

(No Model.)

2 Sheets—Sheet 1.

C. CHRISTENSEN.
VOTING MACHINE.

No. 584,494.

Patented June 15, 1897.

Fig. 1.

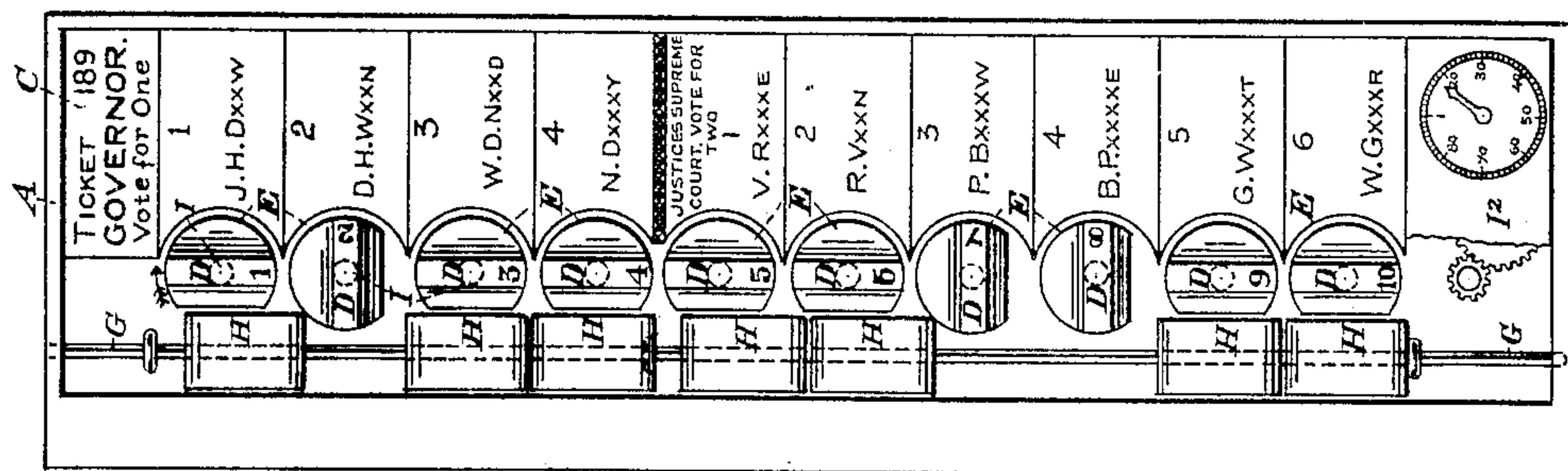


Fig. 2.

