

July 21, 1925.

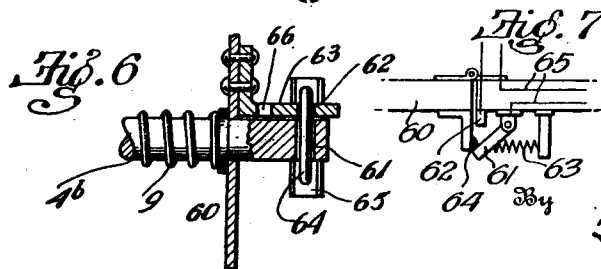
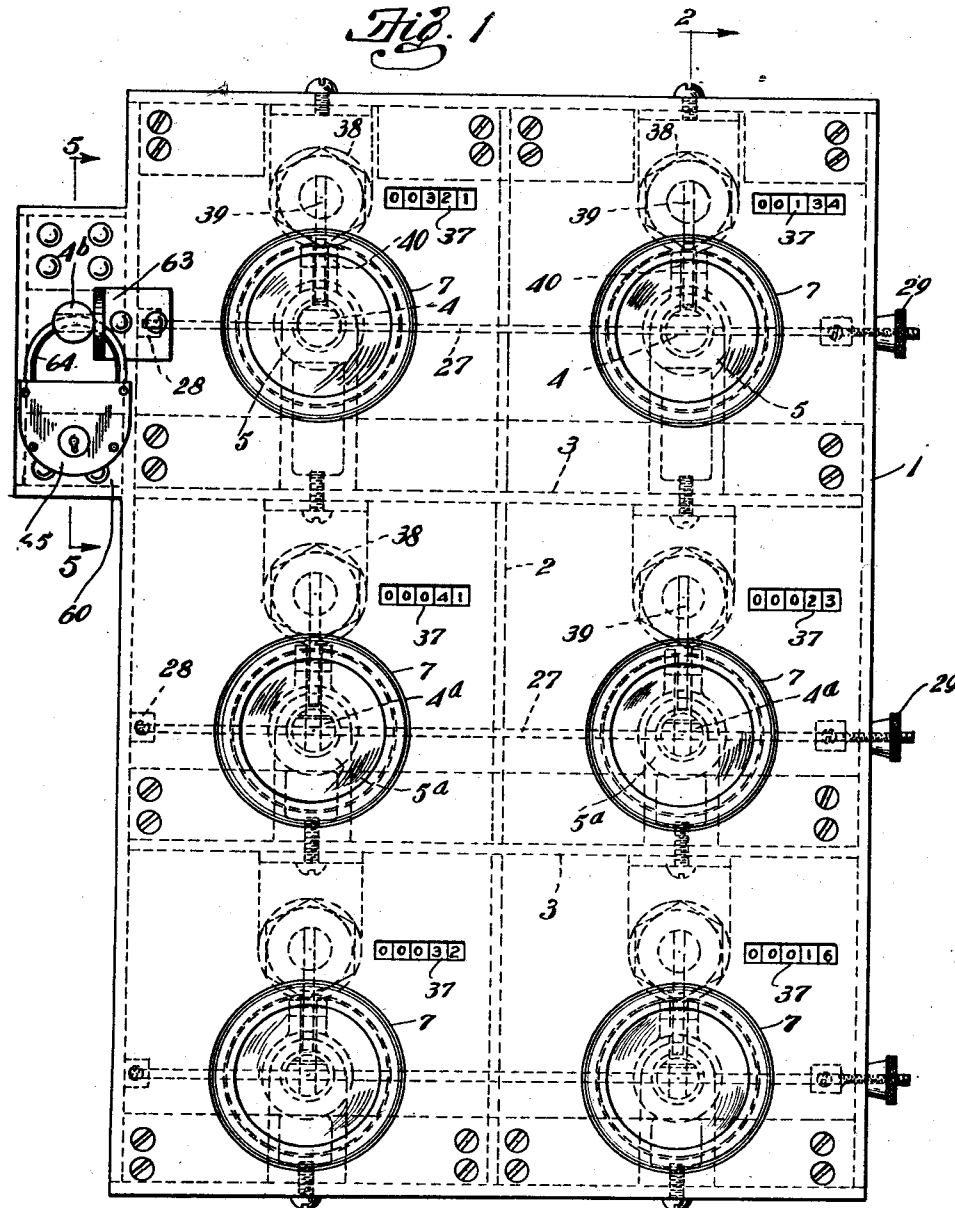
1,546,730

