

(No Model.)

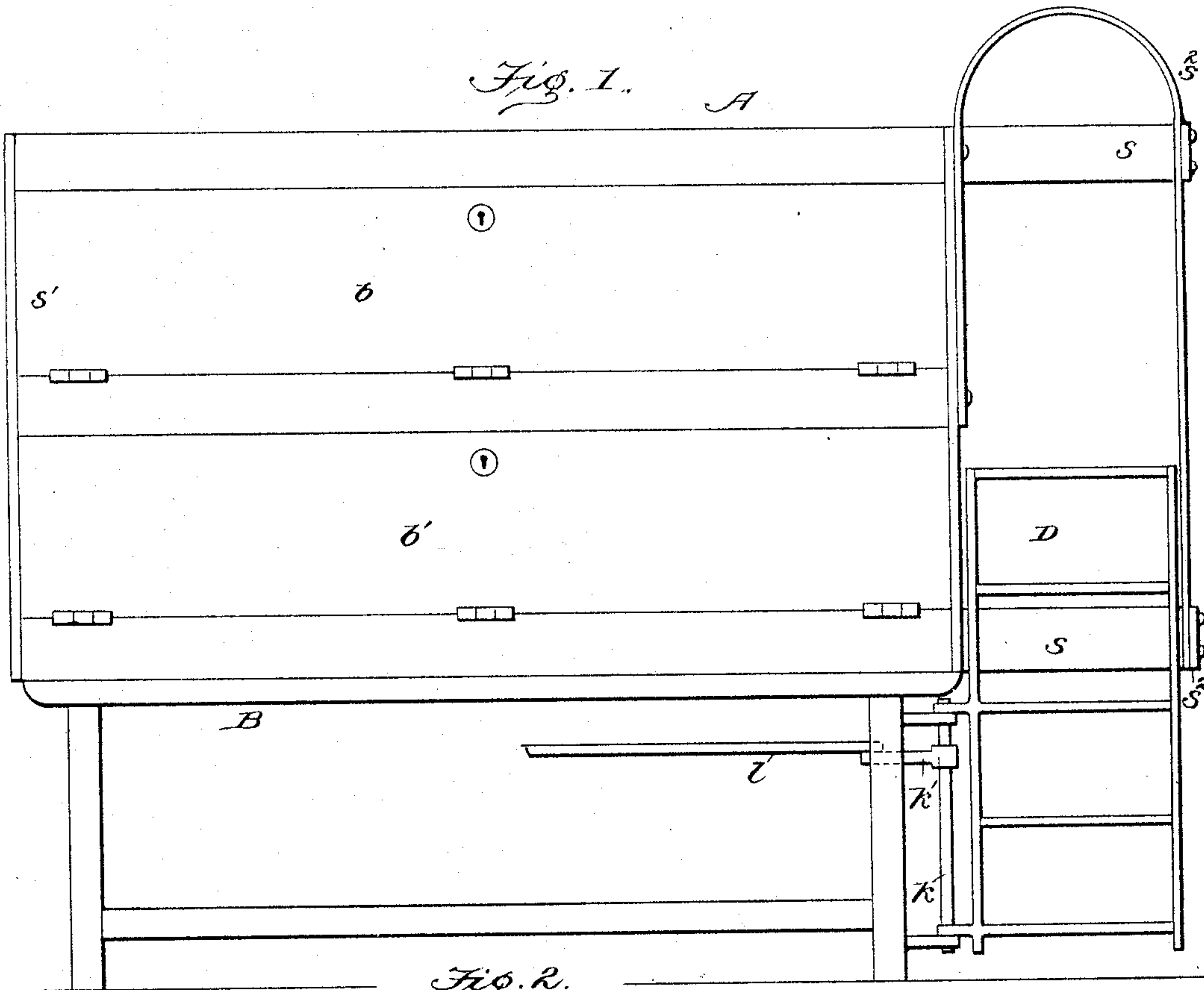
4 Sheets—Sheet 1.

