(No Model.) 10 Sheets—Sheet 1.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 1.

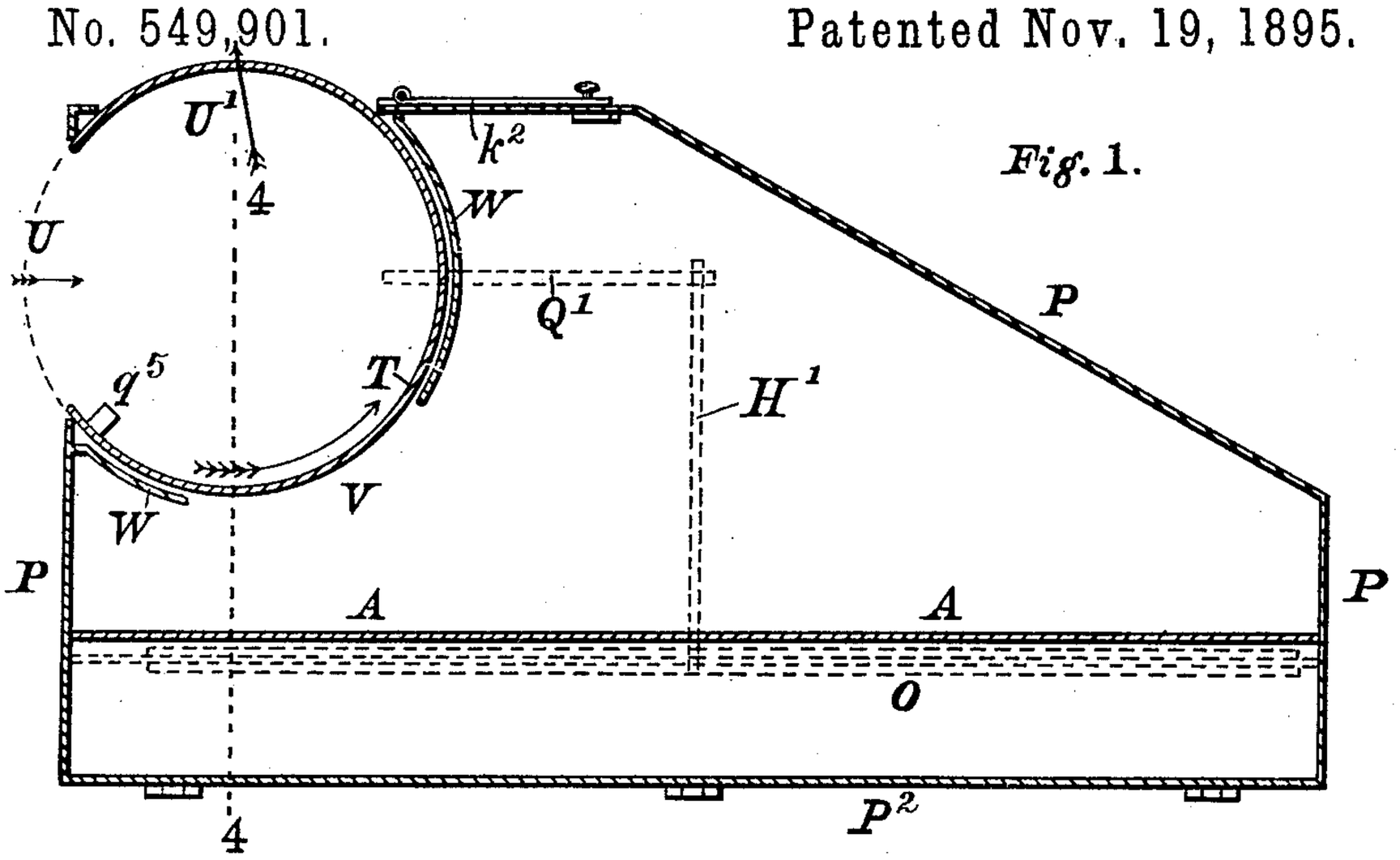


Fig. 2.

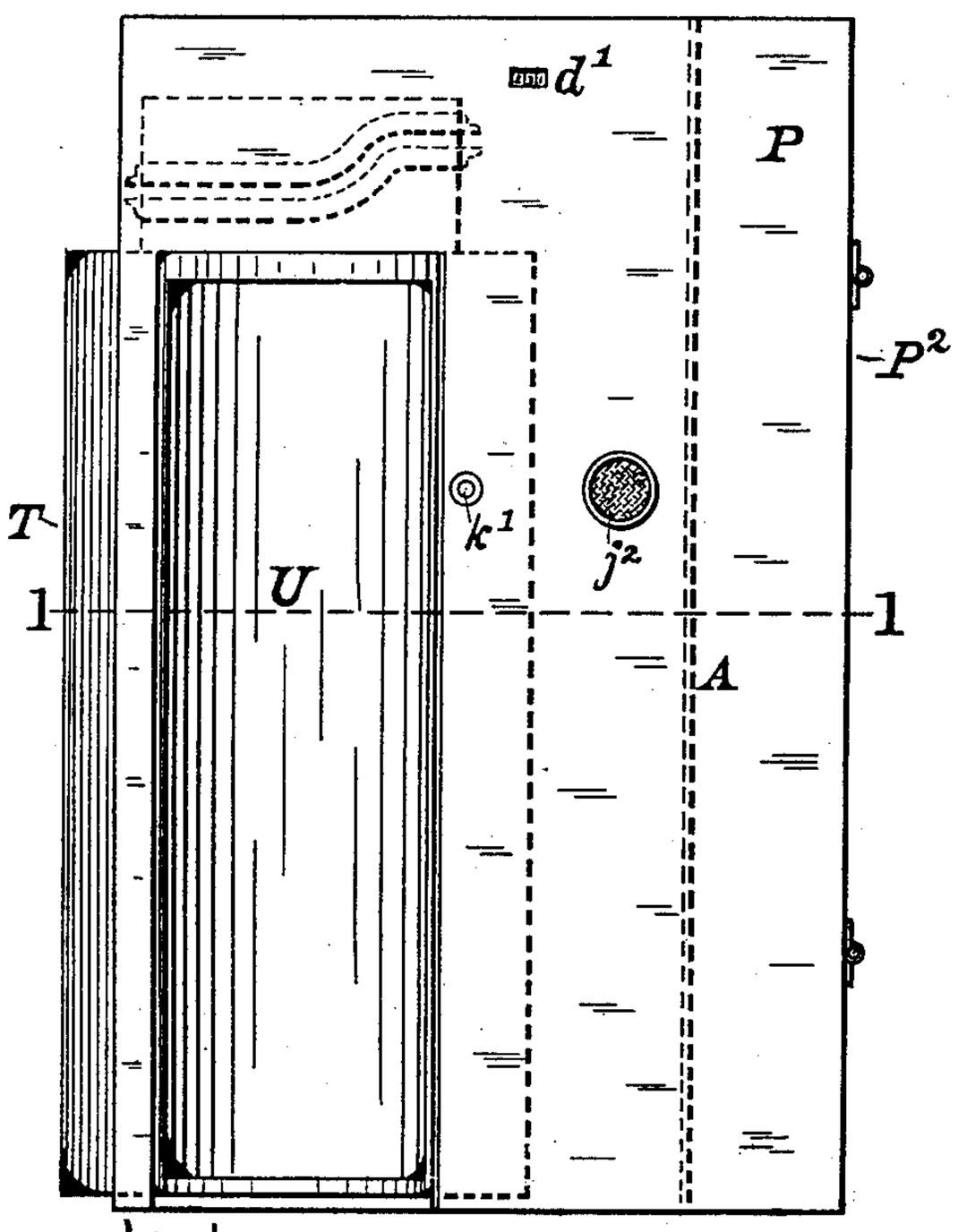
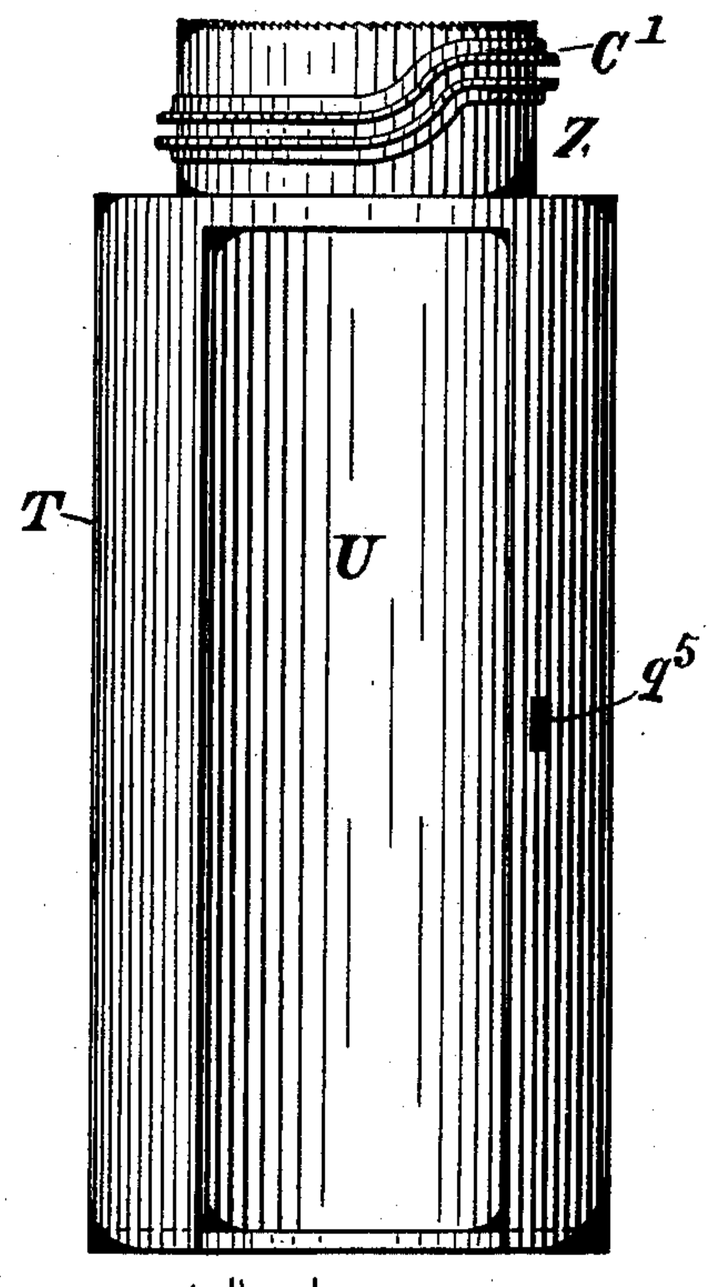


Fig. 3.



WITNESSES:
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INVENTOR:
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(No Model.) 10 Sheets—Sheet 2.

S. E. DAVIS.

VOTING MACHINE.

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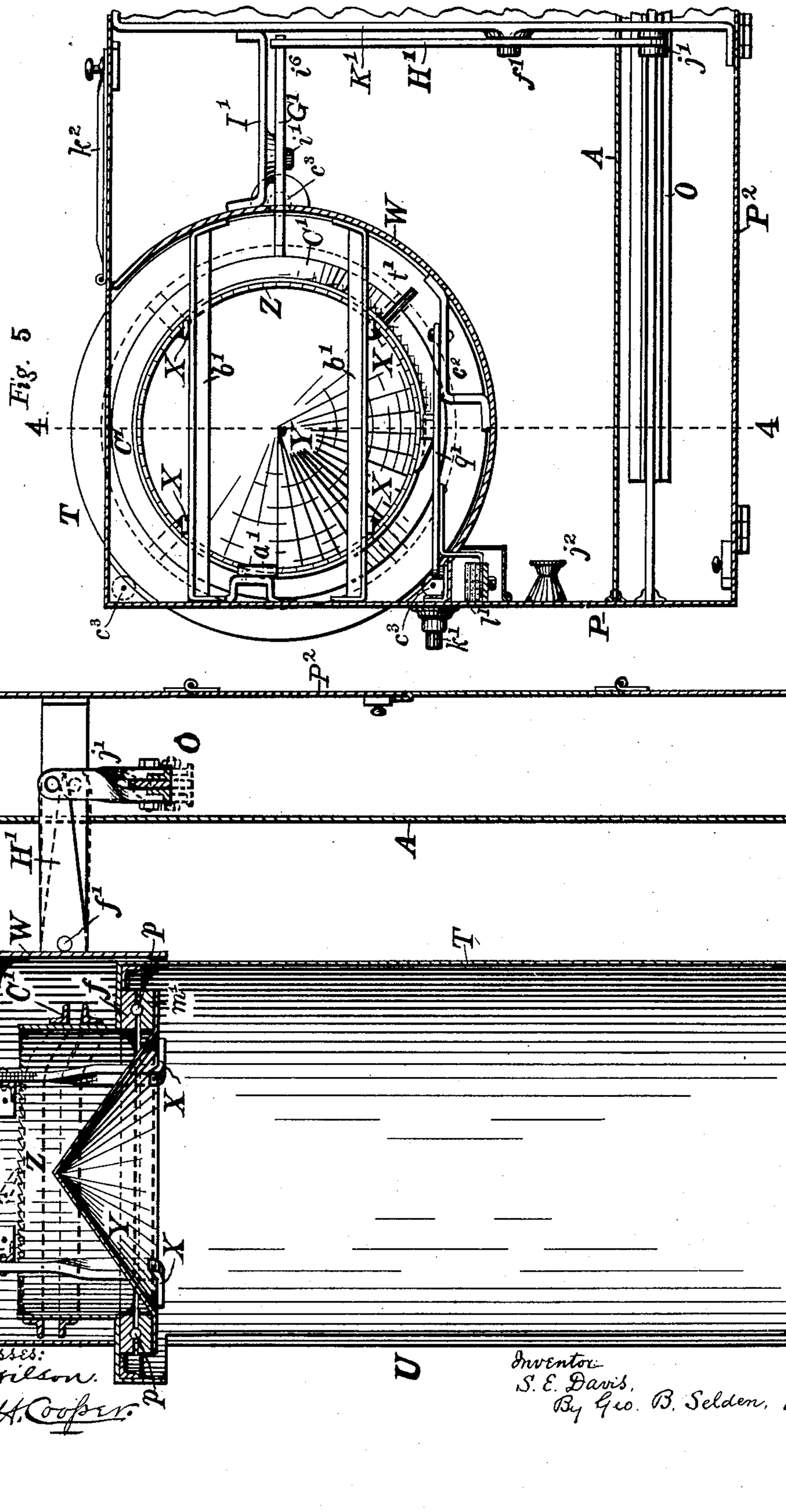


(No Model.) 10 Sheets—Sheet 3.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 6.