T. H. HEACOCK ET AL

VOTING MACHINE

Filed March 15, 1923

3 Sheets-Sheet 1



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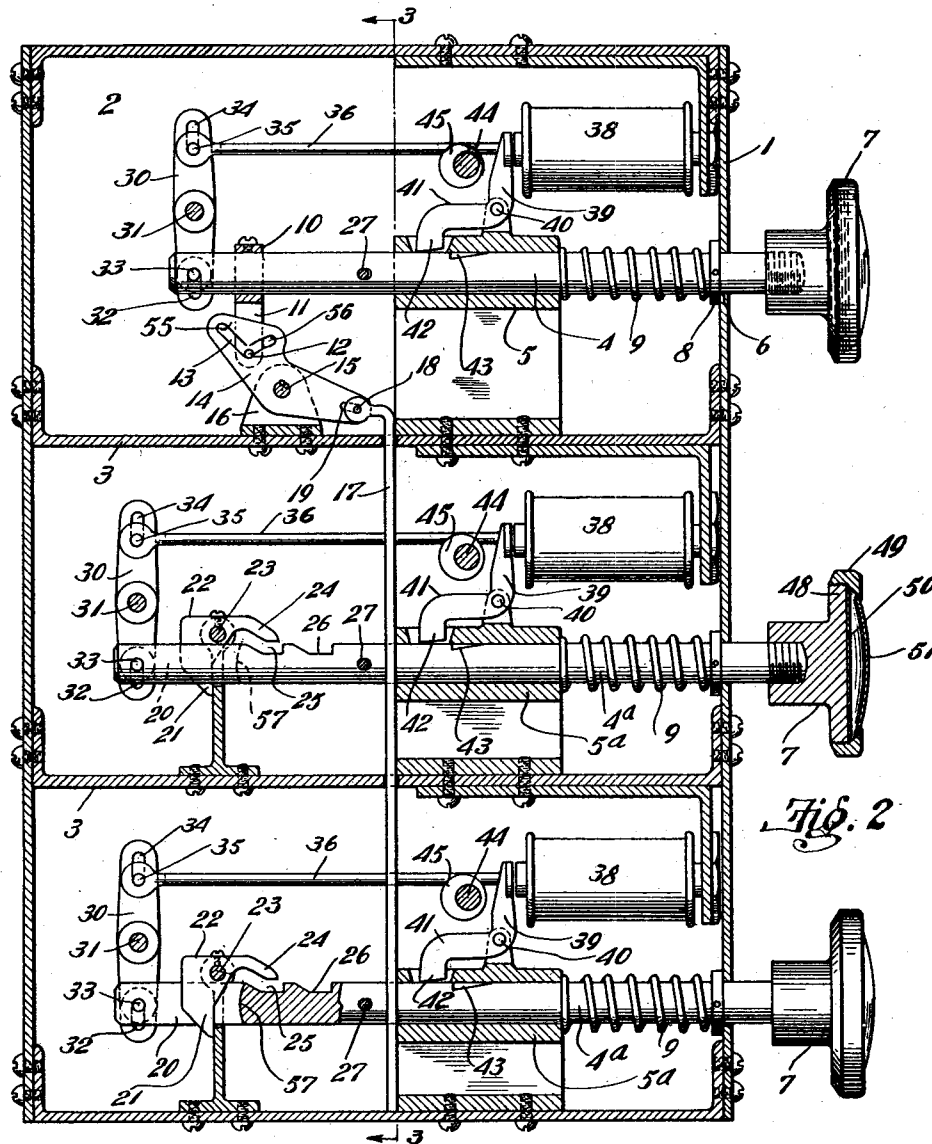


