wheels of candidates for the same office are arranged in the same horizontal line. This arrangement is not absolutely essential, as they may be arranged in vertical columns, but it is convenient in enabling me to properly connect the controlling devices as will be explained. The center upright c^6 of frame C, slides over rods I fixed in frame B. Upon these rods are mounted and adapted to slide locking blocks J controlled by springs j which encircle the rods. These locking blocks lie immediately behind the center upright c^6 of frame C, so that when the frame is pushed backwardly upon the opening of the doors, as heretofore described, the locking blocks will be pushed back on the rods I, against their springs. These blocks also lie in the horizontal planes of the several voting wheels, there being one block for each wheel, or as here shown, one for each pair of wheels. These wheels are formed, as shown, with spokes or radial arms g, and when the blocks are at rest at their forward limit, they lie between the spokes or arms of their corresponding wheels and effectually lock them and prevent their movement. The backward movement of the blocks, as above described, under the inpushing of frame C, causes them to remove from the arms g of the wheels, whereby the latter are freed, and can be rotated. K are swinging catches having heads k under which the blocks slip in moving backwardly, and by which they are engaged and temporarily held backwardly. The heads of these catches lie in the path of rotation of the voting wheel arms g. Now when the voter turns one of the voting wheels (all of which are freed when the voter is ready to vote, as I have described) an arm of said wheel, will, by contact with the overlying catch, raise it, and immediately, the locking block being freed, will, under the power of its spring, move forward to its engagement with the arms of the wheel and lock it, so that it cannot be turned any farther or again, until after the doors have been once more closed and opened, in order to reset the locking block. The frame C is at this time out of the way of the blocks, because, the doors being then open, said frame is in its forward position. Thus the voter is prevented from voting more than once for any candidate. Now, to prevent him from voting for more than one candidate for the same office, I have only to so connect the catches K of all the voting wheels representing said candidates, in such a manner that they will all be operated in unison by the movement of any one wheel of this set. Accordingly I have the catches K in the same line, connected with a shaft k' at their rear extremities. Therefore, when the voter turns one wheel, it will, in releasing its particular catch, release the catches of all the other wheels of the same set, and thereupon, all the locking blocks, or the locking block of

that set, will move forward to their or its engagement with the several wheels, and lock them all, so that having turned the wheel for one candidate, he cannot turn the wheel of any other candidate for the same office.

In order to provide a record for the total of votes received for each candidate, without having to make the drums f impractically large, I have each shaft F screw-threaded, and upon each is seated a traveling nut f' provided with a pointer f^2 projecting through a slit f^3 in the front of the frame, and traveling over or by a row of figures represented by f^4. The drums f may have upon them the nine digits and the zero, and the figures f^4 may represent tens. The pitch of the threaded shafts F is such that the pointers will be carried along one number for each ten numbers on the drums, or one revolution of said drums.

In order to enable the officers of election to open the doors and inspect the machine at the beginning of the day, to see that the indicators are at zero, and also to open the doors at the close of the election to count the vote, and in each case to prevent by the manipulation of the doors the setting of the parts and the consequent opportunity of further operation, I have an arm M on top of the front of the frame B, and which is accessible through the top door a^2. This arm can be turned inwardly so as to bear against and hold frame C back. The frame in thus moving back, causes a cam c^5 on the rod c' of said frame to operate on a lug l in a cam way in a vertically movable bar L on the back of frame B, whereby said bar is lifted, and stops l' with which it is provided are thus brought up closely under the rear ends of the catches K or of their connecting shafts k', whereby said catches are locked and cannot be raised by the voting wheels should any attempt to turn the latter, be made, and by being in the way of said wheels, the latter cannot be turned. Therefore, as long as the arm M holds the frame C back, all the parts are locked.

As I have before intimated, the extension of this machine to enlarge its capacity and suit the requirements of any election, is a mere obvious duplication and increase of parts already described.

In practice the doors of the box will be large enough to serve as a booth for the voter, thereby affording the necessary privacy.

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

1. A voting machine comprising a shaft provided with means for rotating it by the voter, and having an indicating mechanism to register its movement, a lock normally engaging the shaft and preventing its rotation, means for retracting the lock by the action of the voter to render the machine active, a trip to release the said lock when the voter has operated said shaft to register his vote; the said trip lying in the path of a projection or arm carried by the said shaft; whereby when the trip is operated it releases said lock, and the shaft will be locked against further rotation until the machine is again rendered active by the next voter, substantially as herein described.

2. In a voting machine, the combination of a plurality of independently rotatable shafts, each having an indicator to register its movement, a lock for normally holding each of said shafts from turning, means for relieving the shafts of their lock, and connected tripping devices for said lock, operated in unison by a given movement of any one of the plurality of shafts, to permit the return of the lock to its normal engagement, to hold all the shafts, substantially as herein described.