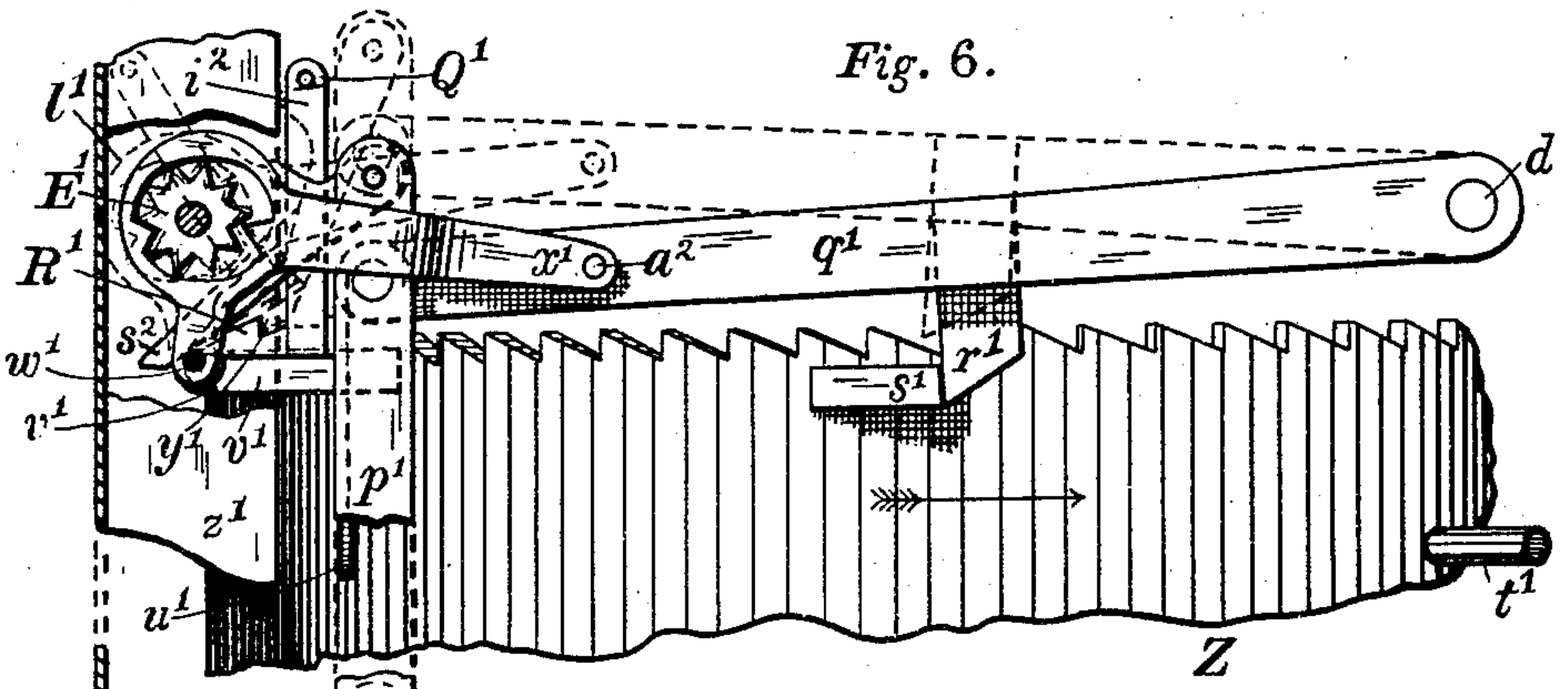


Fig. 8.

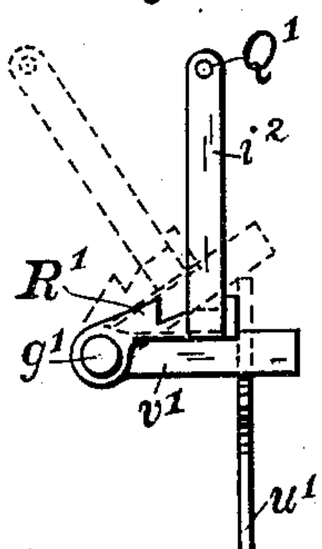


Fig. 9

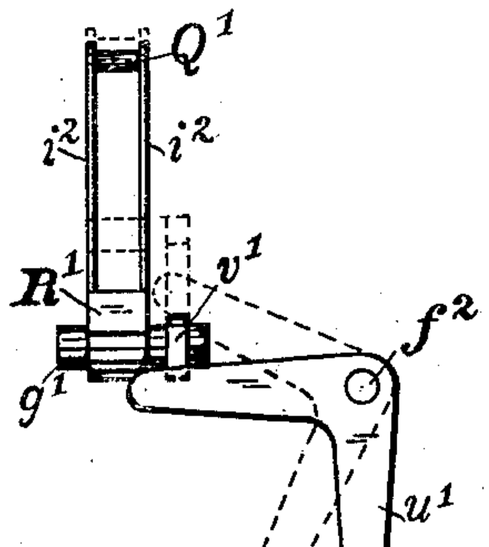


Fig. 7.

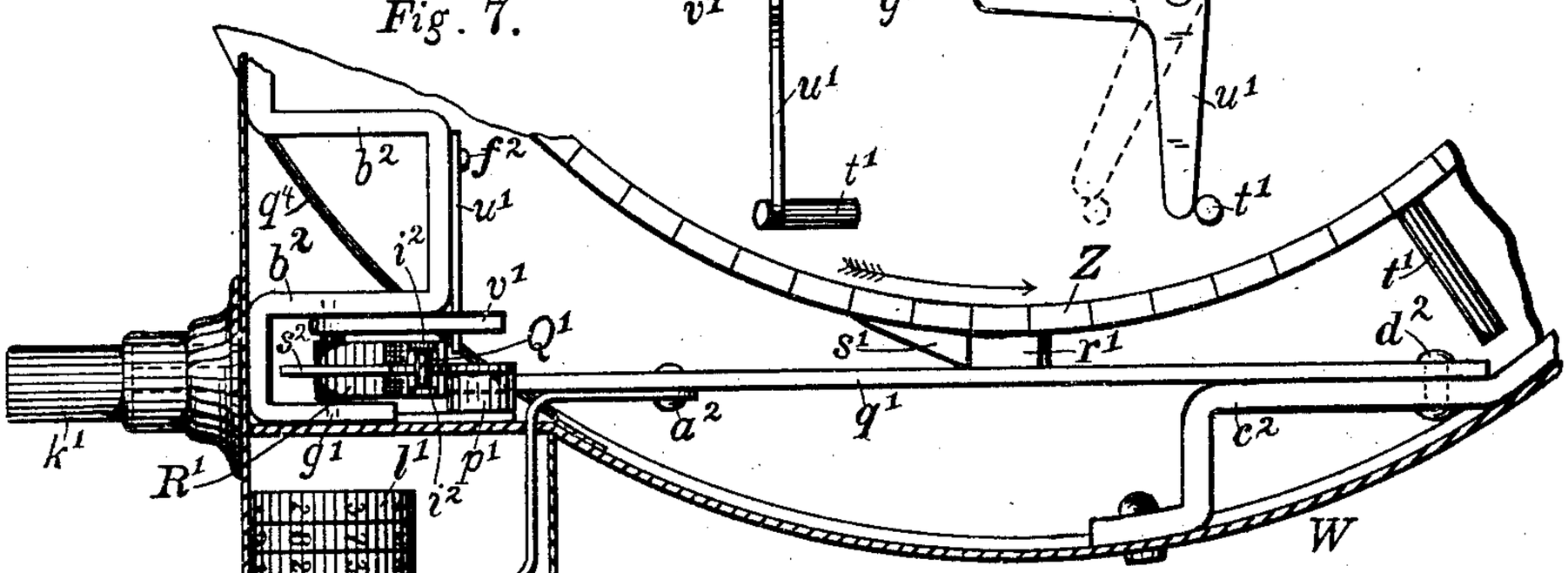


Fig. 10.

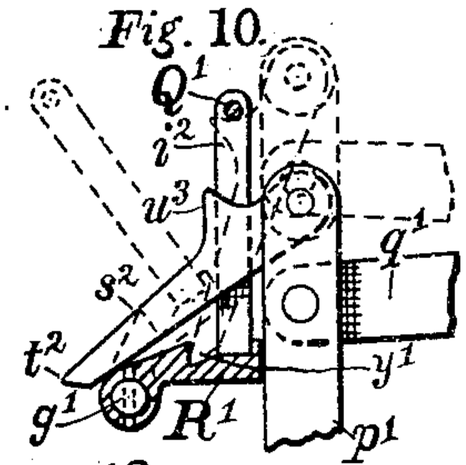


Fig. 11.

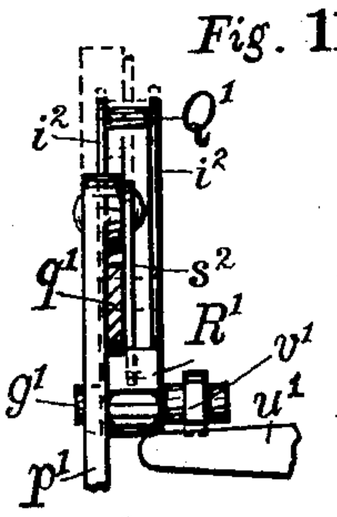
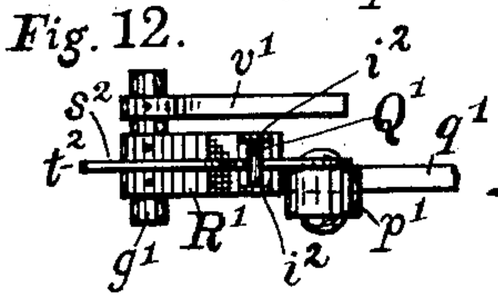


Fig. 12.



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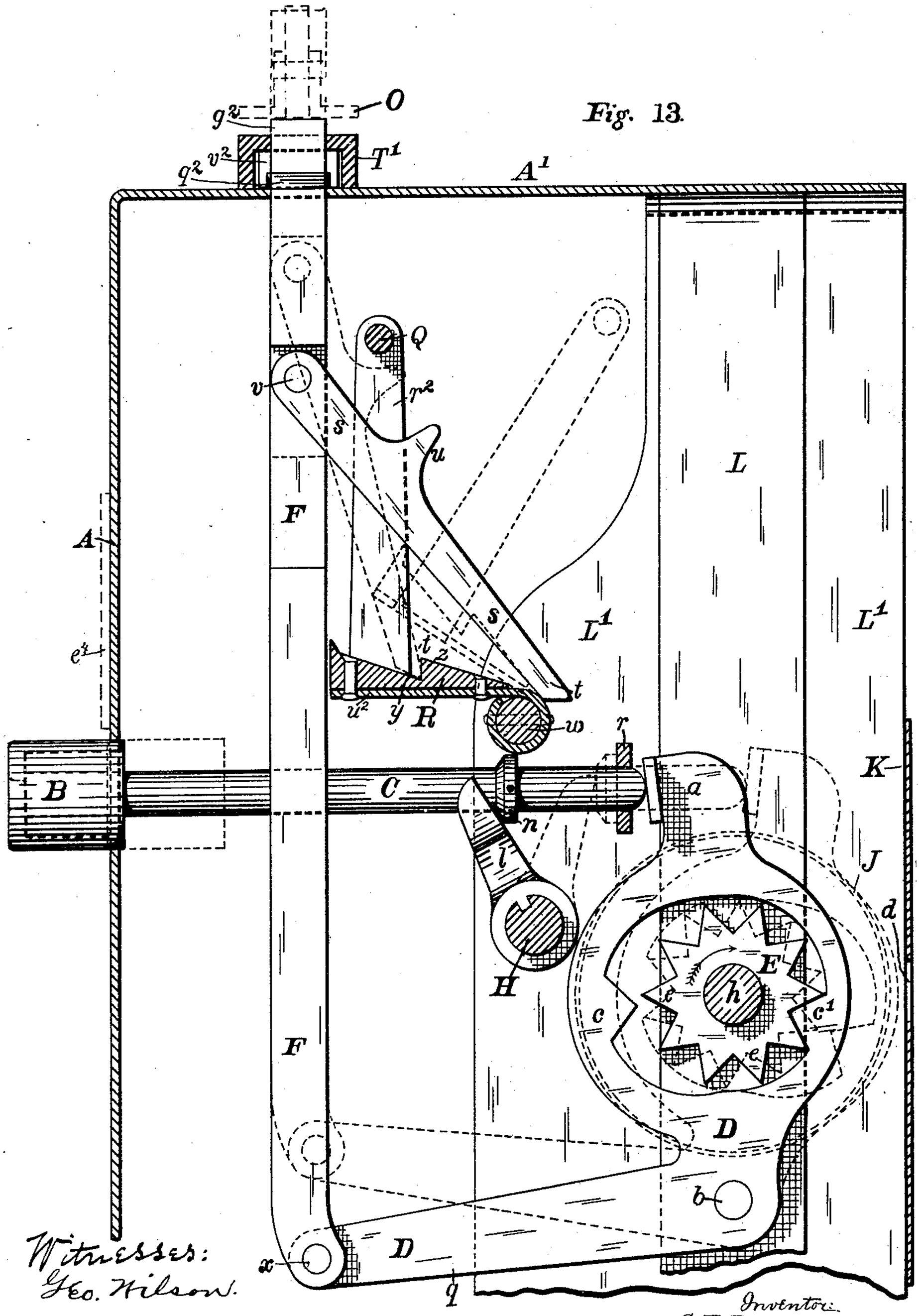
(No Model.) 10 Sheets—Sheet 4.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 13.



