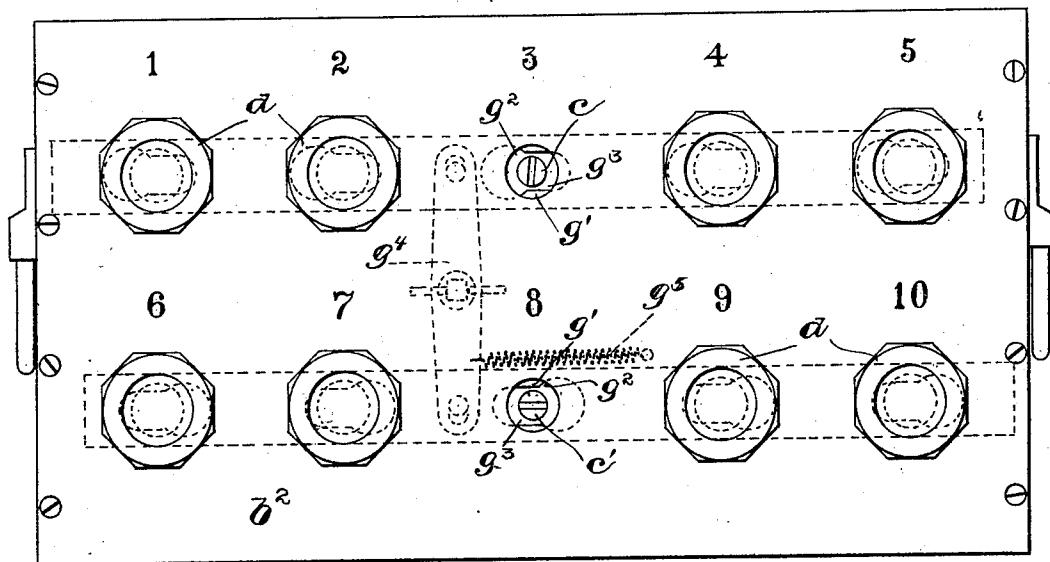
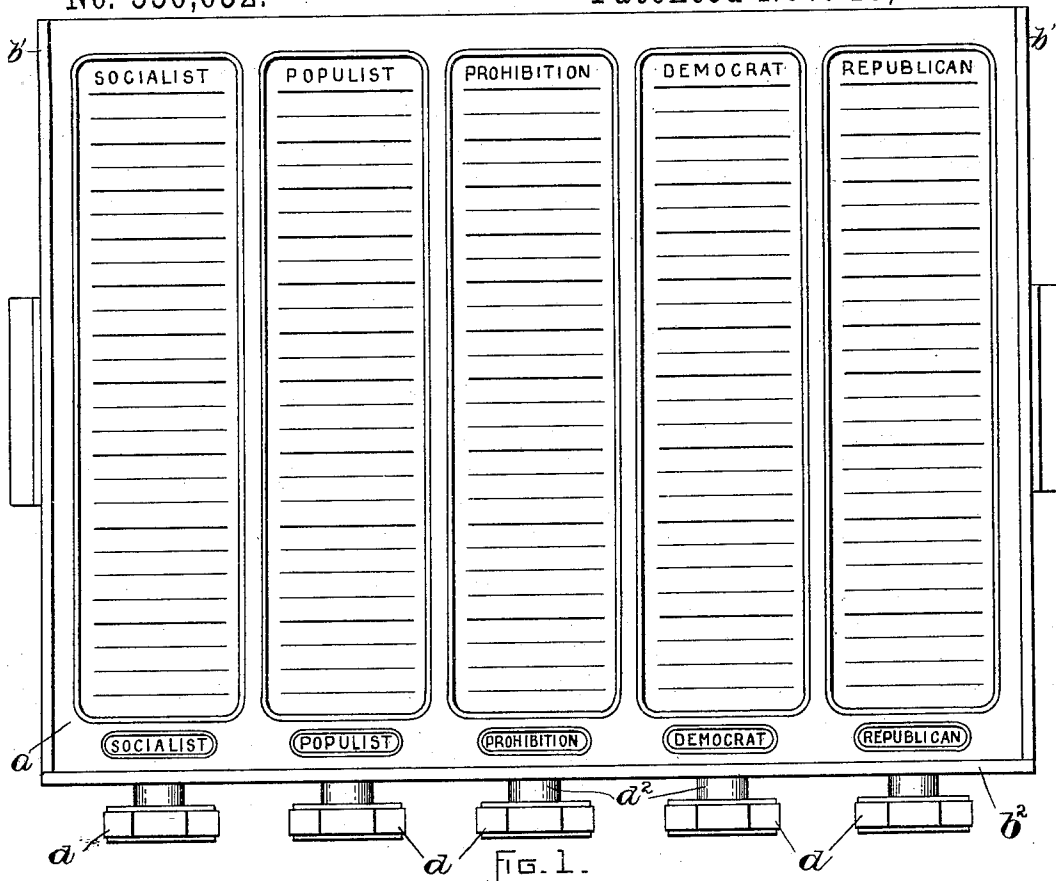


J. McTAMMANY.
VOTING MACHINE.

No. 550,052.