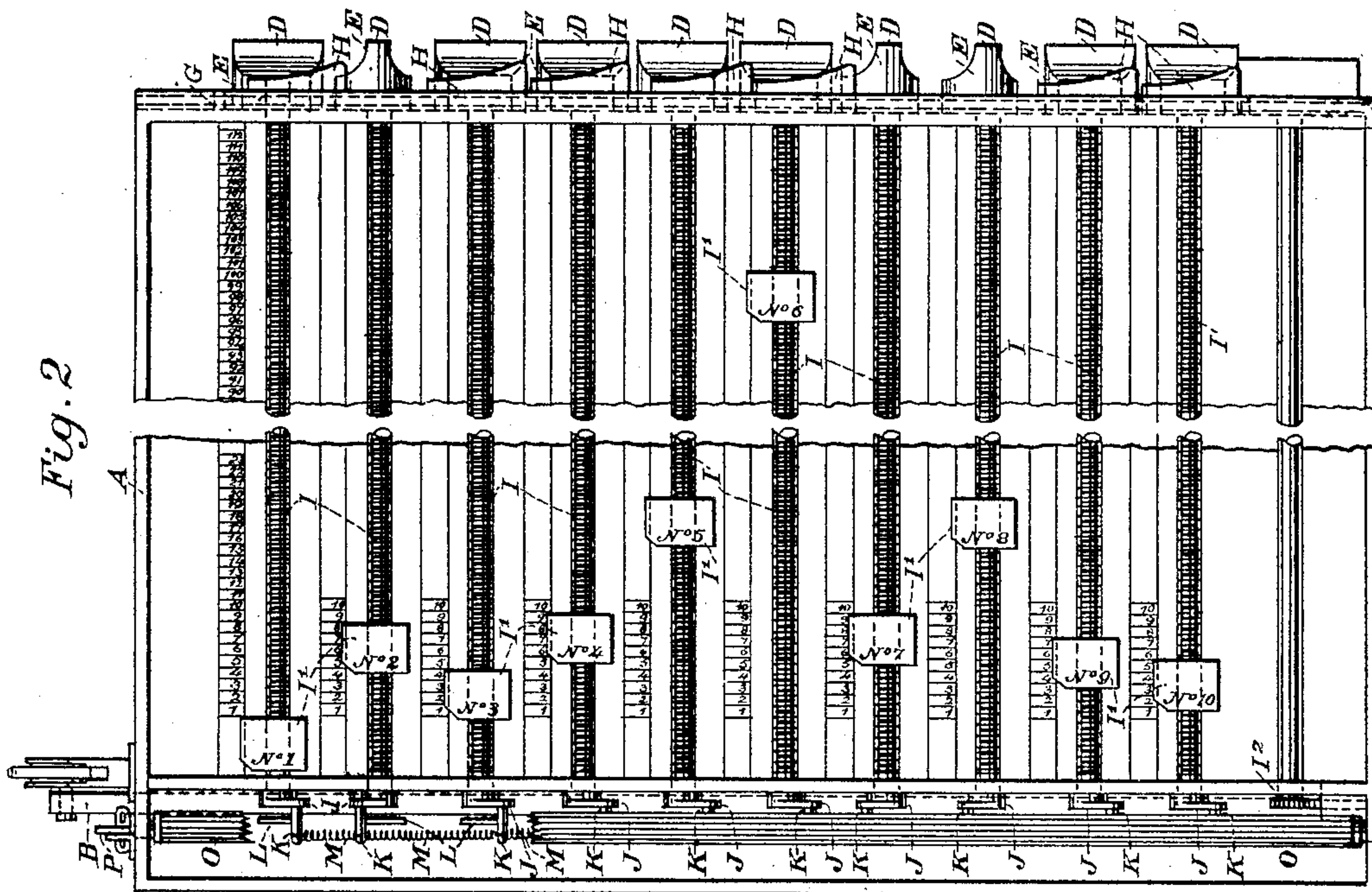
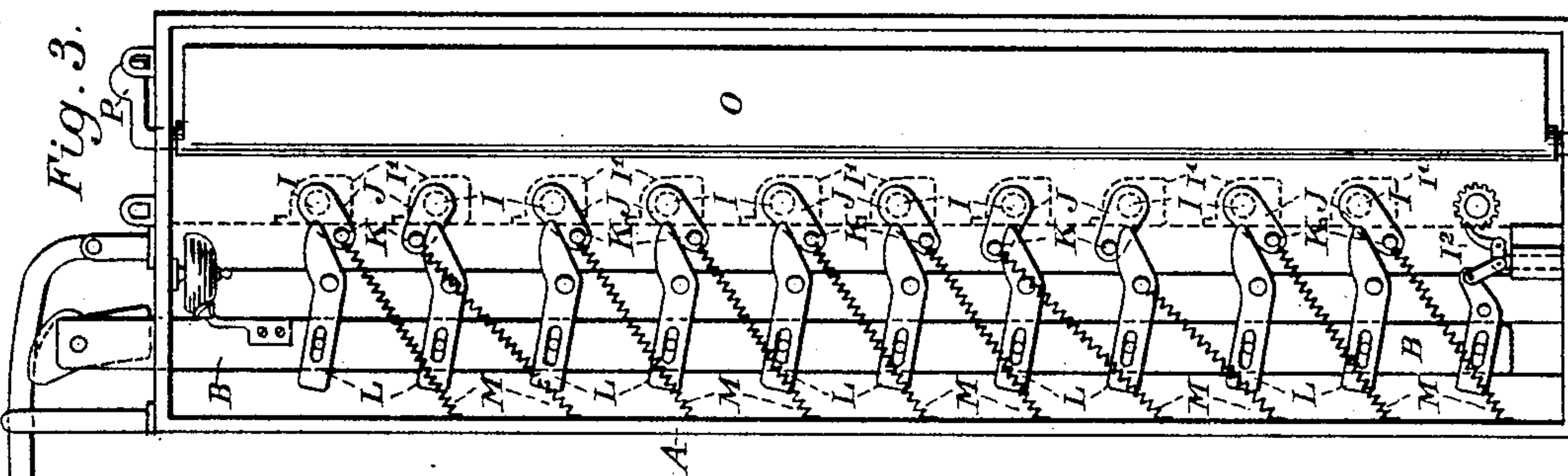


Fig. 3.