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(No Model.) 10 Sheets—Sheet 5.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 15.

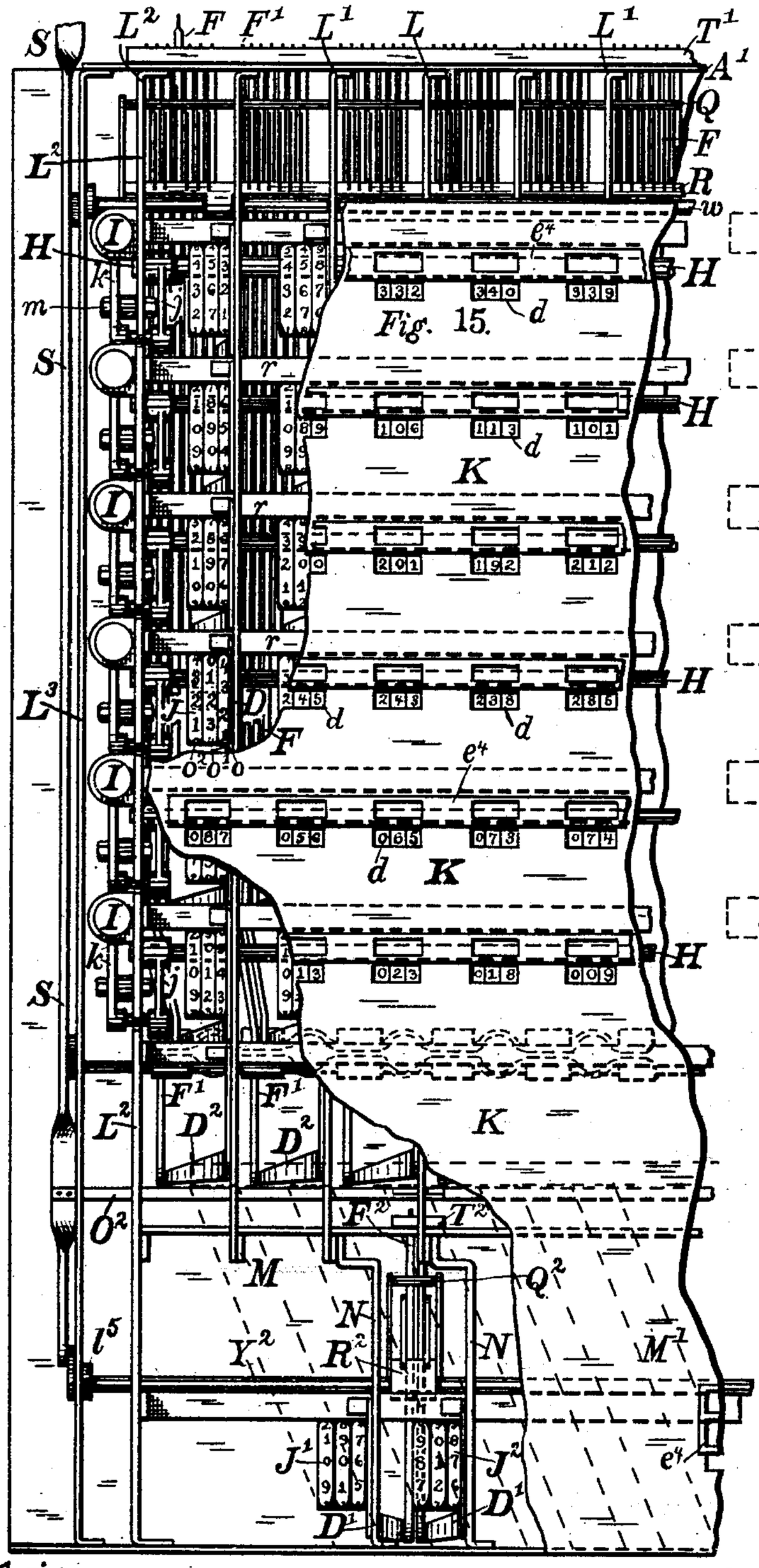
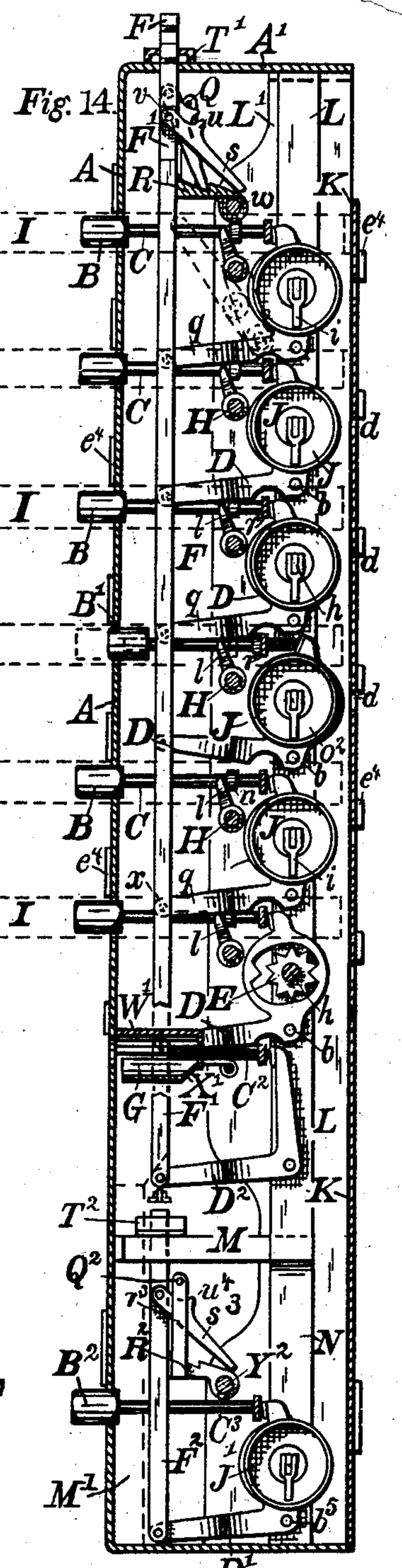


Fig. 14.



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(No Model.) 10 Sheets—Sheet 6.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

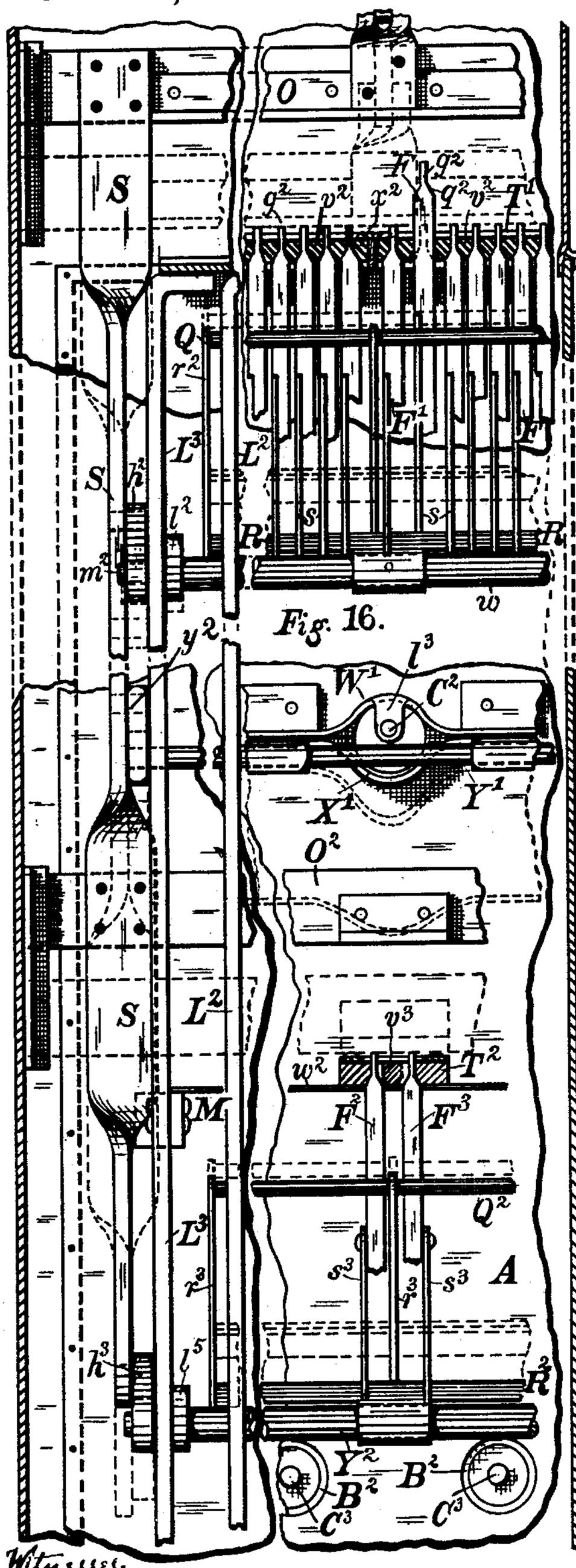

Fig. 16.

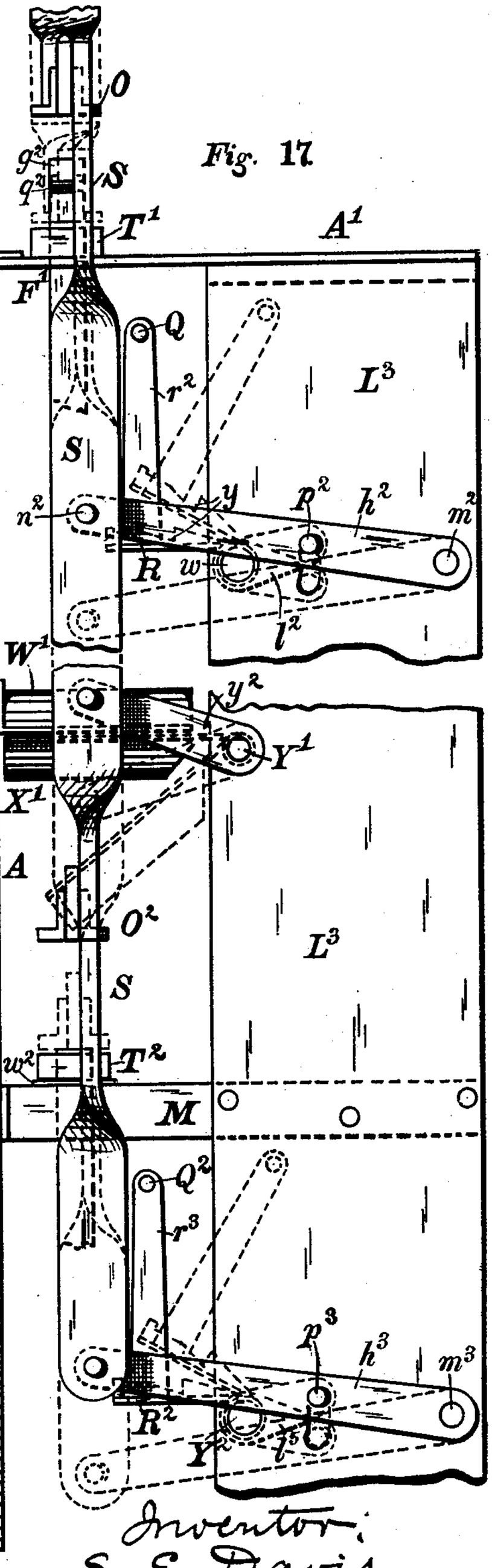

Fig. 17

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(No Model.) 10 Sheets—Sheet 7.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 18.