J. G. HARDIE, Jr. & J. F. POST.  
VOTING MACHINE.

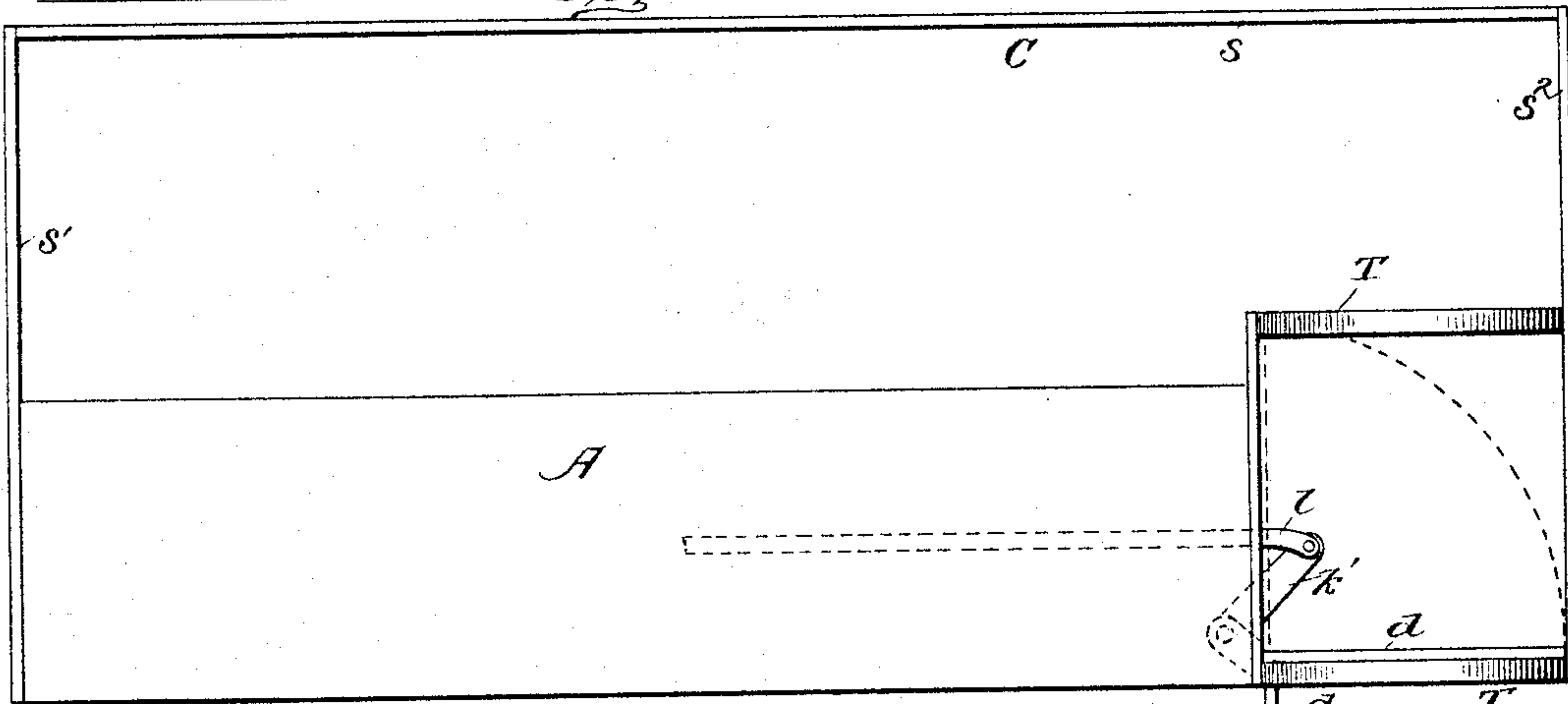
No. 587,129.

Patented July 27, 1897.

*Fig. 1.* A



*Fig. 2.*



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*J. G. Hardie Jr*  
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4 Sheets—Sheet 2.

Patented July 27, 1897.



National	State	County	Township	
<div>000000</div> <div>Democratic</div> <div>000000</div> <div>Republican</div> <div>a</div> <div>National</div> <div>g'</div> <div>000000</div> <div>000000</div>	<div>000000</div> <div>Democratic</div> <div>000000</div> <div>Republican</div> <div>a'</div> <div>National</div> <div>g'</div> <div>000000</div> <div>000000</div>	<div>000000</div> <div>000000</div> <div>a<sup>r</sup></div> <div>000000</div> <div>000000</div> <div>g'</div> <div>000000</div> <div>000000</div>	<div>000000</div> <div>000000</div> <div>a<sup>e</sup></div> <div>000000</div> <div>000000</div> <div>000000</div> <div>000000</div> <div>000000</div>	<div>000000</div> <div>000000</div> <div>a<sup>t</sup></div> <div>000000</div> <div>000000</div> <div>000000</div> <div>000000</div> <div>000000</div>