Patented Nov. 19, 1895.



WITNESSES:

H. A. Hall.
A. Davis.

FIG. 2.

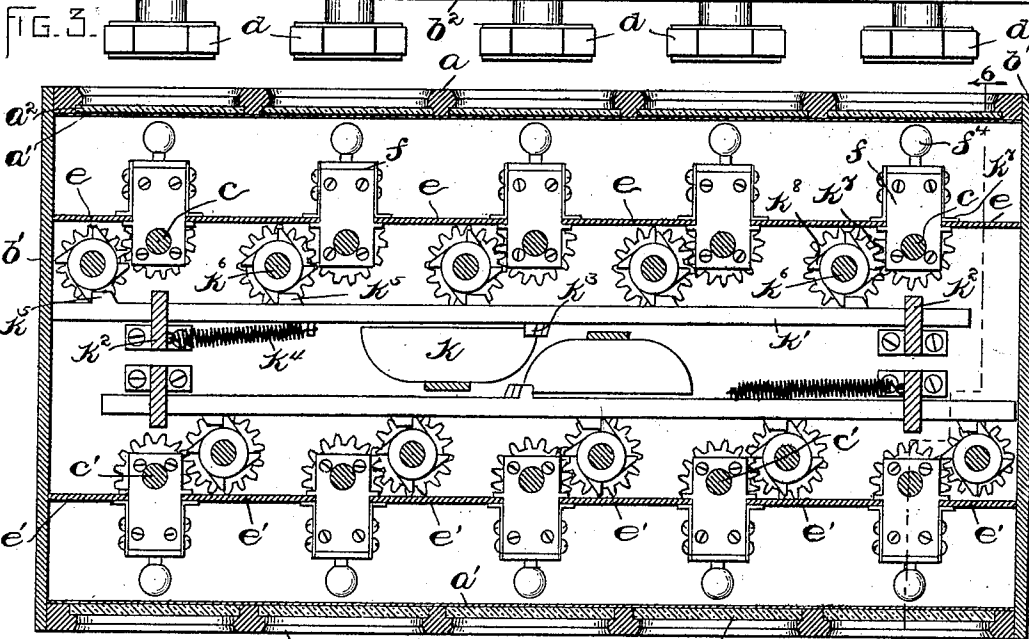
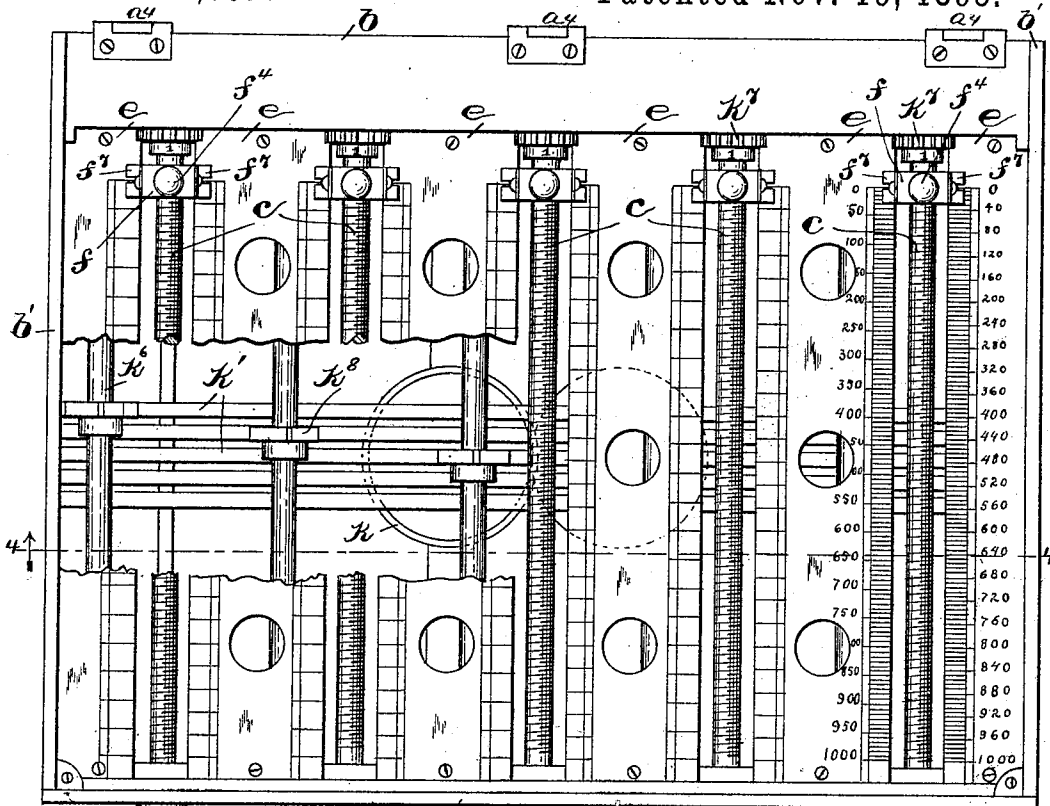
INVENTOR:

John McTammany
by Wright, Brown & Quincy
Attys

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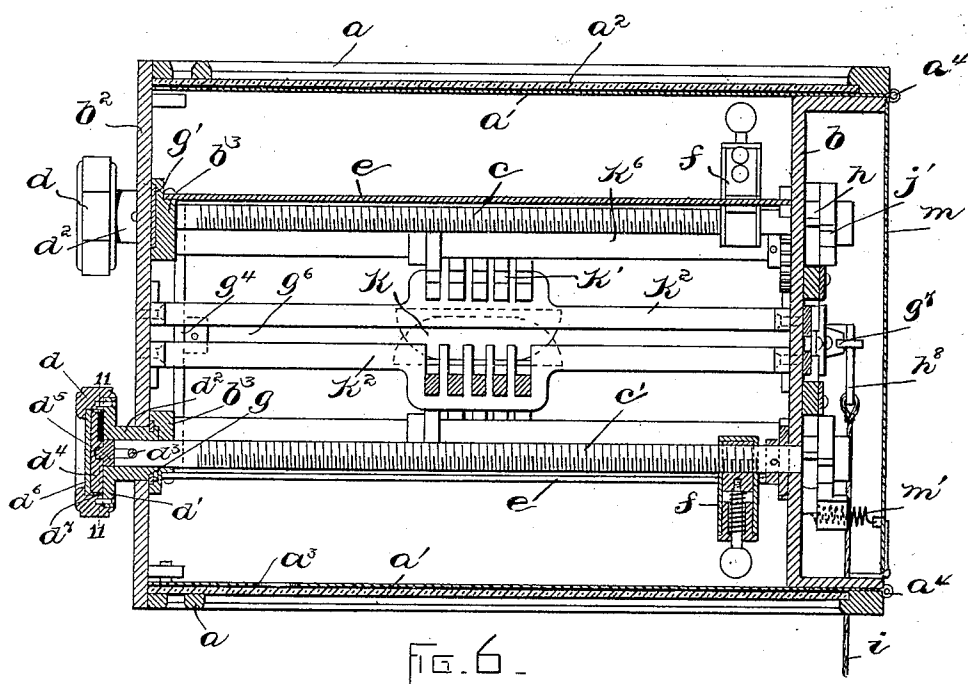
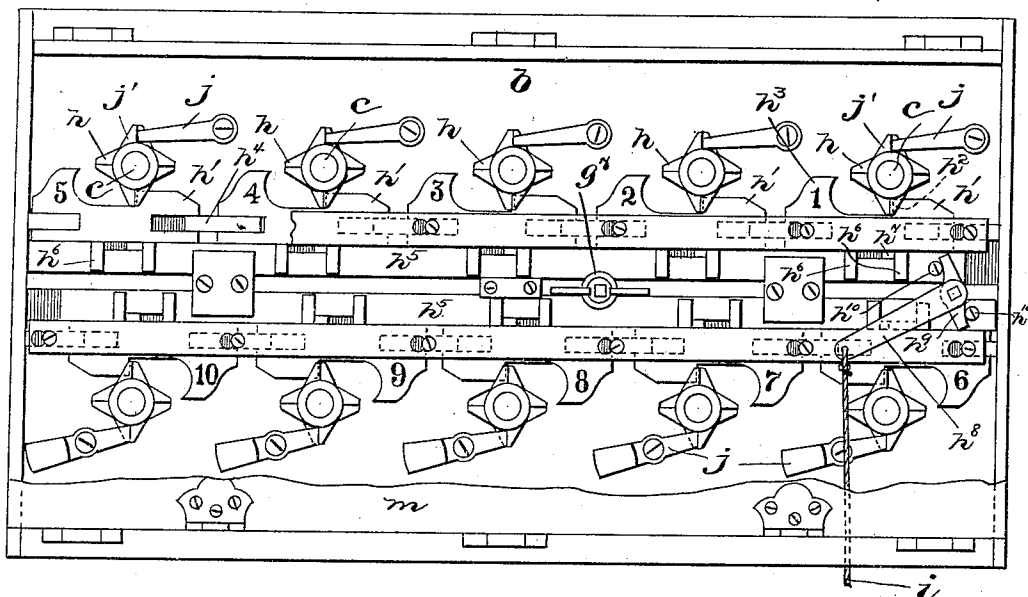
(No Model.)