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Inventor,
Christ Christensen
By Duway & Co. Att'y

(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

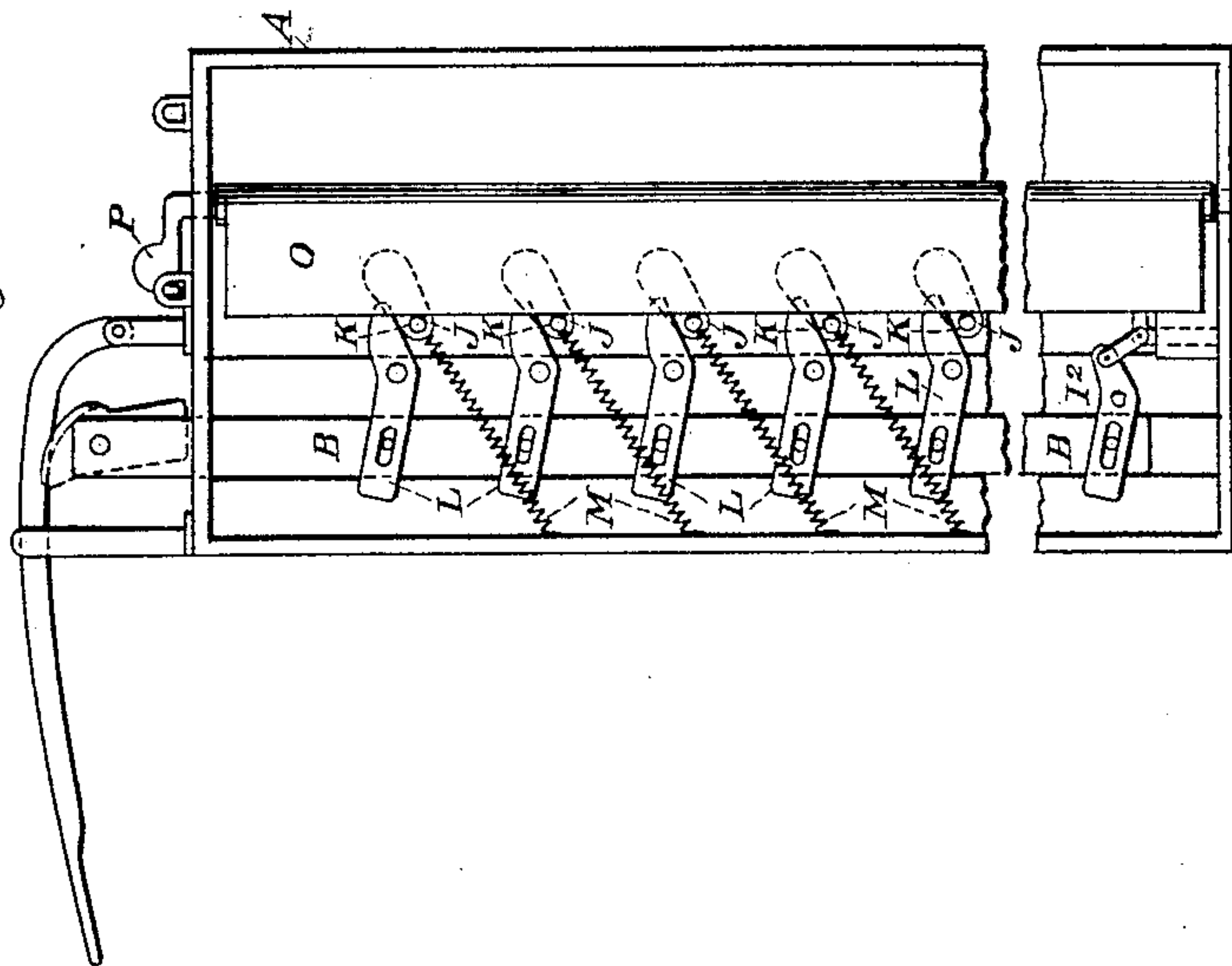
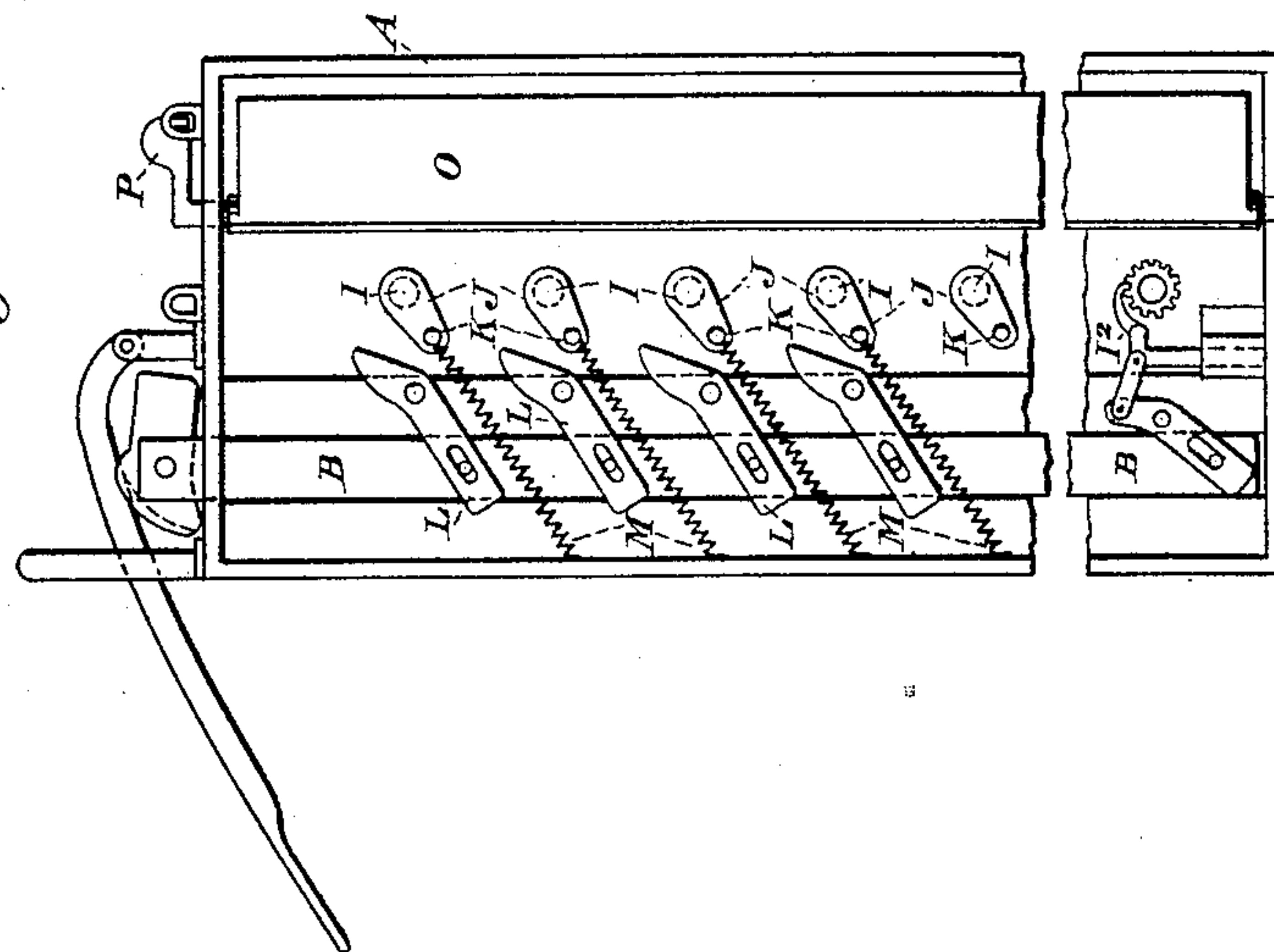