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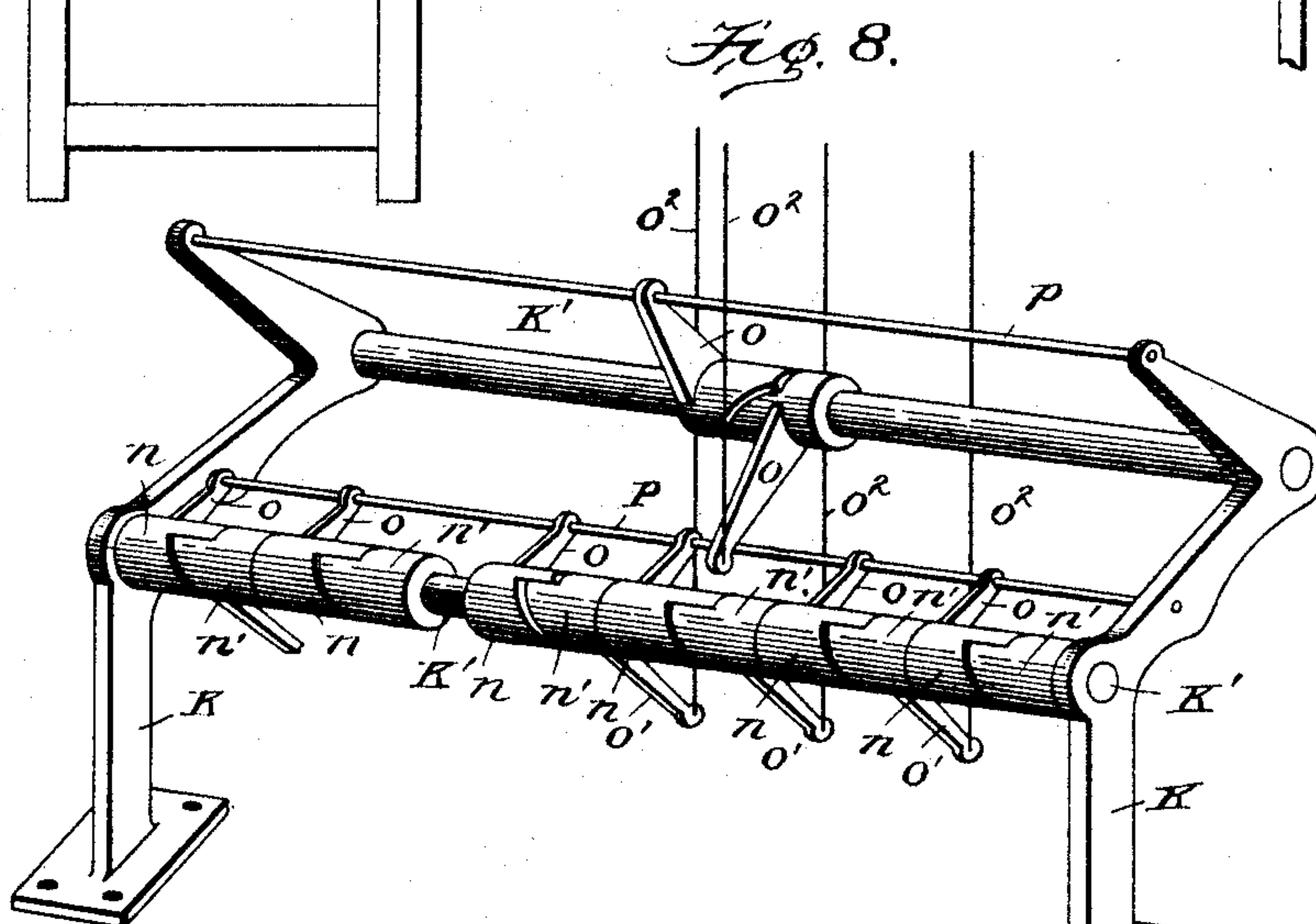
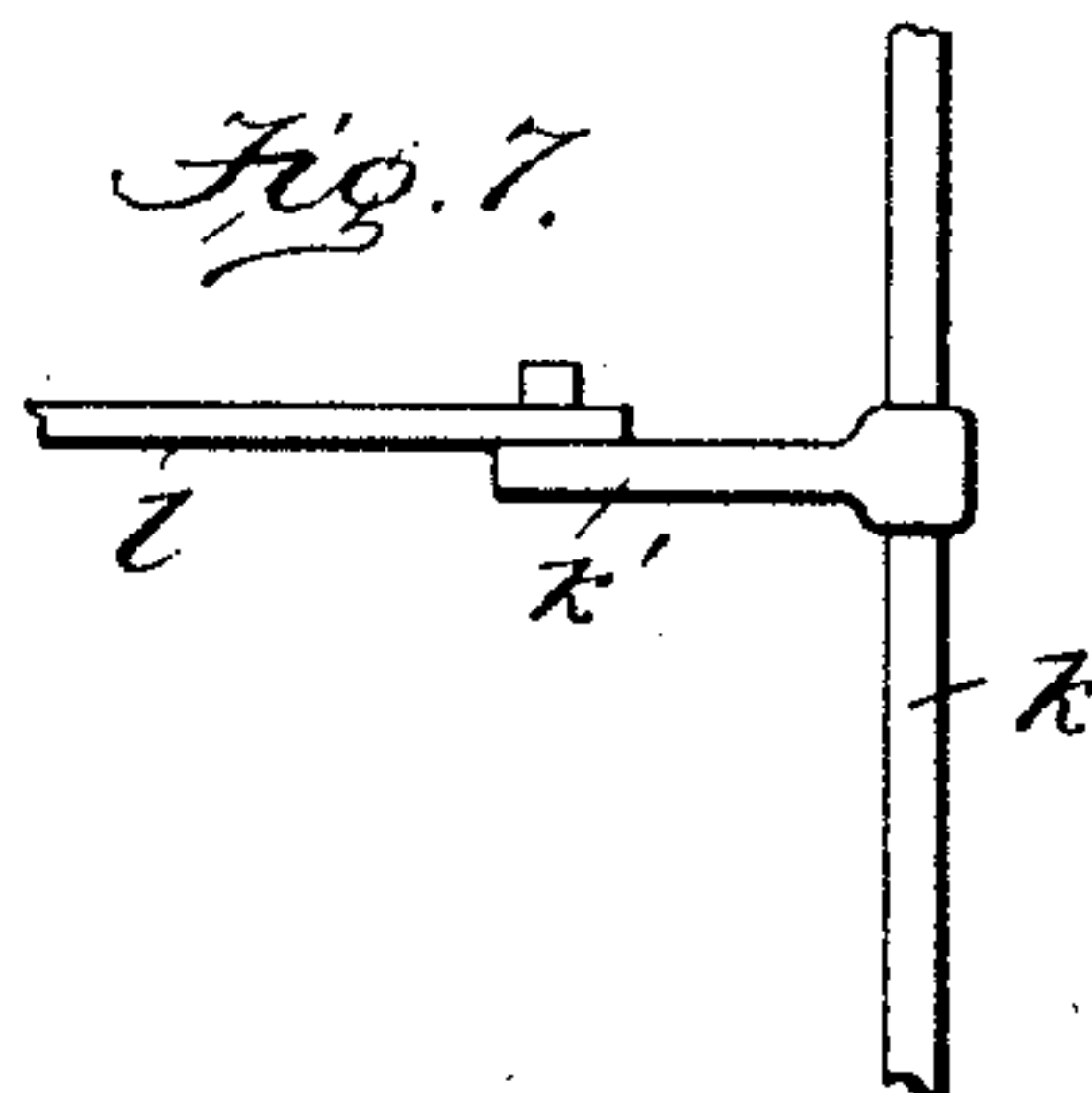
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4 Sheets—Sheet 3.