Fig. 2

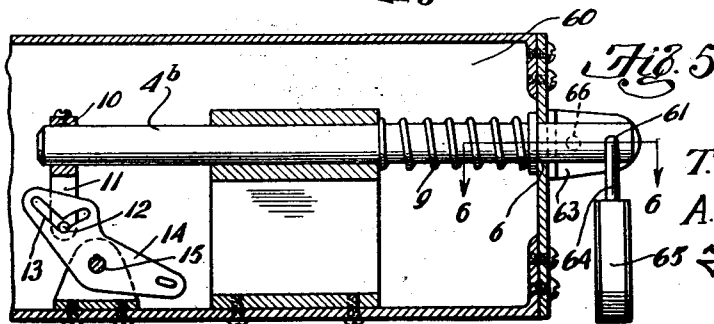


Fig. 5

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3 Sheets-Sheet 3

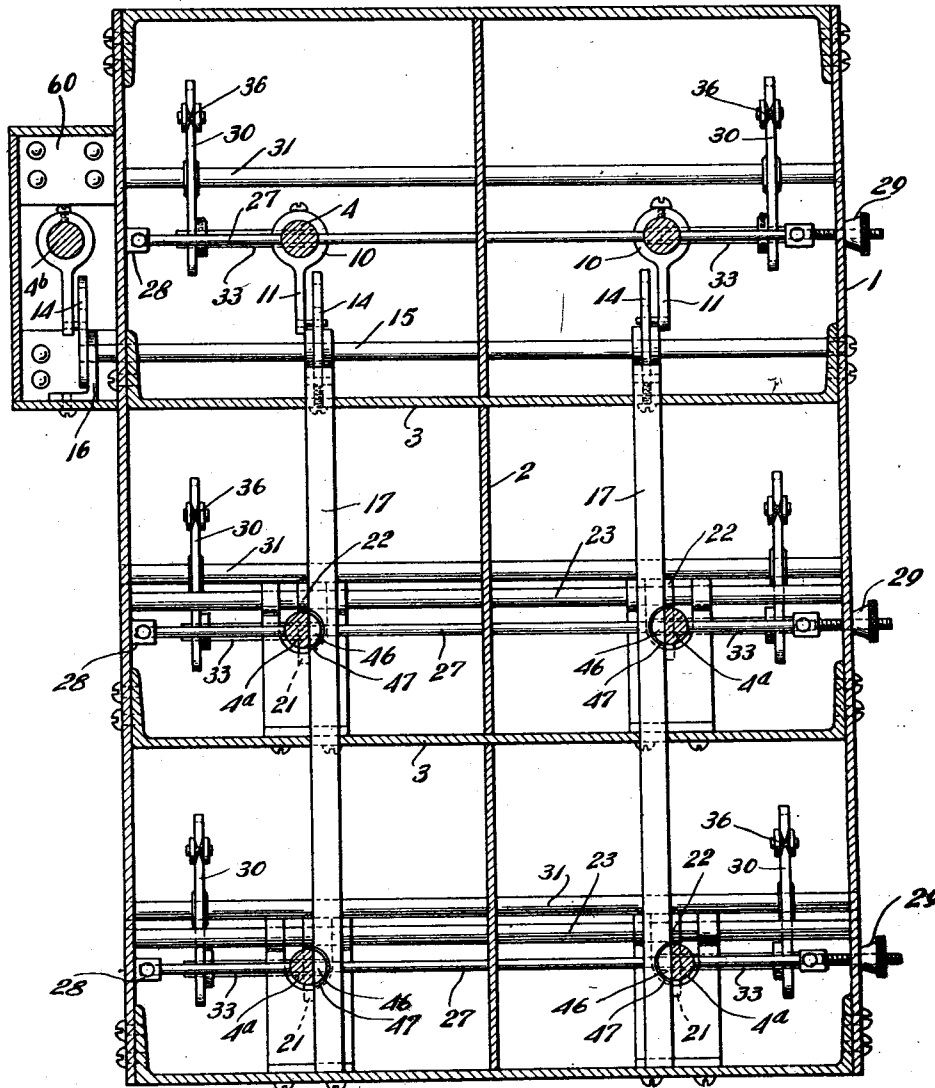


Fig. 3

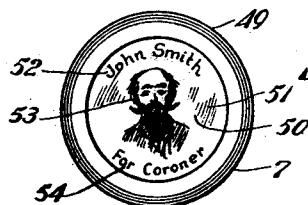


Fig. 4

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UNITED STATES PATENT OFFICE.

THOMAS H. HEACOCK AND ALBERT S. RICHARDSON, OF CANTON, OHIO.

VOTING MACHINE.

Application filed March 15, 1923. Serial No. 625,280.