5 Sheets—Sheet 3.

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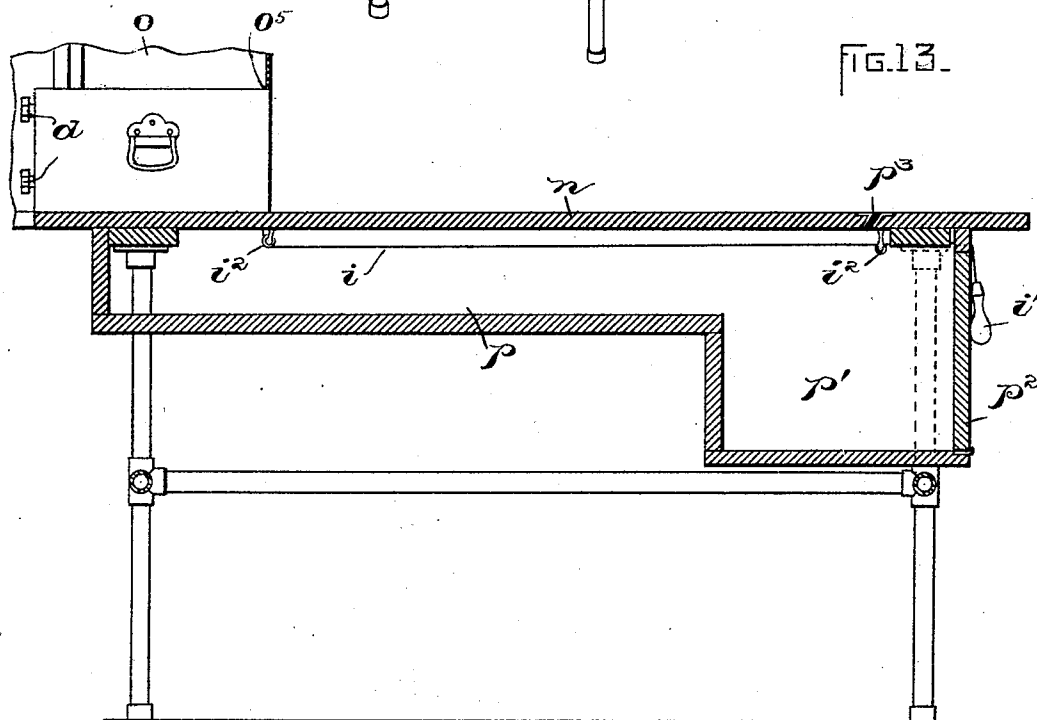
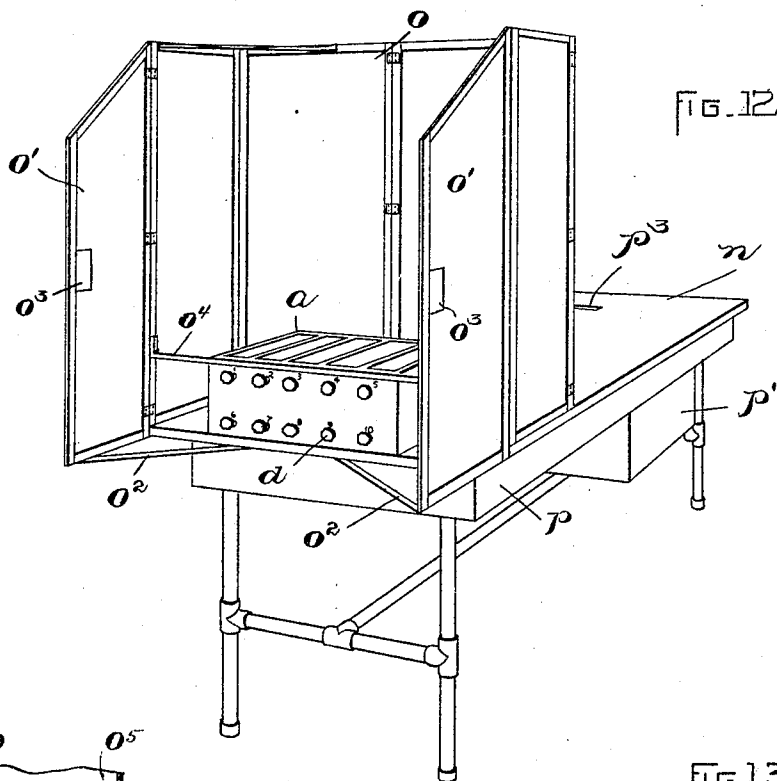
(No Model.)