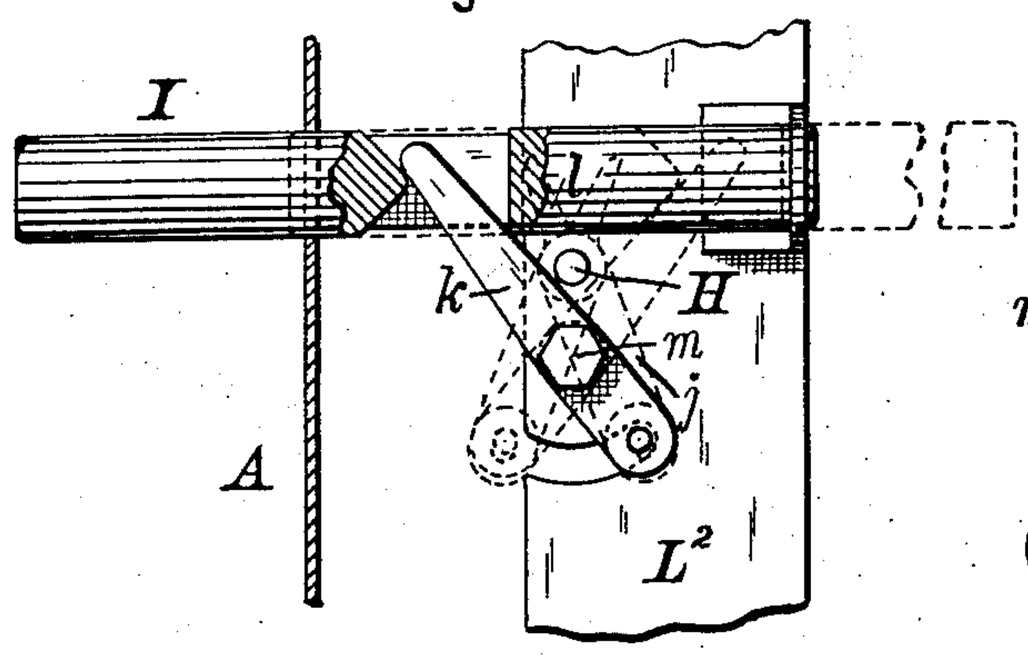


Fig. 19.

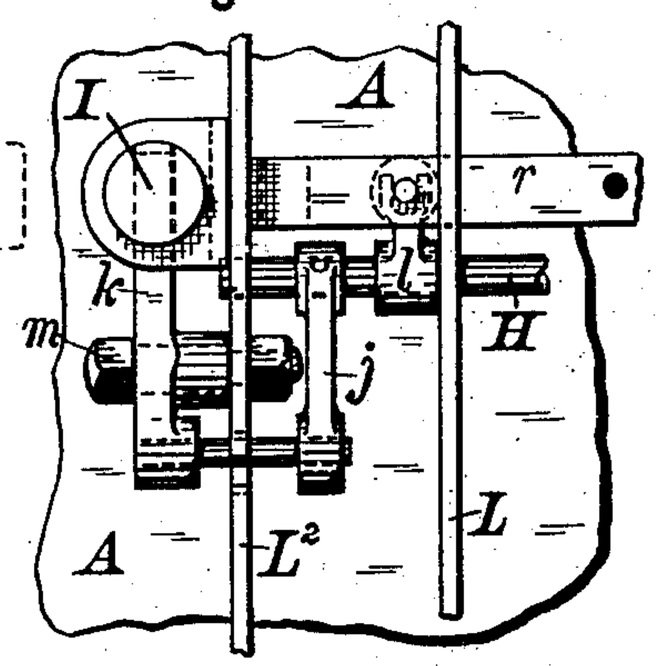


Fig. 20.

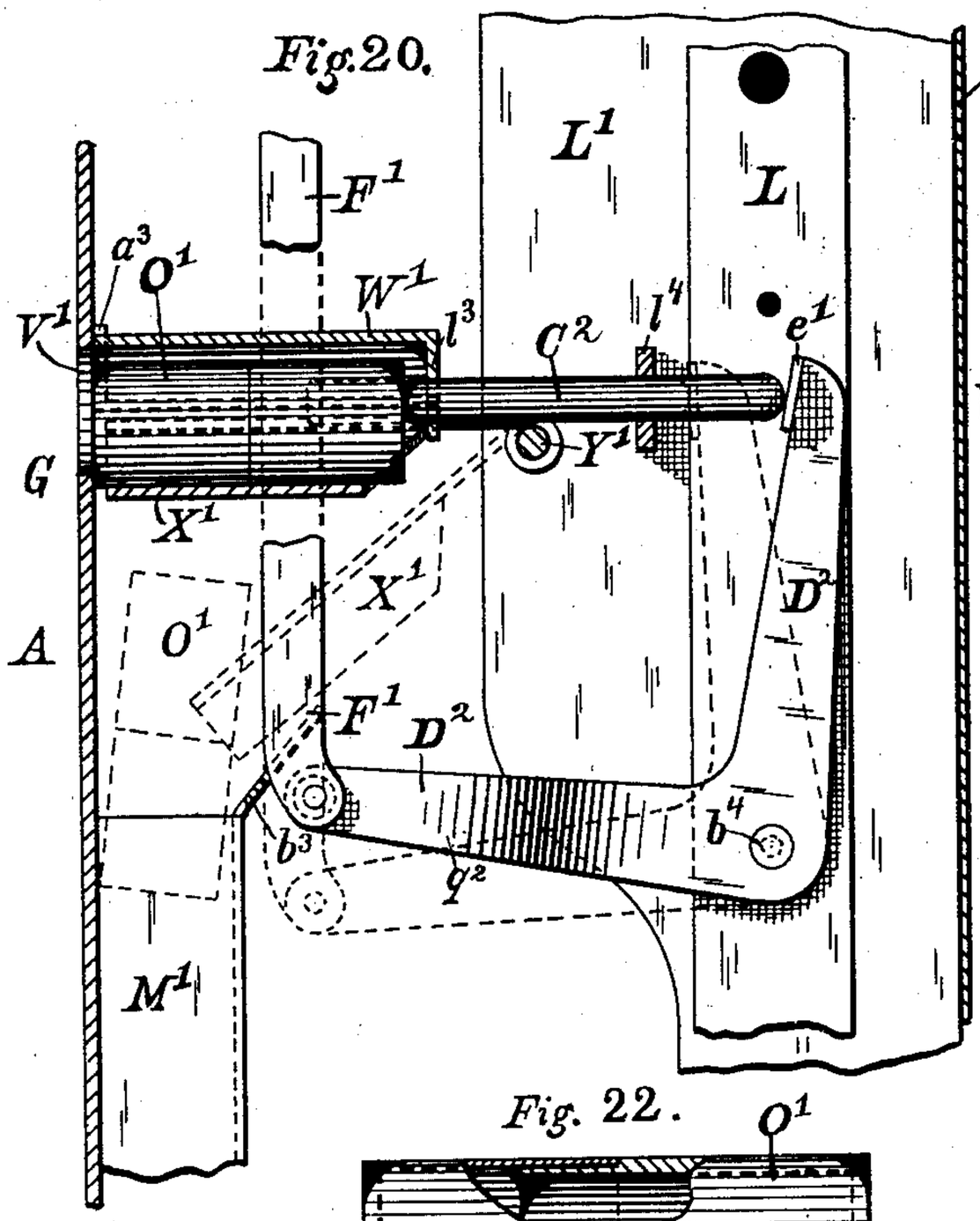


Fig. 21.

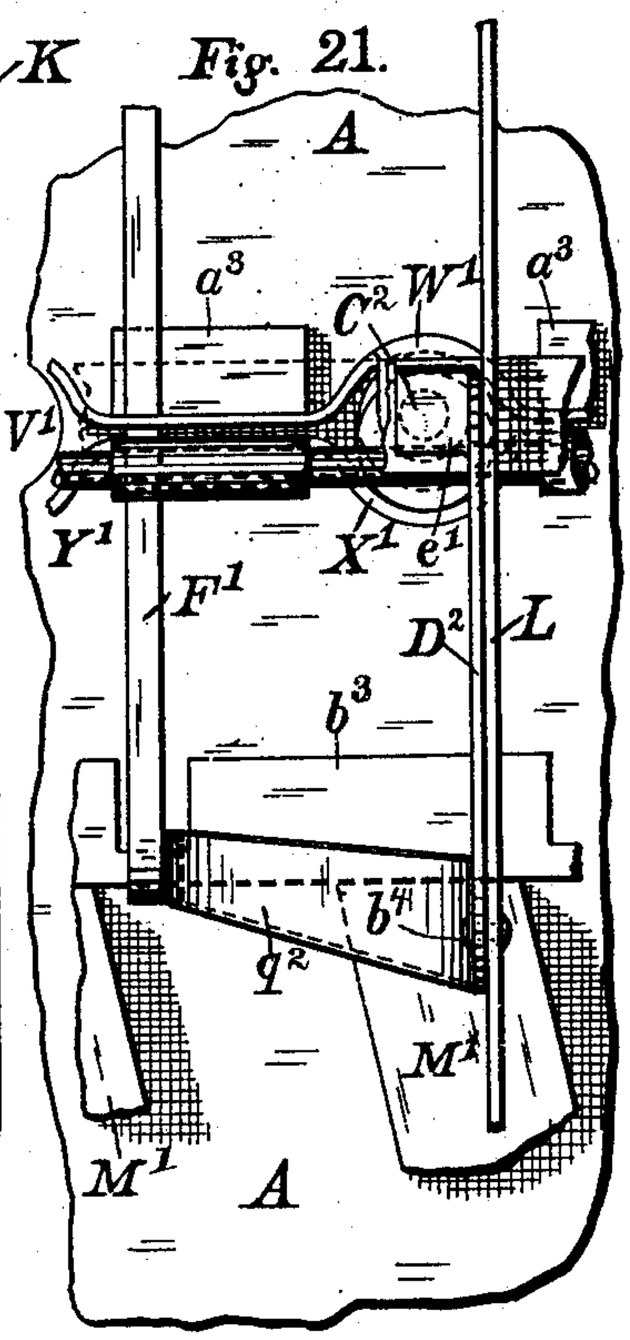
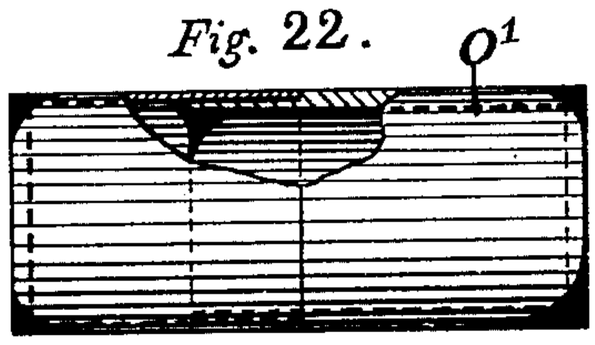


Fig. 22.



WITNESSES
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(No Model.)