VOTING MACHINE.

Patented July 27, 1897.



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(No Model.)

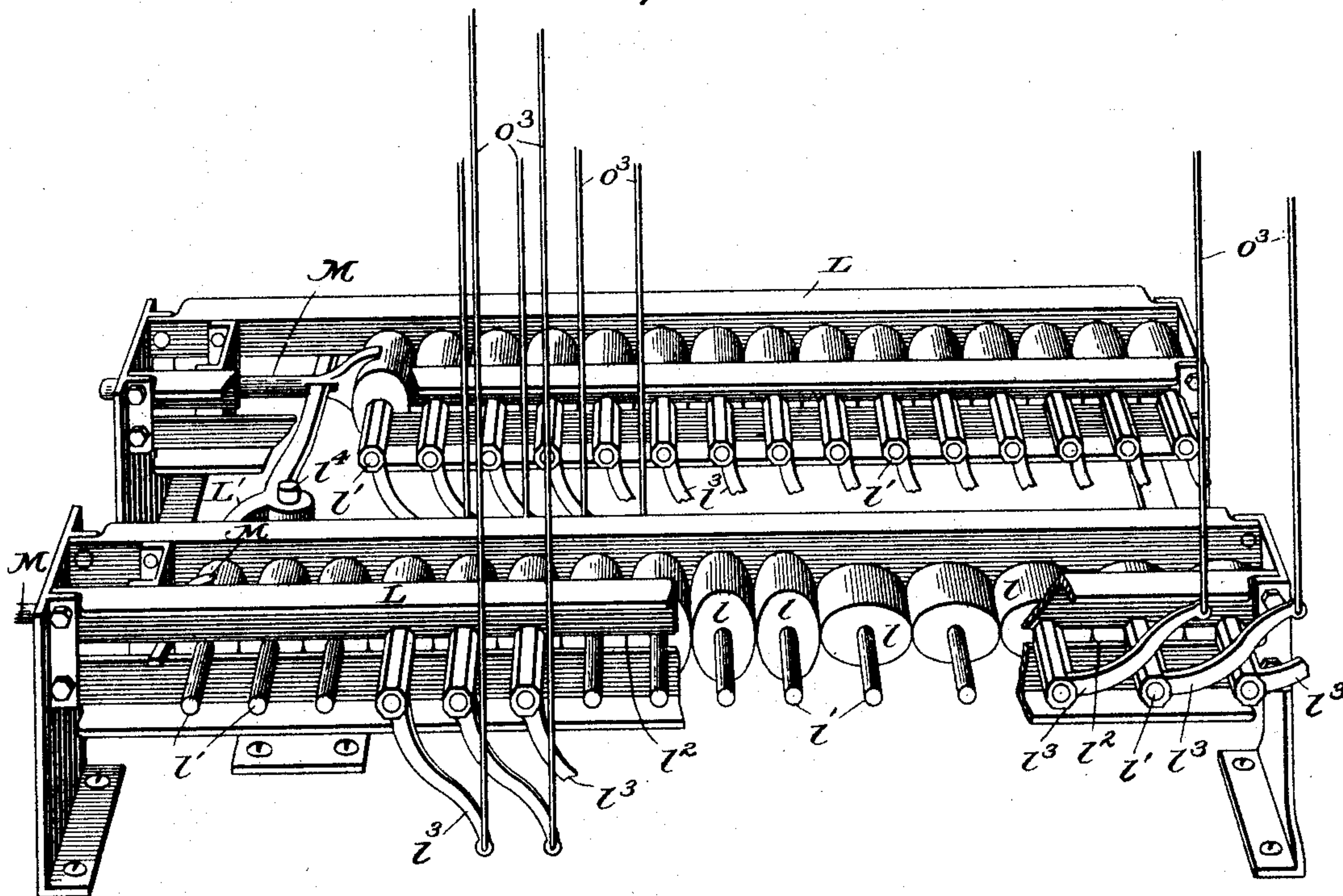
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J. G. HARDIE, Jr. & J. F. POST.  
VOTING MACHINE.