5 Sheets—Sheet 5.

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VOTING MACHINE.

No. 550,052.

Patented Nov. 19, 1895.



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UNITED STATES PATENT OFFICE.

JOHN MCTAMMANY, OF SPENCER, MASSACHUSETTS.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 550,052, dated November 19, 1895.

Application filed September 28, 1894. Serial No. 524,352. (No model.)

To all whom it may concern:

Be it known that I, JOHN MCTAMMANY, of Spencer, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Voting-Machines, of which the following is a specification.

The present invention relates to voting apparatus, whereby the use of individual ballots is dispensed with and the voter by simply turning a handle registers his vote.

The invention contemplates numerous provisions for rendering such an apparatus simple, compact, and easy to manage, and for guarding against fraud, insuring an accurate count, and preserving the secrecy of the ballot.

The invention consists in a number of novel constructions and combinations of parts, which are recited in the appended claims.

The accompanying drawings, which form part of this specification, illustrate an apparatus embodying the invention.

Figure 1 shows a top plan view of the machine by which the votes are registered. Fig. 2 shows a front elevation of the same with two of the operating-knobs removed. Fig. 3 shows a plan view of the machine with the top lid removed and with certain registering-plates represented as broken out. Fig. 4 shows a section on line 4 4 of Fig. 3 with the top lid down. Fig. 5 shows a rear elevation of the machine with the back door represented as broken away. Fig. 6 shows a section on line 6 6 of Fig. 4. Fig. 7 shows a rear elevation, similar to Fig. 5, of part of the machine under a different adjustment than in said Fig. 5. Figs. 8 and 9 show sectional views, on an enlarged scale, of a form of registering-traveler or separable nut employed in conjunction with a screw-shaft, Fig. 8 showing the nut closed and Fig. 9 showing it open. Fig. 10 shows a perspective detail view of certain locking devices. Fig. 11 shows a section on line 11 11 of Fig. 6. Fig. 12 shows a perspective view of the complete voting apparatus, and Fig. 13 shows a longitudinal section of the greater portion of the same.

The vote-registering machine here shown is double—i. e., it has a lid or cover on both top and bottom. Each lid is composed of a skeleton casting a , forming panels for the ballots, and a base-plate a' , secured to the

under side of said casting, the latter being rabbeted to receive panes of glass a^2 and cards underneath the panes bearing the names of the candidates. To facilitate the insertion and removal of these cards the plate a' is provided with holes a^3 (see Fig. 6) to admit the end of a finger for contact with the cards. The two lids are hinged, as shown at a^4 , to the rear wall b of the casing of the machine, and they shut down between the end walls b' thereof and front wall b^2 .

Within the casing there are arranged two tiers of screw-shafts corresponding in number and position with the ballot-cards carried by the lids, and the turning of these screw-shafts registers the votes for the respective tickets. As here shown, the machine is arranged for use of the upper tier of shafts c to register straight party votes and the lower tier c' to register votes on other matters—as, for instance, the question of liquor-license. However, the knobs d , by which the shafts are turned, are interchangeable and can be arranged to suit the requirements. Alongside the screw-shafts there are secured plates $e e'$, which are inscribed along the edges adjacent to the shafts with division-marks and numbers. Each screw-shaft carries a traveler of the following description: A rectangular frame or casing f surrounds the screw and contains a bed-piece f' , closely fitting the lower half of the said screw, but not engaging the threads thereof. A half-nut f^2 is fitted to slide vertically in the casing into and out of engagement with the screw and has fastened in it a stem or shank f^3 , which extends loosely through the top of the casing and has a knob f^4 by which to raise the half-nut out of engagement with the screw and move the traveler along the screw without engaging its thread. A spiral spring f^5 surrounds the stem f^3 between the top of the casing and the half-nut and exerts itself to press the latter into engagement with the screw.