To all whom it may concern:

Be it known that we, THOMAS H. HEACOCK and ALBERT S. RICHARDSON, both citizens of the United States, and both residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Voting Machines, of which the following is a specification.

This invention relates to voting machines of that general type including a plurality of units arranged in vertical rows corresponding in number to the recognized political parties having candidates for election, one unit in each vertical row being provided for each candidate for an elective office of that particular party.

The objects of the invention are to provide a voting machine of this general character so designed that a straight ticket may be voted by operating the upper unit of any vertical row; to provide means for locking all of the units in the machine when the upper unit of any vertical row is operated; to provide means for locking all of the units in any horizontal row upon the operation of one unit in said horizontal row; to provide means for preventing simultaneous operation of two units in the same horizontal row; to provide means for maintaining the machine in a locked position after the complete operation of the same until the voter has left the voting booth; to provide means for automatically unlocking the machine when a voter enters the voting booth; to provide means for displaying the name, picture and elective office of each candidate and to generally simplify and improve voting machines of this character.

The above and other objects may be attained by constructing the machine in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a machine embodying the invention;

Fig. 2, a section on the line 2—2, Fig. 1;

Fig. 3, a section on the line 3—3, Fig. 2;

Fig. 4, a front elevation of one of the push buttons showing the label thereon containing the name, picture and elective office of the candidate to be voted for by operating that particular button.

Fig. 5, a section on line 5—5, Fig. 1;

Fig. 6, a section on line 6—6, Fig. 5; and

Fig. 7, a view of the switch operated by

the opening of the door to energize the electromagnets.

Similar numerals of reference indicate corresponding parts throughout the drawings.

Referring to the drawings, a casing is shown at 1 which houses the mechanism of the voting machine and is divided by one or more vertical partitions 2 into a plurality of vertical rows or tiers, each of which is divided into a number of compartments by the horizontal partitions 3.

The upper compartment of each vertical row or tier has a push rod 4 slidably mounted in a bearing 5 within the compartment and extending outward through an aperture 6 in the front wall of the casing, a push button 7 being fixed upon the outer end of the rod.

A shoulder or collar 8 is fixed upon each push rod 4 and arranged to be normally held in engagement with the front wall of the housing by a coil spring 9 interposed between said shoulder and the adjacent end of the bearing 5.

A collar 10 is fixed upon the rear portion of the push rod 4 and provided with a depending finger 11 having a stud 12 located in the substantially V-shaped slot 13 formed in the one end portion of the lever 14, which is fixed intermediate its extremities upon the shaft 15 which extends through all of the upper compartments of the machine and is pivoted in bearings 16 mounted upon the upper horizontal partition 3.

A vertically slidable bar 17 is provided at its upper end with a pin 18 extended into the slot 19 formed in the opposite end of each of the levers 14, this bar extending downward through all of the compartments in each vertical row.

A push rod 4^a is slidably mounted in a bearing 5^a in each compartment excepting those in the upper horizontal row, and is normally held in the inoperative position by the coil spring 9, each of the push rods 4^a being provided with a push button 7.

The rear end portion of each push rod 4^a is bifurcated longitudinally as at 20 to receive the weighted, depending end 21 of a latch member 22 fixed upon a horizontal rocker shaft 23 extending through all of the compartments in each horizontal row. The latch member 22 is provided with a for-

wardly disposed, depending finger 24 for engagement with the forwardly inclined notches 25 or 26 upon the upper side of the adjacent push rod 4.

All of the push rods in each horizontal row are connected by a flexible cable 27 fixed to one side wall of the casing as at 28 and provided with an adjusting screw 29 at its other end for adjusting the tension upon the cable. Each of these cables should be adjusted to have just sufficient slack to permit the operation of only one push rod in each horizontal row, thus preventing the simultaneous operation of any two push rods in the same horizontal row.

A lever 30 is pivoted as at 31 in each compartment above the rear end portion of the push rod therein and is provided at its lower end with a vertical slot 32 engaging a pin 33 in the push rod, the upper end of the lever having a vertical slot 34 engaged by a pin 35 in the rear end of a rod 36 which is connected to any suitable form of counter, such as indicated at 37.

A magnet 38 is provided in each compartment, the armature 39 thereof being of bell crank form and pivoted at 40 upon the bearing 5, the rearwardly disposed leg 41 thereof having a depending foot 42 for engagement with the inclined notch 43 in the upper face of the push rod.