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*Fig. 9.*



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# UNITED STATES PATENT OFFICE.

JAMES G. HARDIE, JR., AND JOHN F. POST, OF CANTON, NEW YORK; SAID POST ASSIGNOR OF HIS RIGHT AND SAID HARDIE ASSIGNOR OF ONE-HALF OF HIS RIGHT TO RUSSELL A. HART, ARCHIBALD R. HENRY, AND HARMON LINDSAY, OF BATTLE CREEK, MICHIGAN.

## VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 587,129, dated July 27, 1897.

Application filed September 9, 1895. Serial No. 561,959. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES G. HARDIE, Jr., and JOHN F. POST, citizens of the United States, residing at Canton, in the county of St. Lawrence and State of New York, have invented certain new and useful Improvements in Voting-Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to that kind of voting apparatus in which the voters pass singly into a booth or compartment and vote in secret by operating a suitable registering mechanism provided for the purpose.

Our object is to provide an accurate and reliable voting-machine adapted to be conveniently and expeditiously operated, to prevent dishonest voting, to prevent tampering with the machine by dishonest or unauthorized persons, and to secure the utmost secrecy in voting.

To these ends the invention comprehends means, substantially as hereinafter described, for preventing the entrance of more than one voter to the voting-booth at once; for preventing the voter from duplicating his vote—that is, from voting for more than the prescribed number of candidates for any office; for enabling the voter to observe the operation of the registering apparatus to the end that he may know that his vote is properly registered, and for positively restoring the apparatus to normal condition as each voter passes from the booth to put it in condition for the next voter.

It further comprehends the combination of instrumentalities for locking the apparatus on the passage of each voter from the booth and for retaining it in locked condition until the next voter enters to the end that persons surreptitiously entering the booth may be prevented from tampering with the machine.

It further comprehends certain constructions and combinations of parts, as hereinafter fully described and claimed.

In the accompanying drawings, which illus-

trate our invention and form a part of this specification, Figure 1 is a front elevation, and Fig. 2 a plan view, of the cabinet containing the apparatus, the latter view showing the voting booth or compartment. Fig. 3 is a vertical longitudinal section on the line 3 3 in Fig. 5. Fig. 4 is a rear elevation of the cabinet, showing the same open and ready for use. Fig. 5 is a transverse vertical section on the line 5 5 in Fig. 3. Fig. 6 is a plan view of the swinging gate; Fig. 7, a detail view; Fig. 8, a perspective view of the means for limiting the operation of the machine to the casting of a single vote for a given candidate; and Fig. 9, a similar view of the means employed in voting for a plurality of candidates for similar offices, all as hereinafter more fully described.

Referring to the drawings, A designates a casing or cabinet; B, the stand on which the same is mounted; C, the voting booth or enclosure, and D the swinging gate, which controls the passage to and from the voting-booth.

As illustrated in the drawings, the cabinet is divided into sections  $a$ ,  $a'$ ,  $a^2$ ,  $a^3$ , and  $a^4$ , each of which is provided with a separate voting and registering apparatus each complete in itself, such division being for the purpose of providing in a single machine the apparatus required at general elections. For example, the section  $a$  is intended for national officers,  $a'$  for State officers,  $a^2$  for county officers,  $a^3$  for township officers, and  $a^4$  for city or municipal officers, &c.

While five sections are shown, it is to be understood that there may be any number to meet the requirements of the case.

The cabinet A is provided in its front and rear sides with suitable doors  $b$   $b'$  and  $c$   $c'$ , through which access is had to the mechanisms within and which are to be under the control of properly-authorized officers.

As shown in Fig. 2, the voting-booth C is at the rear of the cabinet A and extends past and around one end of the same, and at this end between the cabinet and the end wall of the booth is located a swinging gate D, which controls the entrance to the booth. This gate really comprises two gates  $d$  and  $d'$ , arranged



at right angles to each other, as shown in Fig. 6, so that when one is open the other is closed, the arrangement and the connections, hereinafter described, being such that when the booth is unoccupied one gate is closed and the other stands outward, as indicated in Fig. 2. A voter entering the booth turns or swings the gate  $d$  inward, simultaneously closing the outer gate  $d'$  after him after the manner of a turnstile, a second voter being thus prevented from entering while the first remains in the booth. As the voter passes out of the booth he swings the gate  $d'$  outward and closes the gate  $d$  after him, after which another voter may enter, and so on.

The gate  $d'$  may be provided with a lock or latch  $e$ , accessible only from the inside when the gate is closed, whereby a second voter may effectually be prevented from entering the booth until the gate is unfastened and opened by the voter passing out.

Within the cabinet, a short distance from the rear side thereof, is a vertical longitudinal wall or partition  $f$ , in which are fulcrumed the voting-levers  $g$ , by the operation of which the registering apparatus is operated by the voters to register their votes.