The casing f is formed on opposite sides with lugs or flanges f^6 , which take under the plates e , and angular pieces f^7 are fastened to the casing and their horizontal portions extend over the plates e and are formed with slits to register with the marks inscribed in the plates.

The screw-shafts find bearings in the rear

wall of the casing and in pieces b^3 , fastened to the front wall, and the latter is cut out around the shafts to receive the shanks of the knobs d . Each knob is constructed as follows, (see Figs. 6 and 11:) An annulus d is recessed and shouldered, and a disk d' is fastened to it and is formed with a tubular shank or stem d^2 , adapted to fit over the shaft and having a cross-pin d^3 to engage a cross-slot in the shaft for rotatively connecting the knob and shaft. Within the recess of the knob there is arranged a disk d^4 , which is free to rotate and is overweighted at one side to keep it always in one position. This disk bears an inscription signifying for what vote its knob is to be turned, and by the arrangement just described this inscription will always be right side up and readable. The disk d^4 is supported by engagement of a trunnion d^5 thereon in the tubular shank d^2 . A glass d^6 is placed in the knob in front of the disk and a ring or band d^7 holds it in place. The back disk d' can be readily detached by removing a couple of screws and the inclosed disk d^4 can be changed when desired.

When the machine is not in use, the knobs are detached from the shafts and are kept inside the machine on the plates e , which are perforated to receive the shanks of the knobs. Means are provided for simultaneously locking and unlocking the knobs under control of the supervisor, such means being of the following description.

The shank of each knob is formed with an encircling groove g , which comes inside the casing when the knob is fitted to the shaft. Each of the bearing-pieces b^3 is recessed to receive a plate g' , which is formed with perforations g^2 , through which the knob-shanks pass, and slots g^3 , leading from said perforations and of less width than the diameter of the latter.

The plates g' may slide endwise to a limited extent, and when moved to the limit in one direction their perforations g^2 are in register with the holes in the front of the casing, so as to permit the insertion and removal of the knob-shanks, whereas, when the said plates are moved to the limit in the opposite direction portions of them at opposite sides of the slots g^3 (see Fig. 2) cross the holes in the casing by reason of the contraction of said slots, and when the knobs are in place these portions engage the grooves g and lock the knobs. A lever g^4 is pivoted at its middle on a fixture fastened to the front of the casing and is slotted near its opposite ends for engagement with studs on the plates g' . It will be seen that by turning said lever the plates will be shifted in opposite directions. The openings in the two plates are arranged reversely, so that the movement of said plates in opposite directions produces the same effect of both in locking or unlocking the knobs. A spiral spring g^5 , attached at one end to the lever and at the other end to a fixed support, exerts itself to hold the plates in locking posi-

tion. To release the knobs or to prepare the plates to receive the knobs the lever is turned against the tension of the spring through the medium of a rock-shaft g^6 , fastened to the center of the lever and extending rearwardly through the back of the casing, beyond which it carries a thumb-piece g^7 .

In voting the knobs d are turned, so that the travelers are caused to move along the register-plates by the engagement of the screw-shafts with the half-nuts of the travelers, and in the arrangement here shown the knobs can only be moved through one-quarter of a turn at a time, so that a complete rotation of a screw-shaft records four votes, the division-marks and numbers on the plates being arranged accordingly, as clearly shown in Fig. 3. One complete turn of a knob registers four votes, but moves the index only one mark on the scale, the marks being made to correspond with the threads of the screw. At four equidistant points around the shaft, at a part which can be conveniently seen in connection with the scale, there are inscribed numbers from 1 to 4. These are here shown on the hub z of a gear hereinafter mentioned, and they register votes between the marks on the scale.

The means employed to limit continued movement of the screw-shafts to a quarter-revolution will next be described.