10 Sheets—Sheet 8.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 23.

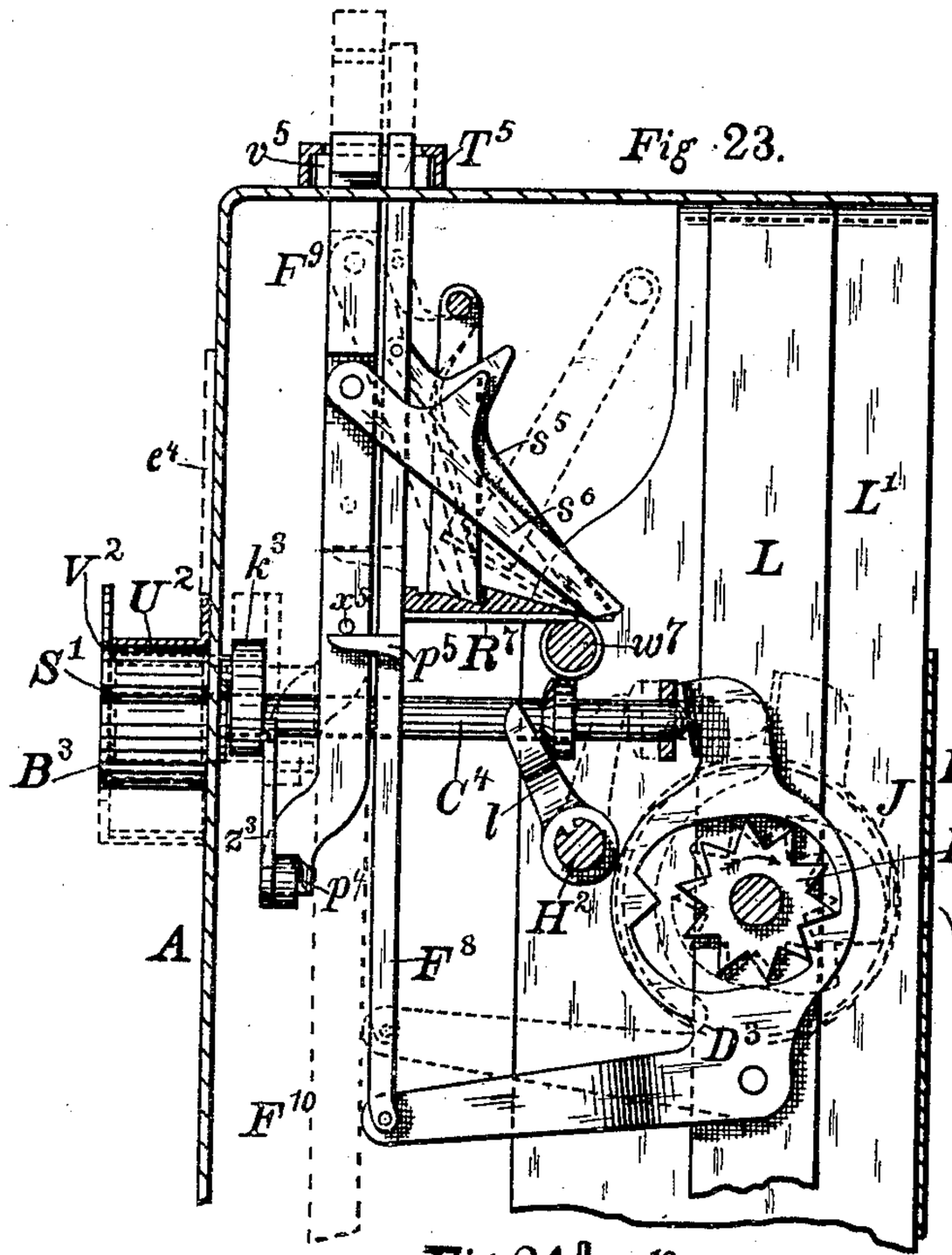


Fig. 24

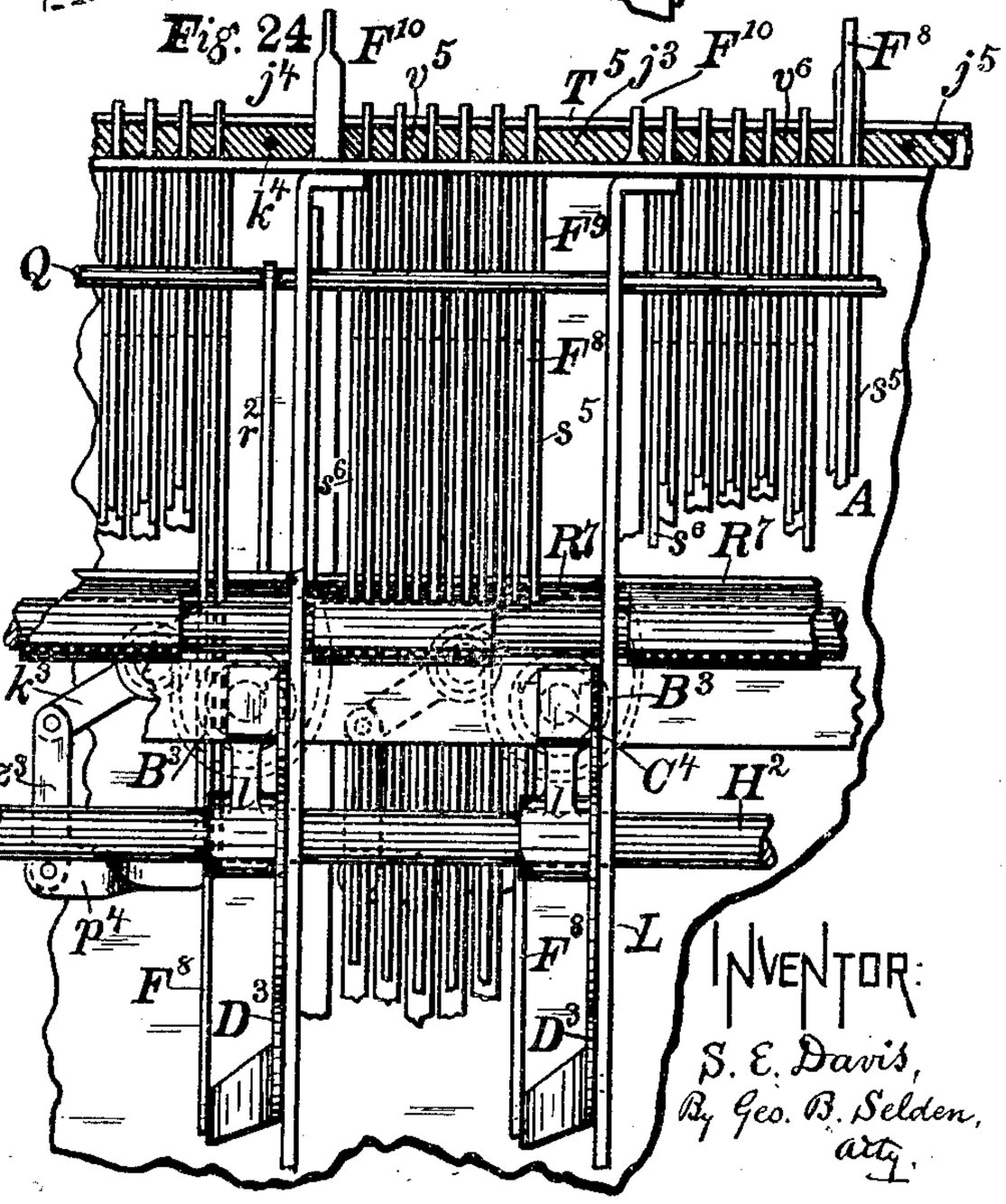
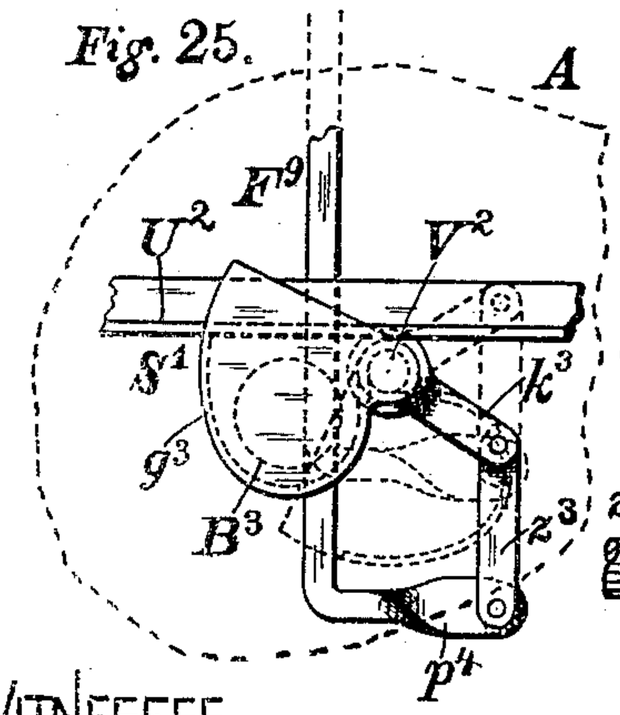


Fig. 25.



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(No Model.) 10 Sheets—Sheet 9.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 26.

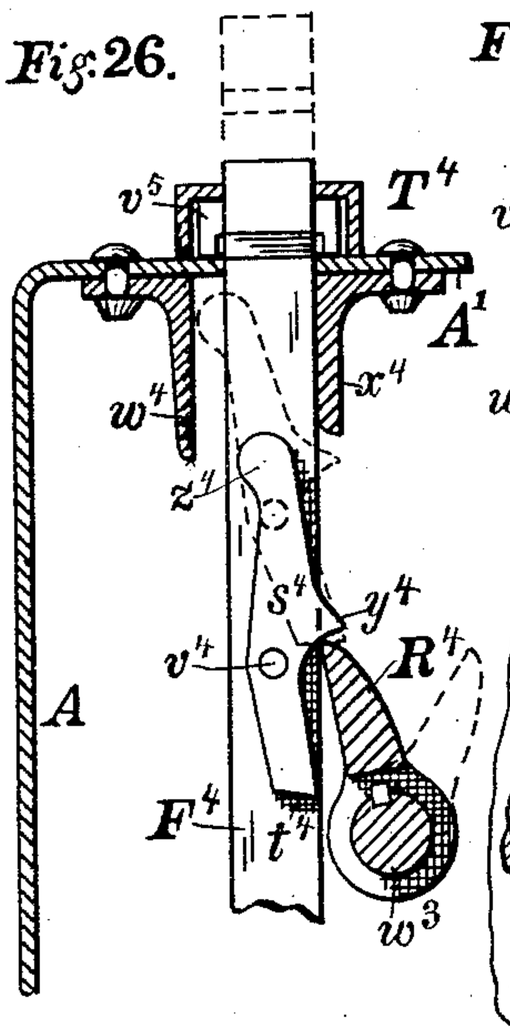


Fig. 27.

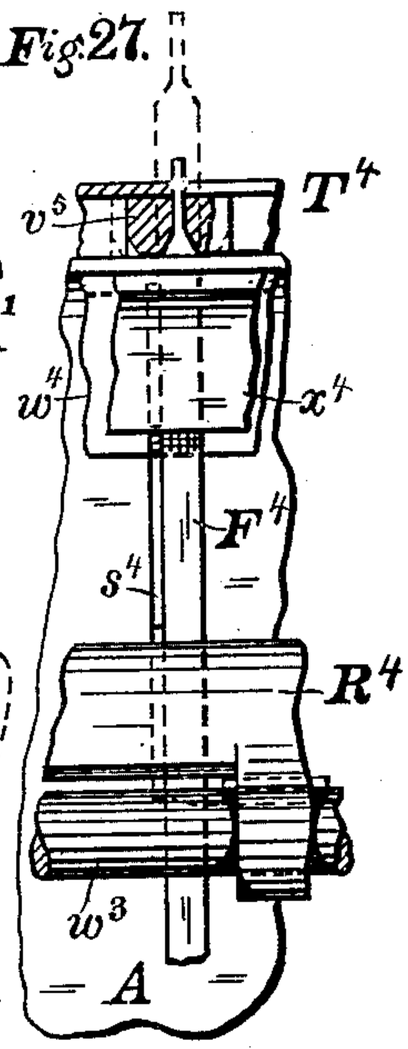


Fig. 28.

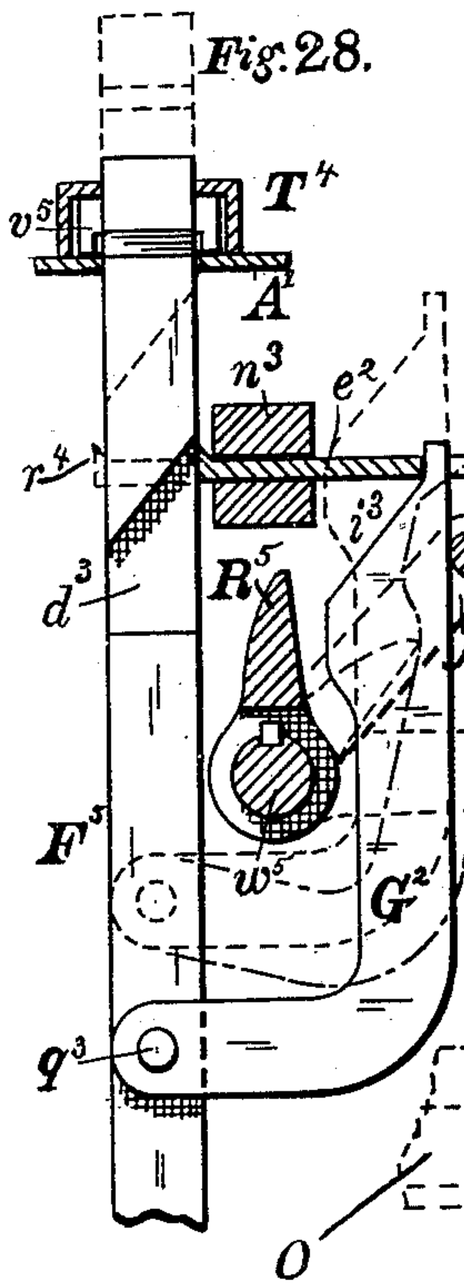


Fig. 29.

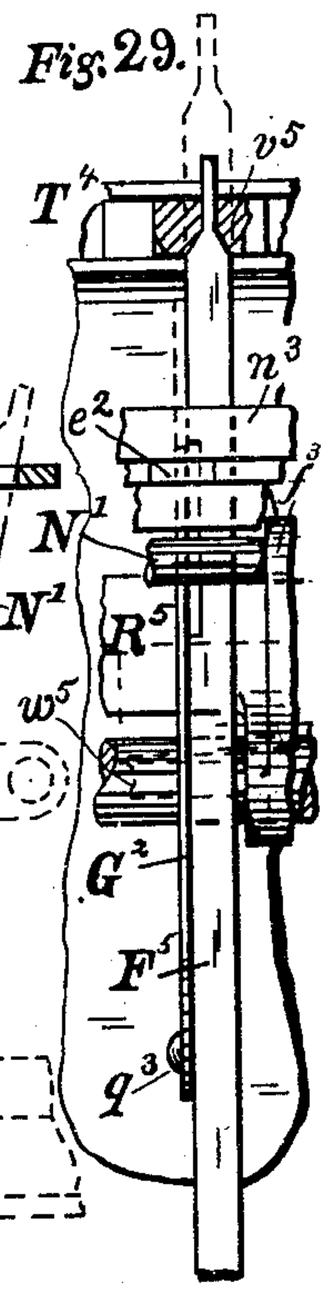


Fig. 30.