Each section of the machine has a series of voting-levers arranged in vertical and horizontal rows, (see Fig. 4,) the horizontal rows representing, respectively, the different political parties and the vertical rows the offices to be filled or candidates to be voted for. For example, the upper horizontal row may be assigned to the Democratic party, the second row to the Republican party, the third row to the National party, and so on, there being a row for each party having candidates to be voted for.

While the drawings show six vertical rows of levers in each section except the last, (marked  $a^4$ ,) it is to be understood that there are to be as many such rows in each section as there are candidates to be voted for or offices to be filled. Thus the first section  $a$ , which is used in voting for national officers, will have as many vertical rows of levers as the State in which the machine is to be used has votes in the electoral college. Supposing the State to be entitled to six votes, there will be six vertical rows of levers. If entitled to a greater number of votes, the number of rows of levers will be correspondingly increased, so that there will be in each horizontal row as many levers as there are electors to be voted for. Each elector is thus voted for separately, giving to each voter perfect freedom to vote for any candidate he may choose on any ticket and to "cut" or "scratch" at pleasure. The levers are, however, connected with devices within the machine whereby the operation of more than the prescribed number is prevented, so that while the voter is free to vote for any candidate he chooses he is limited as to the number of votes he may cast, and while he is not obliged to vote for all the candidates he is positively

prevented from voting for more than the prescribed or lawful number and is thus prevented from voting fraudulently. The devices whereby this limitation is effected will be fully described hereinafter.

In like manner the sizes of the other sections of the machine and the number of levers therein are regulated to meet the requirements, according to the number of parties and the number of candidates to be voted for or the number of offices to be filled.

With the exception hereinafter noted the mechanisms of the different sections are all alike, and therefore a description of one section will suffice for all.

The levers  $g$ , fulcrumed in the wall or partition  $f$ , as stated, are each provided with a handle  $g'$ , whereby they are operated in the act of voting, the handle being pressed down to raise the opposite end, as shown by the position of the third lever from the top in Fig. 5, and at the swinging end each lever has connected with it a toothed or serrated bar  $g^2$ , with which a pawl  $g^3$ , mounted in the top of the casing, engages to hold it in elevated position, there being a separate pawl for each bar, so that any lever after being operated is prevented from being operated a second time until released by the voter in passing from the booth, as hereinafter explained, so that no voter can vote a second time for the same candidate. Each lever is also connected, by means of a bar  $g^4$ , with a register  $G$ , of any approved or preferred style, located in the bottom of the cabinet opposite the glazed door  $c'$ , through which it may be viewed and its operation noted by the voter. It will of course be understood that there is a separate register for each lever, so that the votes for each candidate are registered separately.

With the view of avoiding confusion we show in Fig. 3 (section  $a$ ) the bars  $g^2$  in connection with one half of the levers  $g$  and the bars  $g^4$  in connection with the other half, but in Fig. 5 we show both of said connections.

In the bottom of the cabinet are two pedestals  $H H'$ , which support a horizontal bar  $h$ , on which is mounted a movable block  $I$ , in which is a cam-slot  $i$ . Pivoted in the pedestals  $H H'$  are two levers  $h' h^2$ , each having a pin  $h^3$ , which works in the cam-slot  $i$ , so that when the block  $I$  is moved longitudinally the said levers are vibrated, as indicated by broken lines in Fig. 3.

$J$  designates a vertically-movable frame which is connected with the levers  $h' h^2$  in such manner that when the levers are vibrated by moving the block  $I$  the frame will be moved vertically. This frame has a series of horizontal bars  $j, j', j^2, j^3, j^4$ , and  $j^5$ , which overlie the respective rows of levers  $g$ , being arranged in such relation thereto that when the frame is in its elevated position the levers are free to be operated and when in its lowered position the levers will be held down and prevented from being operated, from which it will be understood that after the le-



vers have been operated should they fail to return to normal position under the influence of gravity after being released by the disengagement of the pawls  $g^3$  they will be drawn down by positive action.

Connected with the top of the frame J is a horizontal bar  $j^7$ , arranged in such relation to the pawls  $g^3$  that when the frame is in its elevated position, as represented in Fig. 5, it will overlie the heels of said pawls and in its descending movement will trip the pawls and release the levers  $g$ .

Referring now to the means for reciprocating the cam-block I and for effecting the operations described in connection therewith, the gate D is rigidly connected with its hinge-pintle  $k$ , the latter turning with the gate. Said pintle is provided with a crank-arm  $k'$ , which is coupled with a pitman  $l$ , that connects with a stem  $m$ , projecting from the block through a slot in the bottom of the cabinet, (see Fig. 3,) whereby the swinging of the gate back and forth reciprocates the block. Corresponding positions of the gate and block are indicated by full lines and also by broken lines in Figs. 2 and 3.

The parts then being in the relative positions shown, the voter entering the booth swings the gate  $d$  inward, as indicated by broken lines in Fig. 2, and closes the gate  $d'$  after him. This movement of the gate moves the cam-block I and the connected levers  $h'$   $h^2$  to the position indicated by broken lines in Fig. 3, raising the frame and releasing the levers  $g$  and pawls  $g^3$ , allowing the latter to turn forward into the position to engage the serrated bars  $g^2$ . The voter now casts his vote or votes by operating the appropriate levers  $g$  in the several sections of the machine, after which he passes from the booth, opening the gate  $d'$  and closing the gate  $d$  after him, whereby the parts are returned to their former positions, the descent of the frame J tripping the pawls  $g^3$  to release the levers  $g$  and positively drawing down such of the latter as fail to return to normal position under the force of gravity, after which the next voter may enter and repeat the operation.