All of the magnets 38 are located in a circuit provided with a switch operated by the opening and closing of the door to the voting booth, the switch being arranged to be automatically closed to energize the magnets by the opening of the door and to be automatically opened to de-energize the magnets by the closing of the door. This switch may be of any desirable construction arranged to be closed by the opening of the door 60 of the booth, and for the purpose of illustration, comprises a blade 61, hinged to the door frame and normally urged toward the contact 62, by a spring 63, an insulated finger 64, upon the door, being arranged to hold the block out of engagement with the contact when the door is closed. Wires 65, lead from a source of electric energy, through the switch, to the magnets 38, the circuit to the magnets thus being open while the door is closed, and closed when the door is opened.

For the purpose of providing a positive means for unlocking all of the units of the voting machine, a shaft 44 may be extended horizontally through each horizontal row of compartments and provided with an eccentric cam 45 adjacent to the vertically disposed leg of each armature. These shafts 44 may be operated in any suitable manner from the exterior of the voting booth, by an attendant.

Each of the push rods 4 is provided with a transverse groove 46 through which the

bar 17 is arranged to extend and each bar 17 is provided with the half round notches 47 to receive the push rods 4 when the parts are in the normal position.

Each of the push buttons 7 is provided with the peripherally threaded flange 48 to receive the threaded locking ring 49, a round card 50 being placed under the lens or crystal 51 which is held in place by said ring. The card 50 is arranged to contain the name of the candidate as shown at 52, a picture of the candidate as shown at 53 and the elective office of the candidate as indicated at 54.

Thus a voter will be able to tell at a glance at the push buttons the candidate for whom he desires to vote, and should he be unable to remember the name of a candidate, the pictures of the candidates will guide him in voting.

One vertical tier of units is provided for each political party having candidates to be voted upon. The upper unit in each vertical tier is provided for voting a straight ticket and one unit is provided in each vertical tier for each candidate of that particular political party.

In operating the machine to vote a straight ticket, the push rod 4 in the desired vertical row is pushed inward by means of its push button. The pin 12 upon said push rod traveling rearwardly through the rear arm 55 of the slot 13 in the lever 14 of that particular compartment, depresses the rear end of the lever 14 and raises the forward end thereof, raising the locking bar 17 which is connected thereto, moving the notches 47 in said locking bar out of alignment with the push rods 4, the adjacent edge portions of the lock bar being projected into the grooves 46 of all the push rods 4 in that vertical tier, thus locking all of said push rods against movement.

This rocking of the lever 14 rocks the shaft 15 upon which said lever is mounted and consequently rocks the levers 14 in all of the upper compartments. As each of the other levers 14 is rocked in this manner, the forwardly inclined leg 56 of the slot therein will receive the stud 12 upon the adjacent push rod 4.

This rocking of all of the other levers 14 will consequently raise all of the other locking bars 17, locking all of the push rods in the machine. To vote for any particular candidate, the push button bearing the candidate's picture and name is pressed inward, moving the push rod 4 thereof inward.

The shoulder 57 of the bifurcation 20 of the push rod will engage the lower arm 21 of the latch 22, rocking the latch 22 and with it the rocker shaft 23, the forward finger of the latch being received in the notch 26 of the push rod.

As the rock shaft 23 is rocked, all of the latches 22 in that horizontal row will be

rocked, the fingers 24 thereof entering the notches 25 of the other push rods 4^a in that horizontal row, locking the same against operation.

5 The push rod 4^a which has been actuated will be moved rearwardly until the notch 43 thereon will register with the foot 42 upon the weighted arm 41 of the armature, permitting the same to drop into the notch 43, thus locking all of the units in each horizontal row by the operation of one of said units.

After the voter has voted for a candidate for each office, the entire machine is locked and as he opens the door to leave the booth, the switch referred to will be closed, energizing all of the magnets 38, the armatures 39 thereof being drawn upward, releasing the push rods which will be returned to the normal position by means of the springs 9.

20 The shafts 44 and eccentrics 45 are provided as a positive means of unlocking the machine after each voter has completed his voting. By rotating all of the shafts 44, the eccentrics 45 thereon will engage the upper ends of the armatures 39, rocking the same to withdraw the feet 42 thereof from the notches 43 of the push rods.