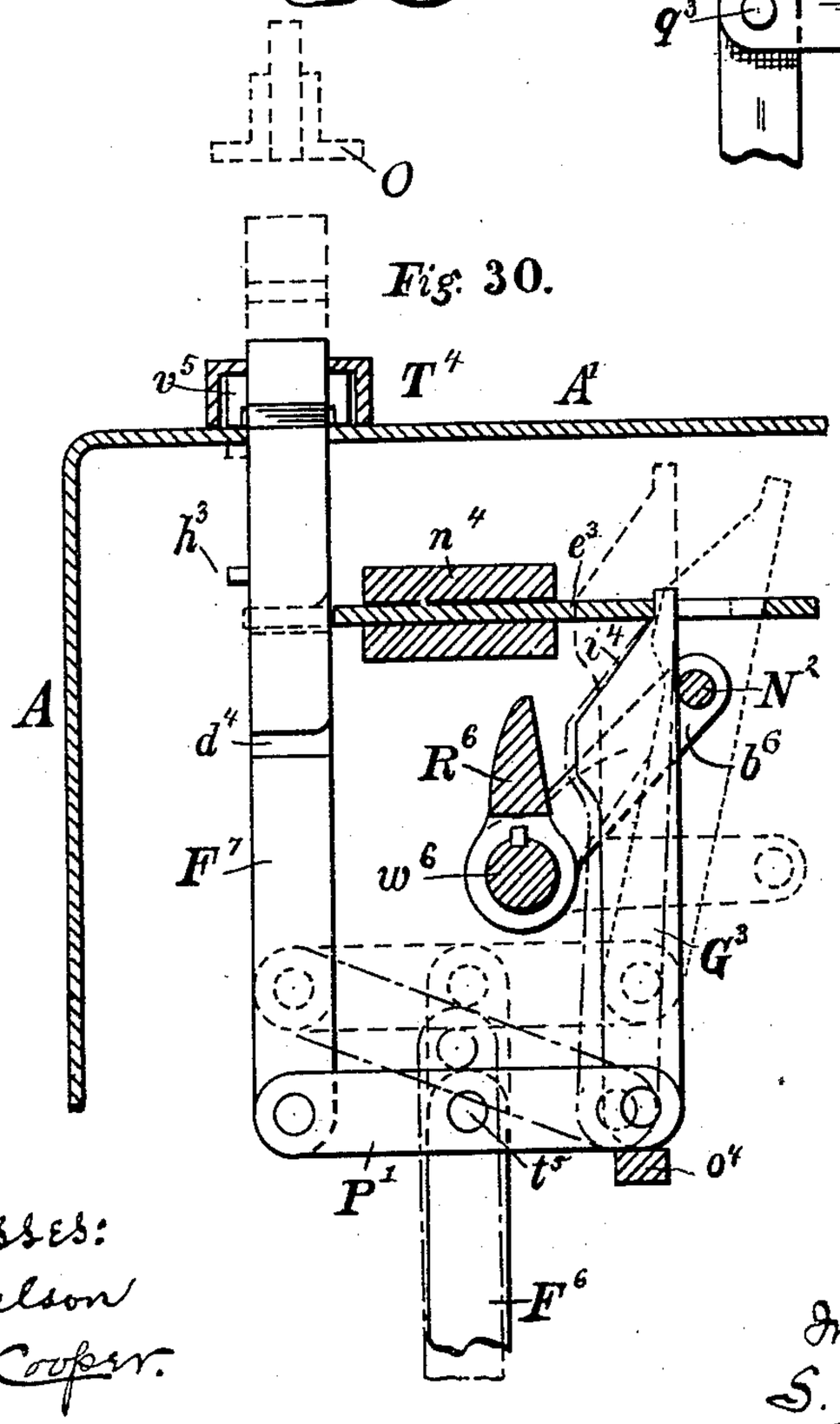
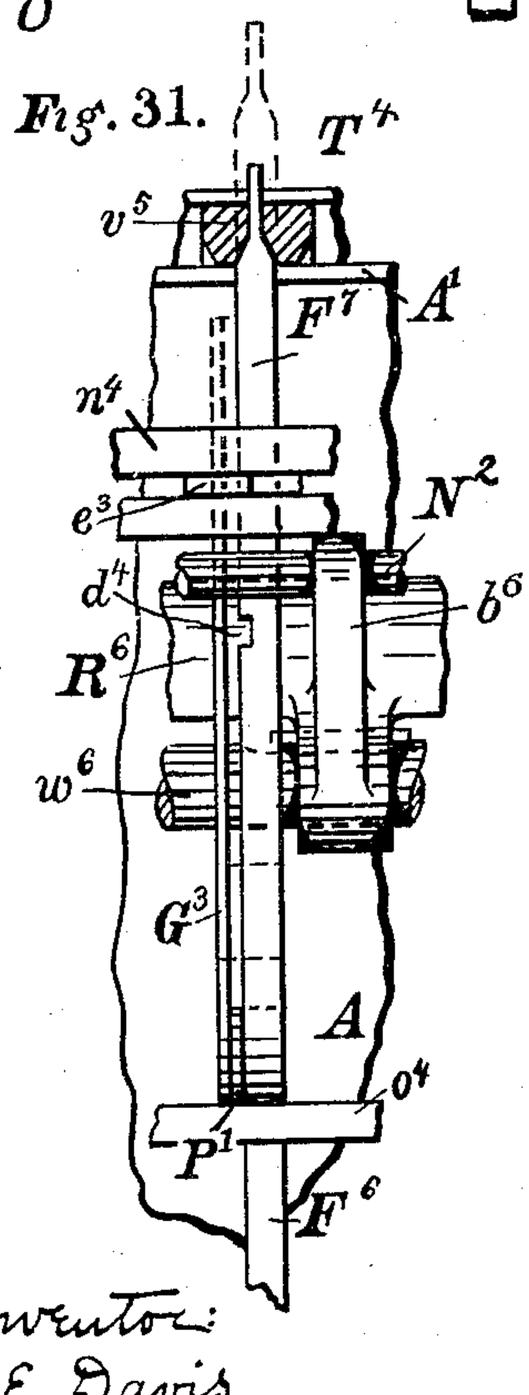


Fig. 31.



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(No Model.) 10 Sheets—Sheet 10.

S. E. DAVIS.

VOTING MACHINE.

No. 549,901. Patented Nov. 19, 1895.

Fig. 32.

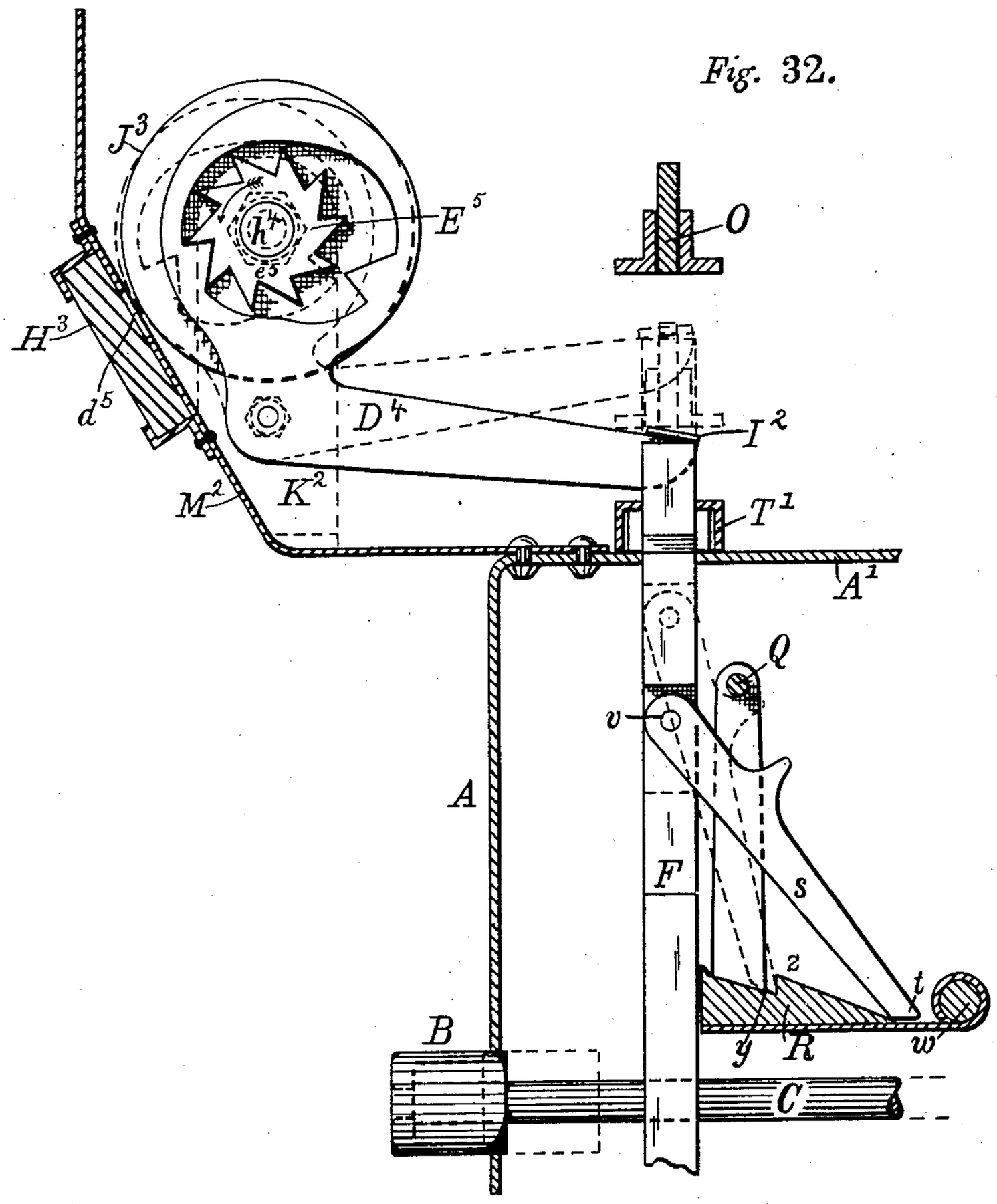
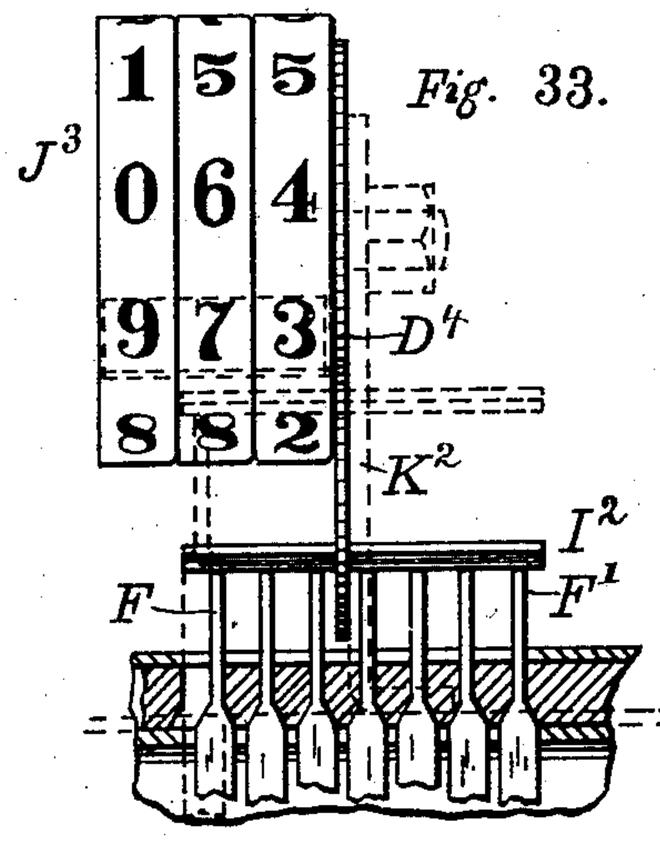


Fig. 33.



WITNESSES:
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H. C. H. Cooper.

INVENTOR:
S. E. Davis.
By Geo. B. Selden.
atty.

UNITED STATES PATENT OFFICE.

SYLVANUS E. DAVIS, OF ROCHESTER, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF SEVENTY-ONE ONE-HUNDREDTHS TO DANIEL B. PLATT, GEORGE B. SELDEN, JAMES F. HUTCHISON, AND ALEXANDER K. HONE, OF SAME PLACE.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 549,901, dated November 19, 1895.

Application filed March 4, 1895. Serial No. 540,466. (No model.)

To all whom it may concern:

Be it known that I, SYLVANUS E. DAVIS, a citizen of the United States, residing at Rochester, in the county of Monroe, in the State of New York, have invented certain Improvements in Voting-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to certain improvements in the type of voting-machines described in my Patent No. 526,668, dated September 25, 1894, which improvements are fully described and illustrated in the following specification and the accompanying drawings, the novel features thereof being specified in the claims annexed to the said specification.

In the accompanying drawings, representing my improvements in voting-machines, Figure 1 is a horizontal section of the voting-booth, showing door and the key-plate. Fig. 2 is an end elevation of the booth as seen from the left hand in Fig. 1. Fig. 3 represents the revolving door detached. Fig. 4 is a vertical section through the booth on the line 4 4, Fig. 1, showing the manner of supporting the revolving door. Fig. 5 is a partial plan view of the booth, the top being omitted, and showing the means for operating the resetting-bar from the revolving door. Fig. 6 is a partial side elevation of the toothed ring at the top of the revolving door, showing the mechanism for releasing the door to permit the entrance of a voter and the counter which indicates the number of voters admitted to the booth. Fig. 7 is a partial plan view of the same. Fig. 8 is a side elevation of the locking-plate of the door-releasing mechanism and bell-crank lever detached. Fig. 9 is a side elevation of the same as seen from the right hand in Fig. 6. Fig. 10 is a side elevation of the locking-dog and locking-plate of the door-releasing mechanism. Fig. 11 is a side elevation of the same as seen from the right hand in Fig. 10. Fig. 12 is a plan view of the same. Fig. 13 is a side elevation of one of the pushes, the counter-operating lever, and the locking mechanism. Fig. 14 is a vertical section of the supporting-plate on the central line of one of the vertical lines of pushes, showing the counter-actuating mechanisms in side elevation and also the irregular balloting device and the questions-voting mechanism. Fig. 15 is a partial rear elevation showing, also, the irregular balloting devices and the questions-voting mechanisms. Fig. 16 is a partial rear elevation showing the mechanism for operating the locking-plate and the irregular balloting devices. Fig. 17 is a side view of the same. Fig. 18 represents the connection between the straight-ticket push and rock-shaft in side view. Fig. 19 is a rear elevation of the same. Fig. 20 is a sectional side elevation of the irregular balloting device. Fig. 21 is a rear elevation of the same. Fig. 22 represents the irregular ballot-holder. Fig. 23 is a side elevation of one of the counters of the multicandidate group, showing the interlocking door. Fig. 24 is a partial rear elevation of the multicandidate group. Fig. 25 is a front view of one of the interlocking doors of the multicandidate group. Figs. 26 to 31, inclusive, represent modified forms of locking devices. Fig. 32 is a side view of the counter which indicates the total number of votes cast for any particular candidate. Fig. 33 is a front elevation of the same.