The mechanism above referred to for preventing fraudulent voting by limiting the number of levers to be operated in each section is illustrated in Fig. 8. There is one of these mechanisms for each vertical row of levers, and the arrangement is such that only one lever in each row can be operated.

The construction and operation are as follows:

K K designate two standards or frame-plates, and K' a horizontal rod supported thereby. On this rod are mounted a series of cams corresponding in number with the number of levers in a vertical row. Each cam consists of two members  $nn'$ , having corresponding cam-surfaces at their adjacent ends which work together. The members  $n$  are non-rotatable, being held against rotation by a rod  $p$ , extending through arms  $o$ . The

members  $n'$  are rotatable and are provided with radial arms  $o'$ , which are connected, by means of rods or cords  $o^2$ , with the respective levers of the vertical row in connection with which the apparatus is used.

All the cams of the series are movable longitudinally on the rod K', and they are so proportioned in length relatively to the length of the rod that the space between the standards K K' is not quite filled, there being just sufficient space left to permit the rotatable member of one of the cams to be operated. Thus when one lever of the row is operated in voting the cam connected therewith will be rotated, the two members thereof forced apart, the other cams of the series moved longitudinally on the rod, and the space between the standards filled, so that there will be no room for another cam to turn. Consequently no other lever of that row can be operated, and the voter will be limited to a single vote in that row.

As above indicated, there is a series of cams for each separate row of levers. In the drawings, Fig. 8, we show a frame constructed to sustain two series of cams, there being in such case three frames for each section of the machine, but it is to be understood that the particular construction and arrangement is immaterial and that all the cams may be mounted in a single frame or each series in a separate frame, as may be found most convenient or desirable.

In certain cases, notably in township or municipal elections, there are frequently several similar offices to be filled—such, for example, as justices of the peace, constables, &c.—and in such cases each party has as many candidates as there are similar offices to be filled. We therefore provide the section of the machine set apart for such election with a cam mechanism of the character illustrated in Fig. 9, in which L represents a frame or stand in which are mounted side by side a series of oval drums or cams  $l$ , with their journals  $l'$  in longitudinal guideways or slots  $l^2$ , in which they are free to slide in the direction of the length of the frame. The journals project at one side of the frame and are provided with cranks  $l^3$ , which are connected, by means of cords or rods  $o^2$ , with the levers  $g$ , so that when the latter are operated rotary motion will be imparted to the drums  $l$ , the parts being so arranged and proportioned that when a lever is operated the drum with which it is connected will be rotated through one-fourth of a revolution.

Normally the drums stand in position with their greater diameters vertical, as indicated at the left hand of Fig. 9, in which position, when crowded close together, they will take up the least possible room in the frame. When, however, one or more of the drums is turned to the position indicated at the right hand of the drawings, it will crowd the other drums apart and elongate the row. The length of the frame and the number and size



of the drums are proportioned to each other so that when the prescribed or predetermined number of levers have been operated and the drums connected therewith turned, as explained, the frame will be filled and the remaining levers and drums locked against further operations.

The drawings show two frames LL, arranged side by side and connected by a vibrating lever L', fulcrumed on a stud  $l^4$ . The two ends of this lever are connected with two longitudinally-movable followers M M, located in the ends of the respective frames, in line with the drums  $l$  therein, the arrangement being such that when the prescribed number of drums in either or both frames have been operated the two followers M will bear against the end drums in the respective frames and prevent further operation.

The booth C may be of any preferred or approved construction, with close permanent walls or with walls comprising a framework covered with cloth or canvas or other suitable material of a character to shut off the sight and prevent the voter in the booth from being observed when voting. The canvas-covered structure will be found to answer all practical purposes, and we prefer this on the score of economy in the cost of construction.

In the drawings, S S designate upper and lower longitudinal strips or rails arranged a suitable distance in rear of the cabinet A (see Fig. 2) and corresponding end strips  $S' S'$  and  $S^2 S^2$ , the strips  $S' S'$  being attached directly to the end of the cabinet and the strips  $S^2 S^2$  connected therewith by arched metal frames T T, these latter forming the gateway or passage through which the voters pass into and out of the booth. The framework so constructed is covered with canvas or other suitable fabric, as above set forth.

It will be noticed that the cam-slot  $i$  terminates at both ends in or communicates with two horizontal slots  $s s'$ , extending in parallel planes in the direction of movement of the block. When the pin  $h^3$  is in either of these straight slots, the levers  $h' h^2$  and the frame J, connected therewith, will be positively locked in position. This is an important feature inasmuch as any one entering the booth surreptitiously while the gate  $d$  is closed will be unable to operate the machine, the levers  $g$  being then locked down by the frame-bars  $j j'$ , &c.