Each shaft carries affixed to it behind the rear wall of the casing a four-toothed ratchet or star wheel h , and for each of said wheels there is a detent-slide h' , recessed in its upper side to form a shoulder h^2 for the ratchet-teeth to act against. At the opposite end of the recess there is formed a lug h^3 , which acts as a stop to the rotation of the ratchet-wheel. The detent-slide is allowed sufficient movement to carry this lug h^3 into and out of the path of the ratchet-teeth. The detent-slides are independently supported by ribs h^4 on the casing, the said slides being slotted to engage these ribs. In the normal condition of parts the detent-slides are all at the limit of their movement toward the left, as the parts are viewed in Fig. 5, (referring now to the upper tier of detents.) Upon rotation of any of the shafts c , a tooth of its ratchet-wheel acts against the shoulder h^2 of the detent and slides the latter to the right, so that its lug h^3 stands in the path of the uppermost tooth and limits the movement of the shaft to a quarter-revolution. The same arrangement is used in the lower half of the machine, only it is reversed, and both sets of means are restored to normal condition at one operation through devices under control of the supervisor, and which will next be described.

Resetting slide-bars h^5 are arranged in conjunction with the detent-slides, there being one of these bars for each set or tier of detents. Each bar is provided with ribs h^6 , projecting on one side and arranged in pairs, between which project lugs h^7 , formed on the detent-slides, the ribs of each pair being

spaced a sufficient distance apart to allow the required movement of the detents.

Near one end of the machine a lever h^8 is pivoted between the two bars h^5 , and this lever carries a cross-head h^9 which extends across pins h^{10} on the bars. In the normal condition of parts the bars h^5 are at the limit of their respective movements in reverse directions, the upper bar to the left and the lower bar to the right, as the machine is viewed in Fig. 5. Turning of any one of the screw-shafts of either set shifts the bar belonging to that set, and this moves the lever h^9 up to the position shown in Fig. 7. Now it will be seen that to displace the locking-detent it is simply necessary to pull down the lever h^8 , and this is done by the supervisor, who has control of a cord i attached to the said lever. A pull on this cord restores all the detents to their normal positions.

Backward movement of the screw-shafts is prevented by the engagement of gravity-pawls j with ratchet-wheels j' , affixed on the shafts next to the ratchets h .

In order to detect the voter in an attempt to turn more than one knob of a set, I arrange an alarm of the following description, the arrangement in the upper half of the machine being referred to as that in the lower half is exactly the same.

An ordinary bell k is supported at about the middle of the machine on a suitably-arranged cross-bar, and strikers corresponding in number with the screw-shafts are provided in the form of sliding bars k' , independently guided in slots or notches formed in cross-pieces k^2 , fastened between the front and back of the machine. Each sliding bar k' is formed with a lug k^3 to act against the bell, and springs k^4 tend to throw these lugs toward the bell. Each bar has another lug k^5 and shafts k^6 , which are connected with the screw-shafts by gears k^7 , carry ratchet-wheels k^8 to act against these lugs k^5 , and move the slide-bars in opposition to the springs, so that when they have passed the lugs the springs will throw the other lugs k^3 against the bell. Thus it will be seen that the turning of any one of the screw-shafts will cause the bell to be sounded, and an attempt on the part of a voter to register two different votes will be detected by the bell ringing twice, and the supervisor, by inspecting the rear of the machine, can easily tell which two shafts were turned.

While it may be said that if two shafts were turned together in exactly the same time there would be but one sounding of the bell, yet in turning the two knobs of the shafts by use of the two hands there would be little likelihood of their ever being turned in exactly the same time, and unless they were the bell would be struck twice, as each shaft actuates a different striker.

The lower tier of shafts have a separate bell, and as it is often the case that a voter is permitted to turn one knob of each tier this other bell is of a different tone, so that no

confusion can arise from the ringing of both bells.

The back of the machine is closed by a door m , which is hinged at its lower edge and held shut by a spring m' .

Referring now to Figs. 12 and 13, it will be explained how it is proposed to employ the machine above described so as to secure a satisfactory result. The machine is rested on a table n at one end of the same and is surrounded on all sides except the front by a screen or booth o , which is made in sections hinged together, and is thus adapted to be folded up in small compass when not in use. This screen is properly secured to the table, and two of its wings o' extend out beyond the end of the table at each side, so as to conceal the voter. These wings are held in place by braces o^2 , fastened to them and to the table, and they are preferably made with openings o^3 to provide a natural place for the unemployed hand of the voter to grasp the frame of the screen. A bar o^4 extends in front of the machine to keep the latter in place. The back of the screen is made with an opening o^5 , through which the back of the machine is accessible to the supervisor.

The table is made with a compartment under its top comprising a shallow portion p , adapted to hold the screen when folded up and a deeper portion p' for the machine. The end of this compartment is closed by a hinged door p^2 . The portion p' of the compartment may be utilized for ballots, and to this end the table has a slot p^3 . It is the design that when a voter does not care to vote a straight party ticket by the machine, he can use a ballot and deposit it in the slot.