A voting-machine embodying my present improvements comprises a suitable supporting-plate, a series of movable slides or pushes adapted to be operated by the voter, a corresponding series of counters which registers the votes cast, counter-actuating mechanisms, interlocking mechanism whereby the actuation of more than one push in any one vertical line by any one voter is prevented, mechanical locking mechanism controlling the counters, and devices whereby the apparatus is reset or restored to normal position when the voter leaves the booth. Irregular balloting devices and questions-voting mechanism may also be employed, if desired.

The general appearance of my improved machine to the voter in the booth is similar to that shown in Fig. 1 of my said Patent No. 526,668, the supporting or key plate being provided with a series of openings through which

the pushes slide, such openings being arranged in horizontal rows comprising the pushes representing all the candidates of any one political party and in vertical lines comprising all the candidates for any one office.

The irregular balloting devices, if used, are preferably arranged in a row below the rows of pushes representing the regular candidates, and the questions-voting mechanism may be arranged either above or below the rows of pushes. A push is provided, preferably, at one end of each horizontal row of pushes, whereby the counters of the candidates of any one political party are actuated at once, such device being employed for "straight-ticket" voting.

Suitable name-plates are arranged on the support, indicating to the voter the names of the candidates and the titles of the offices to which they are to be elected, and similar plates are used on the back plate to indicate the counters corresponding to the pushes devoted to the different candidates. The irregular balloting devices are also provided with placards indicating their use, and each pair of questions-voting mechanism is provided with a placard indicating the particular amendment or question to which it is devoted, and the pushes of each pair are labeled "For" and "Against" or "Yes" and "No," or words of similar meaning.

In the accompanying drawings, A represents the key plate or support; B, the pushes; C, the push-rods; D, the counter-actuating levers; E, the toothed wheels of the counters, and F the locking-rods, which are also used for interlocking the different pushes in any one vertical line against each other. G represents the irregular balloting device, which is also interlocked against the regular pushes in the same vertical line by the rod F′.

H represents a rock-shaft, one for each horizontal row of pushes, by which the movement of the straight-ticket push I is transmitted to all of the corresponding rows of pushes.

The operation of the counter-actuating mechanism will be understood from Fig. 13, in which the movements of the various parts are indicated by full and dotted lines.

The push B may project beyond the key-plate, as shown, or it may be arranged to slide in a tube attached to the plate. The voter in casting a vote pushes in one of the pushes B, as indicated by the dotted lines.

The push-rod C bears against the upper end *a* of the counter-lever D, and the movement of the push swings the counter-lever from the position shown by the full lines in Fig. 13 to that indicated by the dotted lines. The counter-lever is pivoted at *b*, and it is provided with the pallets *c c′*, having inclined surfaces, which engage with the teeth *e* of the counter-wheel E and impart to it a step-by-step motion at each movement of the counter-lever. The complete to-and-fro oscillation of the counter-lever D imparts to the toothed counter-wheel E one-tenth of a revolution.

The first or units disk or wheel *o*, Fig. 15, of the counter J is attached to the toothed wheel E and revolves with it. The second or tens wheel or disk *o′* of the counter is operated from the first, and the third or hundreds wheel o^2 is operated from the second. When wheel *o* makes a complete revolution, the second wheel *o′* makes one-tenth of a revolution, and the same relation obtains between the second and third wheels. The wheels or disks *o o′* o^2 are provided with a series of numerals, extending from "0" to "9," which show through horizontal slots *d* in the back plate K, Figs. 13, 14, and 15, thereby indicating the number of votes cast for the different candidates. It will thus be understood that each oscillation of one of the counter-levers will actuate its corresponding counter, so as to change the numbers showing through the slot and increasing the total of the number indicated by one unit. It will also be perceived that since the pallets *c c′* of the counter-lever are always engaged between the teeth *e* of the wheel E on one side or the other such movement of the counters is positive and certain, being produced by parts which are always in mechanical engagement with each other. Only the first inward movement of the push is transmitted to the counter, and any subsequent movement of it, if such could be produced by the voter, would not affect the counter, since the rods C are not attached to the levers D. The voter therefore cannot vote more than once for any one candidate. The wheels or disks of the counter are connected together by operating mechanism, which is also mechanically positive in its action. Such operating mechanism may be of any suitable character—such, for instance, as that shown in my said patent, or in my pending application, Serial No. 523,763, filed September 22, 1894. The push B′, Fig. 14, is represented as pushed in or in the position it occupies when a vote has been cast and before the voter leaves the booth. The parts are restored to normal position and the count completed by the voter as he passes out of the booth by mechanism hereinafter described.

Supposing two hundred and twenty-two votes already registered on the counter J, which corresponds to the push B′, the condition of the counter after the push B′ has been operated is shown in Fig. 15—that is, the units-indicator *o* has been moved so as to conceal the figure "2" behind the edge of the slot *d* in the plate K, but not far enough to uncover the figure "3," the blank surface of the indicator between the figures showing through the slot. The counting, therefore, is not completed until as the voter leaves the booth the counter-lever and the push are restored to normal condition, and the units-indicator is moved so as in the supposed case to display

the figure "3" through the slot. The counter will then indicate two hundred and twenty-three votes. A similar operation takes place for each vote cast. The fact that in my invention the counting is not completed until the voter has left the key-plate and passed outside of the booth absolutely prevents the possibility of fraudulent voting inside the booth.

The counters and counter-levers are supported in any suitable manner from the plate A. In the accompanying drawings the counters and counter-levers are supported by a series of plates or bars L, attached to the plate by suitable arms or brackets. Some of these plates L′ are made wide enough to support the straight-ticket rock-shafts H at suitable intervals along their length. At their lower ends the plates L L′ are sustained by the arms M, Figs. 14 and 15, which also serve to carry the plates N of the questions-voting mechanism. At the upper part the plate A is bent over, as indicated at A′, Figs. 13 and 14, so as to afford support to the plates L L′, which are attached thereto by means of rivets through suitable ears on the plates or in any other suitable manner. The inner ends of the push-rods C slide in holes in the horizontal bars *r*, which are attached to the narrow plates L by angle-clips or are supported by being passed through openings in the wide plates L′. The inward motion of the pushes B is limited by the counter-levers or by any suitable stops—such, for instance, as lugs or shoulders *n* on the rods C, abutting against the bars *r*. The counters are supported so as to revolve freely on the studs *h*, secured to the plates by nuts or other suitable devices. Each stud is provided with a pivoted eccentric *i* or other suitable device, by which the counter-wheels and the toothed wheel E are permitted to be moved laterally on the shaft to disengage the counter-wheels from each other or the toothed wheel from the pallets of the counter-lever, so that the counters can be set at zero previous to the commencement of an election.

Instead of being supported on separate studs the counters may all be carried by a shaft extending lengthwise of the plate and supported by the plates L and provided with any suitable devices for disengaging the counters when it is desired to return them to zero.

The counter-levers are pivoted at *b* to the plates L by any suitable form of bolt or stud. A counter is omitted at E, Fig. 14.

The straight-ticket rock-shafts H are provided with a series of arms *l*, which operate the push-rods C when a straight-ticket is voted. The push-rods C are provided with pins, lugs, or collars *n*, against which the arms *l* bear. The rock-shafts and arms move the push-rods in one direction only, the rods moving independently of the arms when the voter operates one of the pushes; but when the straight-ticket push I is operated the rock-shaft H is given a partial rotation and the arms on it actuate the push-rods and counters of the whole row or of any particular section thereof for which arms are provided. Thus by using two or more pushes I for each row, arranged at different points, and making the rock-shaft H in corresponding sections, provision may be made for voting at one operation for any particular class of candidates—such as Federal, State, county, city, &c. The push I may be arranged so that its outer end is normally flush with the plate, or, as shown, it may project in front of the supporting-plate as a plain rod or cylinder adapted to slide in the orifice in the plate. The inner ends of the pushes I are supported in any suitable way—such, for instance, as an angle-iron attached to one of the plates L or L′. The push I slides through an opening in the angle-iron, a suitable stop being provided which prevents the outer end of the push being forced in too far. The mechanism by which one of the pushes I is arranged to operate its corresponding rock-shaft H is represented in Figs. 18 and 19. The rock-shaft H is provided with an arm *j*, which is operated by the pivoted lever *k*, connected with the push I. L^2 is a vertical bar or plate, which carries the pivot *m* of the straight-ticket mechanism. The movements of the various parts are represented by the full and dotted lines in Fig. 18. The inward movement of the push, through the lever *k* and arm *j*, imparts a partial rotation to the rock-shaft H, which movement, through the arms *l*, actuates all the push-rods and counters of any one horizontal row of pushes, thus enabling the voter by a single motion to vote for all the candidates of his party.

The counter-levers D are provided with angularly-arranged arms *q*, to which the locking and interlocking rods F are pivoted, as indicated at *x*, Fig. 13. The locking-rods F are provided with positive mechanical locking devices of a character similar in certainty of action to that which has characterized all my improvements in this class of machinery. When one of the pushes is pushed in by a voter, it actuates the corresponding counter-lever and counter, the corresponding rod F rises, and its return movement is prevented by a device which is mechanically positive and certain in action and is not dependent on springs or friction. For this purpose I have devised a number of devices, one of which is illustrated in Figs. 13 and 14.

The locking-rod F when forced upward operates a mechanical lock, which absolutely prevents any movement of the rod and its counter-lever after the voter has actuated the pushes until by passing out of the booth he operates mechanism which completes the counting and restores the parts to normal position ready for the next voter. It is necessary that when one of the rods F has been thrust upward by the voter pushing in the push such rod cannot be returned by skill, design, or accident until the voter has moved out

of the booth. This requirement is an indispensable requisite in this class of machines, which must give absolutely accurate and reliable results. It must be a matter of absolute mechanical certainty that the voter can only vote once for a candidate for any particular office. In order to secure this degree of certainty, I have devised the construction shown in Figs. 13 and 14. In this case the rods F are each provided with a pivoted dog *s*, which as it moves upward makes contact with a stop Q, by which its lower end *t* is swung over the upper edge of the bar R, with which it makes a positive engagement, as indicated by the dotted lines in Fig. 13. *v* is the pivot on the rod F, on which the dog swings. The dog is provided with a projection *u*, which as the rod rises, by contact with the stop Q, swings the lower end *t* of the dog over the bar R. A positive engagement is thus formed between the rod and the bar, and the rod remains in its elevated position, with the dog *s* locked on the bar R and the pallet *c* of the counter-lever D engaged between the teeth of the counter-wheel E, and the counter thus locked until the voter on passing out of the booth actuates mechanism by which the bar R is swung upward by its shaft *w*, so as to release the dog *s*, the rod being forced down and the push returned by the same mechanism.

It will be understood that the weight of the lever *q* and the rod F will act to return the push to normal position at any time before the actual locking of the dog on the bar has taken place, so that any weak or partial movement of the push has no effect on the counter. The voter is instructed that he must push the pushes in until they remain and do not return, and then when they do remain in their inward position he has the assurance that his vote is duly cast, the dog *s* being engaged with the bar R. The bar R is provided with a longitudinal groove *y*, Fig. 13, in which the point *t* of the dog *s* engages, said point passing over the ledge *z* as the rod F rises and the projection *u* makes contact with the stop Q. The surface of the bar R between the ledge *z* and the rock-shaft *w* is smooth and may be slightly inclined, so that the point of the dog slides freely over it.

Above the upper ends of the interlocking rods F is placed the resetting-bar O, which extends the whole length of the key-plate A and receives an up-and-down movement from the door of the booth, as hereinafter described. The resetting-bar is arranged to slide in suitable ways or guides attached to the casing P of the booth, and its downward movement is utilized to unlock the rods F by swinging the locking-plate R, as indicated by the full and dotted lines in Fig. 13, and to push the raised rods F downward, thereby completing the counting movement of the counters and restoring the pushes to their normal positions. The downward movement of the resetting-bar is also used to operate the irregular balloting devices and to restore the questions-voting mechanisms to normal condition, as hereinafter more fully described.

The operation of the resetting-bar in moving the plate R, so as to unlock the dog *s* and allow the rod F to descend, will be understood from Figs. 15, 16, and 17. Attached to the resetting-bar is one or more vertical bars S, which reciprocate up and down with the resetting-bar. These bars S are preferably arranged one at or near each end of the key-plate. The rock-shaft *w*, which carries the locking-plate R, is connected to the reciprocating bar S by the lever h^2 and the arm l^2, Figs. 16 and 17. The lever h^2 is pivoted at m^2 to any convenient part of the machine or an arm attached thereto, and at n^2 it is connected to the bar S by a pin and slot. The arm l^2 is fastened to the rock-shaft *w* and connected with the lever h^2 by a pin p^2. As the bar S descends, the locking-plate is swung about the shaft *w*, so as to unlock the dog *s* by disengaging its point *t* from the groove *y*, the movements of the parts being represented by the full and dotted lines in Figs. 13 and 17. The locking-plate R is restored to its normal position (indicated by the full lines) by the ascent of the bar S. The stop Q is carried by arms r^2, which extend upward from the locking-plate R. The shaft *w* and rod Q extend behind the locking-rods of all the vertical lines of pushes, and the shaft *w* may be connected to a reciprocating bar, like S, at each end by mechanism similar to that already described.