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHRIST CHRISTENSEN, OF EAST OAKLAND, CALIFORNIA, ASSIGNOR, BY
MESNE ASSIGNMENTS, TO THE CALIFORNIA VOTING MACHINE COM-
PANY, OF SAN FRANCISCO, CALIFORNIA.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 584,494, dated June 15, 1897.

Application filed December 14, 1896. Serial No. 615,617. (No model.)

To all whom it may concern:

Be it known that I, CHRIST CHRISTENSEN, a citizen of the United States, residing at East Oakland, county of Alameda, 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 an apparatus which is designed for mechanically indicating the choice of a voter from a list of candidates and means for registering the same and totalizing the entire number of votes cast for each of the candidates.

It consists of a casing containing the registering mechanism and mechanism to prevent more than the requisite number of votes being cast for any one office, having exposed for the manipulation of the voter a series of keys and a corresponding list of the names of candidates for each of the offices to be voted for, a means for locking the keys so that but one vote can be cast for any one individual, and means for allowing the requisite number of votes to be cast for offices where more than one is to be voted for, and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a front end elevation showing the keys and stop mechanism. Fig. 2 is a side elevation with front removed. Fig. 3 is an elevation of the interior of the rear chamber, showing its contained mechanism. Fig. 4 is an elevation of the interior of the rear chamber, showing its mechanism and showing the rod B moved down. Fig. 5 is a similar view showing the rod in its elevated position and showing the bar O in its locked engagement with the arms J.

In the present case I have shown the mechanism as being contained in a case A of suitable dimensions for the purpose. This case may be contained in a suitable voting-booth and has at some point upon its exterior a rod B, projecting from the interior, said rod being connected with certain mechanism, to be hereinafter described, and being so locked as to prevent any more than the proper number of votes being cast by one individual for any

one office. The rod serves also to reset the machine after the voter has completed his work.

Upon the face of the casing which confronts the voter when he enters the booth are placed the names of all the candidates for each office, as shown at C. Opposite each of these names is a turnable key D, each having a segment E formed with or attached to and turnable with it. Upon one side these segments present straight lines or chords, and when in their normal position these straight lines are all in line with each other. Adjacent to these flat faces of the keys is a guide or guides G, and upon these guides are slidable blocks H, the sides of which are normally in contact with the straight faces of the key-segments, so that the keys are locked thereby and prevented from being turned as long as the blocks H remain opposite to the keys. In order to allow votes to be cast, there will be as many less of these locking-blocks than the number of keys as the number of candidates to be voted for for any one office. For example, there may be four candidates for governor, and as only one is to be voted for there will be three of these locking-blocks, which leaves one of the keys free to be moved. In case of justices of the supreme court, for example, two are to be voted for. There may be seven candidates. There will then be five of the slidable locking-blocks, and so on throughout the list of candidates. These blocks slidable upon the guides fall by gravitation, so that they normally rest upon a suitable stop, leaving the lowermost of the blocks opposite the lowermost name of the candidate and the others respectively resting upon each other, so that in case of one candidate to be voted for and four candidates on the list there will be three of these blocks which act as stops to the three lowermost keys, the upper one being free to be turned.

If the voter desires to vote for the first candidate, he can turn the uppermost key, which is normally free, as above stated.

If the voter desires to vote for either of the other candidates, he pushes the sliding blocks upward, so that the key corresponding with the name which he wishes to vote for is un-

locked—as, for example, in voting for the governor he desires to vote for the third name on the list the two uppermost locking-blocks will be pushed up so that they lock the first
 5 and second of the keys and the lowermost block remains, locking the fourth name. The third key is then left free, so that it may be turned, and when turned it makes such a portion of a revolution as to bring the curved or
 10 segmental side in the path of travel of the locking-blocks, thus preventing the two uppermost blocks from being again slipped downward and also preventing the lowermost block from being slipped upward. This prevents the vote for more than one name at
 15 this point.

If two names are to be voted for, two of the blocks may be slipped up, so as to leave clear spaces for the turning of the desired keys successively—as, for instance, two of the blocks
 20 being slipped up the third key may be turned, and if the fifth is the next one for whom it is desired to vote the next block may be slipped up opposite the fourth key, leaving the fifth
 25 free to be turned, or if the sixth is to be voted for two of the blocks would be slipped up, leaving the sixth free to be turned, and when so turned the remainder of the keys will be locked, as above described. These
 30 keys are attached to the ends of shafts I, which extend horizontally through the casing and have arms J fixed upon the opposite ends, so that they turn within an independent chamber upon the opposite side of the casing.
 35 These disks have pins K or equivalent lugs upon one side, and when the key has turned around it turns the shaft and the arm so that the pin K passes through a certain fixed portion of a revolution.

The distance which the pin turns is determined by lever-arms L, which are pivoted, as shown, so that one end of each of the lever-arms projects over or with relation to the
 40 arms J, so as to form a stop to prevent the turning of the arm backwardly in making its first movement by reason of the pin or lug contacting with one side of this lever-arm. The arm is, however, free to be turned in the
 45 other direction, so that when the key has been turned around, as described, it carries the arm and pin with it until the pin strikes the opposite side of the lever-arm L and is there checked. This determines the amount of revolution of the key and the arm, which may be
 50 approximately three-quarters of a full revolution. It will thus be seen that when the key has been turned once it cannot be turned any farther or turned a second time until the lever-arm is withdrawn, so as to release
 60 the pin.