3. In a voting machine, the combination of a rotatable shaft having a hand wheel for turning it, and an indicator for registering its movement, a movable locking block adapted to normally engage and hold the hand wheel to prevent the shaft from turning, means for removing the locking block from its engagement to relieve the wheel and its shaft, and a catch to temporarily hold said block, said catch being tripped by a given movement of the wheel to permit the return of the block to its normal engagement to lock said wheel, substantially as herein described.

4. In a voting machine, the combination of a plurality of independently rotatable shafts, each having a hand wheel for turning it, and an indicator for registering its movement, a movable locking block adapted to normally engage and hold each hand wheel to prevent its shaft from turning, means for removing the locking block from its engagement to relieve all the wheels and shafts, and connected catches to temporarily hold said block, said catches being operated in unison by a given movement of any one of said wheels, to permit the return of all the blocks to their normal engagement, to lock all of said wheels and shafts, substantially as herein described.

5. A voting machine comprising a shaft provided with means for rotating it by the voter, and having an indicating mechanism to register its movement, a lock normally engaging the shaft and preventing its rotation, levers connected with the said lock for operation by the voter to retract the lock and render the machine active, a trip to release the said lock and permit it to again lock the said shaft after the voter has turned it to register his vote; the said shaft having a projecting portion or arm to release said trip as soon as the voter operates the shaft, and thus render the machine inactive until the next voter actuates said levers, substantially as herein described.

6. In a voting machine, the combination of an exterior box, having a swinging door, a rotatable shaft within, having an indicator for registering its movement, a normally engaged lock to prevent said shaft from turning, a slidable frame within the box adapted to relieve the shaft of said lock, said frame being operated by the opening and closing of the

door of the box, and a tripping device operated by a given movement of the shaft, to permit the return of the lock, substantially as herein described.

7. In a voting machine, the combination of an exterior box, having a swinging door, a rotatable shaft within, having a hand-wheel for turning it and an indicator to register its movement, a movable locking block normally engaging the hand-wheel to prevent it from turning, a slidable frame operated by the opening and closing of the doors to relieve the hand-wheel of its locking block, and a catch for temporarily holding said block and operated by a given movement of the hand-wheel to release the block to permit it to return to its normal engagement, to hold the wheel and shaft, substantially as herein described.

8. A voting machine comprising a hand operated shaft provided with an indicating mechanism to register its movement, a lock normally engaging the shaft and preventing its rotation, a slide for retracting the lock whenever the voter places the machine in active condition by operating the slide, a trip to hold the lock retracted, and actuated by the shaft when the voter operates it to release the lock and permit it to again lock the shaft and render the machine inactive until the slide is operated by the next voter, a pawl carried by the slide, and a registering mechanism having a ratchet in the path of said pawl to register the number of times the slide is operated, substantially as herein described.

9. A voting apparatus comprising an upright casing provided with vertical double doors to form a booth or inclosure when swung open, lever arms carried by the hinged ends of the doors, and entering the interior of the casing, a shaft within the casing having operating means extending through the front of the casing for actuation by the voter, and having an indicator to register its movement, a sliding frame in the casing and in the path of the said lever arms, and a locking mechanism retracted by said lever arms upon opening the doors, a trip operated by the shaft for releasing the said lock to permit it to again lock the shaft, and a registering mechanism operated by the said slide to register every time the doors are opened, substantially as herein described.

10. A voting machine comprising a casing having swinging doors provided at their hinged edges with lever arms projecting past said edges, a spring pressed frame in the casing and having inclines at its corners engaging said lever arms, and by which said arms retract the frame when the doors are being opened, and which through said arms hold the doors closed, a registering mechanism operated by the said frame every time the doors are swung in one direction, a shaft having mechanism for registering its movement when rotated by the voter, a locking bar for the shaft retracted by said sliding frame, a trip for temporarily holding the lock retracted, and released by the shaft upon an attempt to further operate the shaft, substantially as herein described.

11. In a voting machine, the combination of the slidable frame adapted by the exigencies of the machine to be operated by the performance of each voter in exercising his franchise, the rotatable drum having the spirally directed indicating figures, and the means for operating the drum consisting of the pawl on the frame, the shaft having the ratchet with which the pawl engages, and gearing between the shaft and drum, a casing for said drum provided with a slot, and the means for exhibiting the indicating figures, consisting of the apertured sliding cover plate over said slot, and the traveler nut seated on the shaft and having an arm engaging said cover plate, substantially as herein described.

12. A voting machine comprising a casing having a hinged lid and a front provided with sight apertures, a registering mechanism in the casing, the numerals of which are visible through said apertures, operating hand wheels exposed for actuation through said front, hinged front doors adapted to render said mechanism operative, and a vertically movable slide E, over said front and adapted to be raised and lowered upon opening the lid of the case to expose and cover said sight apertures, substantially as herein described.

13. In a voting machine, the rotatable shafts with their indicator drums and hand wheels, the sliding locking blocks, the slidable frame and the catches, in combination with the swinging holding arm M for the frame, the cam rod c' of said frame and the vertically movable bar L with its stop blocks operated by said cam rod and adapted to lock the catches, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM M. CUTTER.

Witnesses:
GEO. H. STRONG,
S. H. NOURSE.