The resetting-cord i is carried down through the top of the table and along under the same to the end of the table, where it has a knob i' , by which the supervisor may manipulate it. Sheaves i^2 are fastened to the under side of the table-top and support the stretch of cord extending under the same.

In explanation of the operation of the apparatus the following may be said: The apparatus being arranged as shown in Fig. 12, the voter enters the booth and finds displayed before him the different tickets, there being one party ticket in each panel of the top lid of the machine, as clearly indicated in Fig. 1. These tickets bear the names of the parties conspicuously and the knobs d are correspondingly indicated by the inscriptions on their inclosed disks. The upper tier of knobs, which are the ones used to register party votes, are directly in line with the tickets, so there can be no mistake as to which knob belongs to which ticket. The voter having selected the proper knob turns it as far as it will go, and thereby registers his vote by moving the traveler, which is in engagement with the screw-shaft of said knob, along the scale marked on the adjacent plate.

The lower tier of knobs are generally intended to be used in addition to the upper

tier and they are labeled to indicate for what they are to be used. For example, one may be inscribed for a vote in the affirmative on the liquor-license question and another for a negative vote. Then the voter, in addition to registering his party vote, is privileged to turn one of the knobs of the lower tier and thereby register his vote on the license question.

The machine is capable of a variety of uses, for the knobs are interchangeable and so are their inclosed disks, and they can be labeled in any way desired and arranged to suit circumstances. The machine is well adapted for caucus use when numerous ballots are taken, for the separable travelers allow of quickly restoring them to initial position, so that after one ballot has been taken the machine can be quickly put in condition for another ballot.

The machine's accuracy in registering and its ample capacity will be readily recognized and it is believed to be well calculated to meet every requirement of a machine of its kind.

The complete apparatus is so arranged that it can be compacted in small compass, the booth and machine being stored away in the table, leaving the top of the latter clear for any purpose it may be needed.

What I claim as my invention is as follows:

1. In a voting machine, the combination of a rotary hollow operating knob having a tubular stem, and an inscribed disk having a trunnion journaled in the stem of the knob, and weighted at one side to cause it to maintain the same position notwithstanding turning of the knob, substantially as and for the purpose set forth.

2. In a voting machine, the combination of a suitable inclosing casing, two sets or tiers of shafts therein whose turning registers the votes, handles for the shafts having tubular shanks to slide over the same and into the casing, said shanks having encircling grooves, a sliding locking plate for each tier of handles perforated to embrace the handles and having slots extending from the perforations, whereby endwise movement of the plate engages it with the grooves in the handle-shanks, a centrally pivoted lever having its opposite ends engaged with the plates, a handle for said lever, and a spring exerting itself to hold the plates in locking position.

3. In a voting machine, the combination of

a row of shafts whose turning registers the votes, and each of which carries a ratchet-wheel, a sliding detent for each shaft recessed to receive a tooth of the ratchet-wheel, which tooth acting against the shoulder at one end of the recess under rotation of the shaft moves the detent so as to bring it in the path of another tooth of the ratchet-wheel; a releasing bar common to all the detents; and means under control of the supervisor for operating said bar.

4. In a voting machine, the combination of two rows or tiers of shafts whose rotation registers the votes, and each of which shafts carries a ratchet-wheel, a sliding detent for each ratchet-wheel adapted to be moved to locking position by the turning of the latter, a releasing bar for each tier of detents and a lever having a cross-head engaging the two releasing bars, substantially as and for the purpose described.

5. In a voting machine, the combination of a plurality of shafts in gear with registering mechanism, a bell, and independent slide-bars constituting bell-strikers and arranged to be separately actuated by the shafts.

6. A voting apparatus comprising a table having a compartment under its top with an elongated shallow portion adapted to contain a folded screen or booth, and a deeper box-like portion adapted to contain a voting machine, and also to serve as a ballot box, the top of the table over said deeper portion of the compartment having a slot.

7. A voting apparatus comprising a table having sheaves on its under side and a voting machine resting on said table at one end, and having a resetting cord which is carried by the said sheaves to the other end of the table where it is accessible to the supervisor.

8. A voting apparatus comprising a table, a voting machine of box-like form resting on said table and having a door on the rear side, and a folding screen or booth erected on the table around the machine, and having an opening through which the rear side of the latter is accessible.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 22d day of September, A. D. 1894.

JOHN MCTAMMANY.

Witnesses:

J. W. TEMPLE,
ERASTUS J. STARR.