The turning of each shaft and arm is controlled by a spring M, connected with it in such a manner as to normally hold the arm with the pin close to one side of its lever L
 65 and the keys at the opposite end of the shaft all standing in one direction at starting. As shown in the present case, they are in verti-

cal line with each other, and when any key has been turned until the pin passes the center of action of the spring the spring will act
 70 to continue the revolution of the arm and key until the pin has arrived at the opposite side of the lever L and the key will stand approximately at right angles with its normal position, that showing that it has been voted. 75

So long as the lever-arms are not moved it will be seen that it is possible for the voter to turn his key back again if he is not satisfied with his vote or has made a mistake, and this
 80 turning of the key back restores the registering mechanism, to be hereinafter described, to the same position it occupied before the key was turned. In other words, the key may be turned forward and register one vote, and
 85 turned back and return the registering device to its normal position.

After the whole number of votes have been cast by turning the keys, as previously described, the voter leaves the booth and the
 90 inspector in charge of the machine unlocks the sliding rod B, previously described, so that it may be pushed downward, or this lever and locking device may be connected with the exit-door of the booth, so that the movement of the door actuates the rod B and the voter
 95 registers his own vote by the act of leaving the booth. This operates as follows: The long arm of each of the levers L extends across the line of travel of the sliding rod B and is connected with the rod by pins fixed to the rod
 100 upon each side of the lever, or by a single pin entering the slotted opening in the lever, or by any other suitable or well-known means, whereby the longitudinal movement of the rod will act to turn the levers upon their ful-
 105 crums. It will also be manifest that a rotatable rod would act in a similar manner to disengage the pins or lugs on the arms and release the latter. The votes then having been cast, the pins K of all the keys which
 110 have been turned will, as shown in the present case, have been turned so as to rest upon the upper sides of the levers L, which thus form stops to prevent their moving any farther in that direction. As soon as the rod B
 115 is properly moved it turns the levers L until the points of these levers have been disengaged from the pins K, and this allows the springs to act, so that the pins will pass the ends of the levers, the springs returning them
 120 to their normal position, which in the present case is just below the levers. This return of the pins also returns the voting-keys to their normal positions in readiness for the next
 125 voter. As soon as this has been done the rod B is returned, as above described, to the position in which it acts to lock the levers and the device is in readiness for the next voter.

The method of registering each vote is by the use of any suitable or well-known form of
 130 register. I have here illustrated the registering as being operated by cutting screw-threads upon the shafts I and fixing traveling nuts I' upon each of the shafts, these traveling nuts

having pointers or indicating-fingers movable over transverse numbered lines so fixed with relation to the screw-shafts that the nuts may be moved forward over the numbered sheet one numeral for each complete movement of the voting-key, and these screw-shafts are made long enough to have as many threads upon them as the greatest number of votes to be cast in any one precinct. I have also shown a well-known form of pawl-and-ratchet mechanism with a circular disk at I².

It will be readily understood that if, as previously described, a key is turned it will advance the traveling nut or indicator one number; but if the voter wishes to change his vote before leaving the booth he can turn the key backward to its normal position and the traveling nut will also be returned, so that no registration of a vote will be made until after the registering mechanism has been operated. This registration is effected by the movement of the rod B, so as to complete the rotation of the keys and return them to their normal positions. The vote is then cast and registered and cannot be altered. This operation may, as previously described, be under the control of the inspector, but it may be preferably effected by means of a connection with the exit-door of the booth, so that the voter completes the registration of his vote by the act of leaving the booth.

I do not desire to confine myself to a special method of registering, as it will be manifest that any of the well-known forms of registers consisting of gear-wheels and pinions actuated by a screw or worm upon each of the shafts I and having indicating-pointers upon one of the wheel-shafts adapted to move over dials or otherwise register the vote may be employed.

When the entire vote has been cast, it is necessary to prevent any further tampering with the machine until it can be opened and the votes counted. This is done by means of a bar O, extending vertically in front of the arms J and having a crank-arm P, upon the outside by which it may be turned. During the vote this crank-arm is locked to a staple or other fixture, so that the bar O is turned to one side and out of the way of the arms J and pins K, and it does not in any way interfere with their operation.