Having thus described our invention, we claim—

1. In a voting-machine, having a compartment or booth with a single entrance and exit passage, the combination of a series of levers arranged in vertical and horizontal rows within the compartment, registering mechanisms connected with said levers to be operated thereby, a vertically-movable frame arranged in relation to said levers to lock and release the same, a duplex inwardly and outwardly swinging gate provided with lock or latch adapted to be operated from within

only, and connections between said gate and frame to reciprocate the latter when the gate is swung back and forth.

2. In a voting-machine having a booth with a single passage to and from it, the combination of a series of levers, registering mechanisms connected therewith to be operated thereby, devices for engaging and holding said levers to prevent a return to normal position after being operated, a duplex inwardly and outwardly swinging gate having inside lock or snap-catch arranged to control the passage leading to and from the machine, and mechanism connected with the gate whereby the movement of the latter to permit the voter to pass from the machine releases the levers to permit their return to normal position.

3. The combination with a voting apparatus comprising a series of vibrating levers and registering mechanisms connected therewith to be operated thereby, of a voting booth or compartment having a single passage, two swinging gates arranged at right angles and rigidly connected together having inside lock or snap-catch controlling the passage leading to and from said booth and arranged to close the same after the voter passes out, devices for engaging and holding said levers to prevent a second operation, a vertically-reciprocating frame adapted and arranged to release said holding devices and to return the levers to normal position, and connections between said frame and gate whereby the movement of the latter operates the frame.

4. In a voting apparatus, the combination of a vibrating lever, a registering mechanism operatively connected therewith, a toothed or serrated bar connected with the lever, a pawl arranged and adapted to engage said bar on the operation of the lever and prevent a return to normal position, a vertically-reciprocating frame arranged and adapted to throw the pawl out of action, and an inwardly and outwardly swinging gate connected with, and adapted to operate, said frame.

5. The combination with the vibrating levers, the pawls for holding the same to prevent a second operation, and the vertically-movable frame for releasing said pawls, of a swinging gate, a movable cam connected with the gate to be operated thereby, and a lever connection between the cam and frame whereby, when the gate is swung in one direction, the frame is raised and the pawls permitted to assume an operative position, and when swung in the opposite direction the pawl is thrown out of action.

6. In a voting-machine, the combination with the vibrating levers, the registers, and the devices for controlling the operation of the levers, as shown and described, of a swinging gate, a sliding cam-block having a cam-slot therein terminating at either end in a straight slot, and pivoted levers connected with the frame and controlled by the cam-block.



7. In a voting-machine, the combination of an operating-lever, a register operatively connected therewith, a detent for said lever, a reciprocating frame arranged and adapted to control the operations of the lever and release said detent, a duplex inwardly and outwardly swinging gate arranged to control a passage leading to, and from, the apparatus, and connections between said gate and frame whereby the movements of the gate lock and unlock the lever.

8. In a voting-machine, the combination with an operating-lever, a register operatively connected therewith, and a reciprocating frame arranged and adapted to control the lever, of a sliding block provided with a cam-slot terminating in a straight slot extending in the direction of movement of the block, and connections working in said slots to operate the frame, whereby the movement of the block first operates the frame and then locks it in position.

9. In a voting apparatus, the combination with the operating-levers and the registers operatively connected therewith, of a reciprocating frame arranged and adapted to control the levers, two swinging gates rigidly connected together in angular arrangement and controlling a passage leading to, and from, the apparatus and adapted to move but a quarter-revolution in either direction and alternately opening and closing the same, and connections between said gates and frame for operating the latter, the connections being such that when one gate is closed the levers are free to be operated and when the other gate is closed they are locked.

10. In a voting-machine, the combination of a series of vibrating levers, registers operatively connected therewith to register the operations of the respective levers, and a series of cams each rotatably mounted on a separate shaft, and connected with the respective levers and arranged and adapted to permit the operation of more than one of a predetermined number, and to lock the remaining levers of the series, substantially as described.

11. In a voting-machine, the combination

of a series of vibrating levers, registering mechanisms connected therewith to register the operations of the respective levers, a series of cams each rotatably mounted on a separate shaft and operatively connected with the respective levers, said cams being movable relatively to each other within a limited range, the range of movement being such as to permit the operation of more than one of a predetermined number of levers and then to lock the remaining levers and prevent further operation.

12. In a voting-machine, the combination of a series of vibrating levers, registering mechanisms connected therewith to register the operations of the respective levers, means for preventing the return of the levers after being operated, and coacting cams each mounted on a separate shaft and operatively connected with the respective levers to permit the operation of more than one of a limited or predetermined number thereof and to lock and prevent the remaining levers of the series from being operated.

13. In a voting-machine, the combination of a series of registering mechanisms, means for operating the same separately, two frames or stands, a series of rotary coacting cams mounted on independent shafts in each of said frames movable in a longitudinal direction therein, said cams being separately connected with the means for operating the respective registers, and a vibrating lever mounted between said frames with its ends projecting into the paths of movement of the two series of cams, the arrangement being such as described, whereby, after a predetermined number of cams have been operated, the lever will contact with both series and prevent further operation.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES G. HARDIE, JR.  
JOHN F. POST.

Witnesses:

BERNARD U. POTTER,  
JOSEPH B. MOODY.