It will, of course, be understood that with each depression of a push rod 4 or 4^a, the rod 36 connected to the counter will be operated through the lever 30, registering the total number of votes cast for each candidate.

35 For the purpose of locking all of the units in the inoperative position after the polls are closed a locking device is provided, comprising a push rod 4^b located in a compartment 60 in horizontal alignment with the upper horizontal row of units. A collar 10 is fixed upon the inner end of the push rod and provided with a finger 11 having a pin or stud 12, which engages the V-shaped slot 13 in a lever 14 mounted upon the rocker shaft 15.

45 The outer end of the push rod 4^b extends through the front wall of the compartment 60 and is provided with a transverse aperture 61 arranged to normally register with the aperture 62 (Fig. 6) in the ear 63, the coil spring 9 upon said push rod normally holding the same in this position. The shackle 64 of a pad lock 65 is arranged to be passed through the openings 61 and 62 when the machine is in operation for voting. When the polls have closed, an authorized officer who has a key to the pad lock 65 removes the same from the push rod 4^b and pushes the push rod inward, until the opening 61 therein registers with the opening 66 in the ear 63, after which the pad lock is inserted through the openings 61 and 66 and locked, holding the push rod in this position.

65 It will be seen that as the push rod 4^b is thus operated the lever 14 connected there-

to will be rocked, rocking the rock shaft 15 and with it all of the levers 14, operating the locking bars 17 to lock all of the units in the machine. It will thus be impossible for any unauthorized person to tamper with the voting machine after the same is locked.

We claim:—

1. In a voting machine, a plurality of voting units arranged in vertical and horizontal rows, a push rod for each unit, a counter operated by each push rod, means for locking each push rod when the same is operated, and a rocker shaft provided with rocker arms for locking all of the push rods in the machine when the upper push rod in one vertical row is operated.

2. In a voting machine, a plurality of voting units arranged in vertical and horizontal rows, a push rod for each unit, a counter operated by each push rod, means for locking each push rod when the same is operated, a rocker shaft provided with rocker arms for locking all of the push rods in each horizontal row when one push rod in said row is operated, a vertical locking rod connected to the rocker arm of each unit in the top row and provided with notches to receive the push rods in the same vertical row, the push rods having transverse grooves to receive said vertical locking rods, whereby all of the push rods in each vertical row are locked when the upper push rod of said row is operated.

3. In a voting machine, a plurality of voting units arranged in vertical and horizontal rows, a push rod for each unit, a counter operated by each push rod, means for locking each push rod when the same is operated, a rocker arm arranged to be operated by the push rod of the upper unit of each vertical row, and a vertically slidable locking rod connected to each rocker arm to lock all of the push rods in each vertical row when the upper push rod of said row is operated.

4. In a voting machine, a plurality of voting units arranged in vertical and horizontal rows, a push rod for each unit, a counter operated by each push rod, means for locking each push rod when the same is operated, a rocker arm arranged to be operated by the push rod of the upper unit of each vertical row, a vertically slidable locking rod connected to each rocker arm, said locking rod having notches to receive the push rods and the push rods having transverse grooves to receive the locking rod, whereby all of the push rods in each vertical row are locked when the upper push rod of said row is operated.

5. In a voting machine, a plurality of voting units arranged in vertical and horizontal rows, a push rod for each unit, a counter operated by each push rod, means for locking each push rod when the same is

operated, an electromagnet for unlocking each push rod when the same is energized, and means for simultaneously energizing all of the magnets after each voter has voted.

6. In a voting machine, a plurality of voting units arranged in vertical and horizontal rows, a push rod for each unit, a counter operated by each push rod, means for locking each push rod when the same is operated, an electromagnet for unlocking each push rod when the same is energized, and means for simultaneously energizing all of the magnets as each voter leaves the vot-

ing booth in which the machine is located. 15

7. In a voting machine, a plurality of voting units arranged in vertical and horizontal rows, a push rod for each unit, a counter operated by each push rod and a vertical locking rod and a plurality of rocker shafts provided with rocker arms for locking all of the push rods in the machine against operation. 20

In testimony that we claim the above, we have hereunto subscribed our names.

THOMAS H. HEACOCK.
ALBERT S. RICHARDSON.