As soon as the voting has ceased the crank-arm P is unlocked, turned around a partial revolution, which turns the bar O into such position that it engages each of the pins or lugs K upon the disks J, and thus locks the whole line and prevents any further movement of them. The crank-arm P is then locked and sealed or otherwise secured to a staple or fixture, so that the bar O cannot again be moved until it is unlocked and released. That face of the machine or case which covers the registering mechanism may then be unlocked and opened to expose the registers, and the totals of each vote may readily be taken from the machine and announced,

the vote being thus counted within a very short time, and, the machine being locked in that position, the vote can be verified for the official count at any future time.

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

1. The combination in a voting-machine of segmental rotatable keys corresponding with each of the names to be voted for and turnable so as to indicate a vote for each turn, with slidable locking-blocks moving on a guide so as to lie against and lock the segmental keys to prevent their being turned.

2. In a voting-machine, segmental rotatable keys having the ends of the segments connected by straight chords or sides, blocks slidable in a guide parallel with said straight sides when the keys are in the normal position and serving to lock the keys to prevent their being turned, shafts connected with the keys and a registering mechanism actuated by the turning of each shaft whereby a vote for each candidate is registered whenever the key and its shaft is turned.

3. In a voting-machine, a series of rotatable keys corresponding in number with the names of the candidates to be voted for, a sheet having said names imprinted thereon, one name being opposite to each key, segments carried by the keys having straight sides, blocks slidable upon a guide so as to normally contact with the straight sides of the segments and prevent the keys from being turned, said blocks numbering as many less than the keys which they control, as there are candidates to be voted for, shafts connected with the keys at one end having arms fixed to the opposite end with pins or lugs projecting therefrom, fulcrumed levers having one end projecting into the path of the pins or lugs to act as stops when the keys have been rotated and means for disengaging the levers to allow the completion of the rotation of the arms and the keys so as to return them to their normal position.

4. In a voting-machine, keys mounted upon shafts adapted to be rotated when a vote is being cast, segments connected with said keys having straight sides, sliding blocks movable in guides so as to normally lock a number of the keys, said blocks being slidable so as to allow one or more of the keys to be turned, and when so turned acting as a lock to prevent any further movement of the sliding blocks, arms fixed upon the opposite ends of the key-shafts having pins or lugs projecting from one side and springs by which they are normally drawn into a certain position which coincides with the normal position of the keys, devices projecting into the line of the pins to act as stops whereby any pin is arrested when the key has been turned a certain portion of its revolution, a rod engaging with the stop devices and movable so that the stops may all be simultaneously disengaged from the pins to allow the completion of the revolution

of the arms and keys and their return to the normal position after the voter has left the booth.

5 In a voting-machine, the combination
with rotary keys corresponding with each of
the names to be voted for and shafts upon
which the keys are mounted, of arms fixed
upon said shafts having projecting pins or
lugs, levers fulcrumed so that one end of each
10 lever projects into the line of its correspond-
ing arm and serves to arrest the pin when
the arm has been turned a portion of its revolu-
tion, springs so connected as to normally
hold and return the arms and keys to a cer-
15 tain position, a movable rod engaging the op-
posite ends of the levers whereby the levers
may be turned so as to disengage the pins or
lugs upon the arms and allow them and the
keys to return to their normal position, said
20 sliding rod having a lock whereby it is pre-
vented from moving until the vote is com-
pleted.

6. The combination in a voting-machine of
a series of rotary keys each mounted upon a
25 shaft, locking-blocks slidable upon guides

with relation to said keys so as to prevent
their being turned until the blocks are moved
out of line with the keys said blocks serving
to prevent further movement to release other
keys after the proper number have been 30
turned, arms fixed upon the opposite end of
the key-shafts having lugs or pins projecting
therefrom, levers fulcrumed to lock the arms
by projecting into the path of the pins or
lugs to prevent more than one turn being 35
made, and a mechanism whereby the levers
are released after the voter has left the booth
so that the arms and keys continue their revo-
lution and return to their normal position
ready for a new movement, and indicating 40
and registering mechanism actuated by the
rotation of the shafts whereby the number of
votes cast for each candidate is registered.

In witness whereof I have hereunto set my
hand.

CHRIST CHRISTENSEN.

Witnesses:

S. H. NOURSE,

JESSIE C. BRODIE.