It will be understood that each of the locking-rods F, and also the locking-rod F′ of the irregular voting device, is provided with its locking-dog *s*, arranged to engage with the locking-plate R when the rod is raised in the manner already described.

The locking-plate may extend the whole length of the rods, or it may be made in sections. The locking-plate is fastened to the rock-shaft *w* in any suitable manner. As shown, it is secured thereto by a piece of sheet metal w^2, Fig. 13, which is bent around the shaft and fastened thereto by pins or rivets. The locking-plate is riveted to the sheet metal. It may, however, be secured to the shaft in any other suitable way, and it may be located either above or below the horizontal line of the center of the shaft. The rock-shaft *w* is supported in any convenient manner, as by arms or brackets attached to the key-plate, or by the vertical bars or plates L′ L^2, Figs. 15, 16, and 17, L^2 being also used to support the pivots *m* of the straight-ticket mechanisms, of which there is one for each horizontal row of pushes, as indicated in Fig. 15. The rock-shaft *w* may be supported at suitable distances throughout its length. The plate L^2 may extend from the top to the bottom of the key-plate, being supported in any suitable way.

The interlocking mechanism will be understood from Figs. 13 and 16. The interlocking rods F and F′ are provided with a thinned

upper end g^2, below which there is a beveled shoulder or shoulders q^2. At the upper ends of the interlocking rods is placed a suitable frame T′, having an opening through which the rods slide and in which are located the beveled interlocking blocks v^2. In the form of machine represented in the accompanying drawings there are seven interlocking rods, one for each of six regular candidates for a given office and one for the irregular balloting device. The frame T′ is consequently in this case arranged to interlock the rods in groups of seven—that is, suitable stops x^2, Fig. 16, are secured in the frame at suitable distances apart, so as to limit the lateral movements of the interlocking blocks, so that only one rod in every group of seven can be thrust upward at any one time. The beveled surfaces q^2 on one of the interlocking rods spread the blocks v^2, so as to fill up the whole space between the stops x^2, so that when one rod in any group has been raised the other rods are prevented from being raised by their shoulders q^2 coming in contact with the blocks, which cannot be spread any farther. Since the interlocking rods are operated by the levers D from the pushes after one of the pushes has been actuated and its rod forced through between the blocks v^2, the other pushes cannot be operated, because their rods cannot be forced between the blocks; nor can the irregular balloting device be used in case one of the regular pushes has been operated; nor in case the irregular balloting device has been operated can any of the regular pushes be actuated.

The casing or frame T′ is constructed and supported in any suitable manner for the purposes described, and the stops x^2 are secured therein in any suitable way. The frame may be continuous the whole length of the key-plate, or it may be made in suitable sections, or a separate frame may be employed for each group of interlocking rods representing a vertical line of pushes and the corresponding irregular voting device. As shown, the frame T′ is supported by the top plate A′ and the stops x^2 are secured in the frame by pins or screws. At the right hand of Fig. 16 one of the rods F is shown as thrust through the interlocking blocks v^2 in the frame, after which, the blocks being spread as far as the stops allow them to go, none of the other rods of that particular group can be operated, their corresponding keys or pushes being locked until the voter on leaving the booth restores the parts to their normal position ready for the next voter. The interlocking blocks are made somewhat wider than the rods, as shown, so that they are supported by their ends in the frame or frames. The rods are always guided between the blocks by the thinned ends g^2. The distance between the stops x^2 is equal to the thickness of all the blocks and the thinned ends g^2 plus the thickness of one of the rods. Then only one rod can be thrust between the blocks, and the remaining rods of the group are interlocked until the parts are restored to normal position by the descent of the resetting-bar as the voter passes out of the booth. It is obvious that instead of being placed above the line of pushes the frame T′ and its interlocking blocks might be placed at one side or below the pushes. The advantage of placing these parts above the pushes is that the gravity of the rods tends to restore the pushes to normal position until the pushes are moved far enough to lock the rods; but counterweights might be employed to secure a similar advantage in any other location of the interlocking frame and blocks.

It will of course be understood that rollers or other suitable shapes may be employed instead of the beveled blocks herein shown; but I find from practical experience that such blocks are smooth and certain in action and afford greater wearing surface than any other form.

In some cases, for economy of space, the rods F are thinned to receive the dogs *s*, as represented in Figs. 13 and 16.

The relation between the locking devices and the interlocking devices is such that when one of the rods F or F′ has been forced upward to the position where it is locked by the dog *s* and the locking-plate R the shoulder q^2 has been thrust through between the interlocking blocks, and the rod is not only locked against any return movement, but also the other rods and pushes of the group are interlocked, so that they cannot be operated until the voter on leaving the booth depresses the resetting-bar.

The construction and operation of the irregular balloting device will be understood from Figs. 14, 15, 16, 17, 20, 21, and 22.

The voter who desires to cast an irregular ballot—say for himself or any other person not a regular nominee of any of the political parties—or who desires to split a ticket, such as the electoral ticket at presidential elections, can obtain either outside, on application to the proper authorities, or inside the booth a ballot-holder similar to that shown in Fig. 22. Such ballot-holder consists of a metallic case, preferably cylindrical, which can be opened, so as to admit of the insertion therein of any desired ballot, written or printed on on paper or partially written and partially, printed. The irregular voter places his ballot, however prepared, in the ballot-holder described, and, being admitted to the voting-compartment, inserts the holder in an opening in the key-plate arranged, preferably, below the pushes for the regular candidates. The ballot-holder O′, Fig. 22, is inserted by the voter through the orifice V′, Fig. 20, in the key-plate A, and in so doing the rod C^2, Fig. 20, is thrust inward, operating the lever D^2, which raises the interlocking rod F′, so that all the pushes for the regular candidates for this particular office in question are locked against this particular irregular voter. An irregular voter cannot vote for any regular candidate for the office for which he has chosen to vote ir-

regularly. When the ballot-holder O′ is inserted in the orifice in the plate, it pushes back the rod C^2. This operates the lever D^2, and this in turn raises the rod F′, and by the interlocking mechanism already described prevents the irregular voter from voting for any of the regular candidates for the office in question. Any suitable mechanism may be employed for the purpose, and the ballot-holder may be of any suitable shape, square or round, the irregular balloting devices being adapted to such shape. In the construction shown in the accompanying drawings, the ballot-holder O′ being cylindrical the parts of the machine are given a corresponding form. W′ is a semicylindrical case attached to the key-plate and forming the upper half of the receptacle into which the ballot-holder O′ is inserted. The lower part of the receptacle is movable, and arranged so that when the voter leaves the booth the ballot-holder is discharged into a suitable box, to remain there until counted by the election authorities. X′, Figs. 16, 17, 20, and 21, represents the lower or movable part of the ballot-holder receptacle, which as the voter leaves the booth is depressed by the movement of the resetting-bar and the rod or rods S, so that the ballot-holder is discharged into a suitable box or compartment, where it remains until the election authorities at the close of the polls open it and count the vote therein contained. The lower half of the irregular ballot-holder receptacle is swung downward by the descent of the resetting-bar O and its rod or rods S, so that the ballot-holder falls into a suitable ballot-holder box, there to remain until at the close of the election the vote therein contained is counted by the proper election authorities. The lower part X′ of the ballot-holder receptacle is pivoted at Y′, Fig. 17, to any suitable part of the machine and connected with the rod S by the arm y^2.

The movements of the parts are indicated by the full and dotted lines in Figs. 16, 17, and 20. M′, Figs. 20 and 21, represents a passage or chute down which the ballot-holders are delivered to a suitable box or receiver. The lower movable part X′ of the ballot-holder receptacle is attached to a rock-shaft Y′, which extends along behind all the irregular balloting devices, and is connected with the bar S by the arm y^2, Figs. 16 and 17. The rod C^2 extends inside the ballot-holder receptacle and prevents the insertion of a ballot-holder in case any of the regular pushes in the same vertical line have been operated, since the rod F′ is thereby locked against movement by the interlocking devices. The parts are so proportioned that a ballot-holder partially inserted and left by accident or design will remain in place and will not be delivered into the box when the part X′ swings downward. It will be understood, also, that the movement of the movable part X′ of the receptacle takes place when the voting-compartment is empty—that is, it swings down when a voter is passing out of the booth through the door and is returned to place before the next voter enters. Both the upper and lower parts of the ballot-holder receptacle may be conveniently made by being struck up out of sheet metal. a^3, Figs. 20 and 21, represents ears by which the stationary part w' is attached to the key-plate. The shaft Y′ is supported by the plates L′ at suitable distances apart. The rod C^2 is supported in any suitable way, so as to slide freely, as by the ear l^3 on the casing W′ and the ear l^4 on the plate L or L′. e' is the widened end of the lever D^2, against which the rod C^2 bears. The lever D^2 is pivoted at b^4 to the plate L. The arm q^2 of the lever is bent or offset, so as to allow of its being pivoted to the lower end of the interlocking rod F′. In fact, the arms q of all the counter-levers D are bent so as to make the proper connections with their corresponding interlocking rods F. b^3 is a guard at the upper end of the chute M′. The ballot-holder is made separable in any suitable manner, as represented in Fig. 22. It will of course be understood that the mechanism for voting for regular candidates may be used without the irregular balloting devices.

The questions-voting mechanism will be understood from Figs. 14, 15, 16, and 17 and the following description: It consists, essentially, of two pushes B^2, Figs. 14 and 16, two counters J′ J^2, Fig. 15, and suitable locking and interlocking mechanisms, substantially similar to the devices already described. One of the pushes B^2 is used to vote affirmatively on the question and the other to vote against it. Each of the pushes B^2 is provided with a push-rod C^3, acting on a palleted counter-lever D′, pivoted to the locking-rod F^2, which also acts as an interlocking rod.

The counter-levers D′ are pivoted at b^5, Fig. 14, to the plate N, which carries the stud of the counter J′. The rod F^2 is provided with the dog s^3, which engages with the locking-plate R^2 in a manner similar to that already described with reference to the locking mechanism of the regular pushes. The locking-plate R^2 is swung upward to unlock the dog s^3 and the locking-rod by the downward movement of the bar S, as represented in Fig. 17. The locking-plate R^2 is attached to the shaft Y^2, provided with an arm l^5, connected with the lever h^3, which is pivoted to the rod S. When the rod S descends, the shaft Y^2 is turned and the locking-plate R^9 is swung upward, as indicated by the full and dotted lines in Fig. 17, and the point of the dog s^3 is disengaged therefrom. p^3, Fig. 17, is a stud which connects the arm l^5 and the lever h^3, passing through a slot in the plate L^3. A stop Q^2 is arranged to co-operate with a lug or projection u^4 on the dog s^3 to insure its engagement with the locking-plate R^2. The stop Q^2 is supported from the locking-plate by the arms r^3. The rods F^2 F^3 of each of the counters J′

J² are provided with the pivoted dogs s^3, and these rods serve also to interlock the counters against each other, as indicated in Fig. 16. T² is a frame, containing in this case a single interlocking block v^3. When one of the rods F² F³ is thrust upward, the whole space in the frame T² is occupied, and the unused counter of the questions-voting mechanism cannot be operated. The frame T² is supported by a suitable plate w^2, carried by the bars M, or in any other suitable manner. It will of course be understood that any suitable number of questions-voting mechanisms may be employed, and that they will all be reset or restored to normal position by the descent of the resetting-bar O², attached to the bar O by the rod or rods S or other suitable connections. The shaft Y² is supported by the plate L³ or by any of the other upright plates at suitable distances apart. The horizontal parts of the levers D′ are bent to bring them in the proper relation with the locking-rods F² F³, or the rods themselves may be offset for this purpose, as may also be practiced for the rods F of the pushes for the regular candidates. Suitable apertures are made through the back plate K, through which the counters J′ J² may be read, and suitable placards are placed on the plate to indicate the question voted on and the number of votes cast for or against it. The counters J′ J² are provided with toothed wheels operated by pallets on the levers D′ in the same way as already described.

The construction and operation of the multicandidate group will be understood from Figs. 23, 24, and 25. In this case, where two or more candidates for the same office are presented by the same political party, the pushes are protected by interlocked doors, which are moved to one side by the voter before he can obtain access to the pushes. The pushes, counters, counter-levers, and straight-ticket mechanism are of the same construction as already described. Thus in Figs. 23, 24, and 25, B³ represents the keys or pushes; C⁴, the push-rods; D³, the counter-levers; E⁴, the toothed counter-wheels; H², the straight-ticket rock-shafts, and F⁸ the locking-rods. The pushes B³ are protected by the doors S′, in connection with the plates or flanges U², which are attached to the key-plate and extend along over the pushes B³. The doors S′ are pivoted to the key-plate at V², Fig. 25, and are connected with the interlocking rods F⁹. The doors S′ are given a suitable form, adapted in connection with the flanges U² to entirely surround the pushes B³. They are provided with curved flanges g^3, Fig. 25, which surround the pushes, extending from the pivotal point V² to the flanges U². Inside the key-plate the studs V² of the doors are provided with arms k^3, connected by links z^3 with the interlocking rods F⁹. These rods are bent or offset at their lower ends, as shown at p^4, Fig. 25, to meet the links z^3. The interlocking rods F⁹ are separate from the locking-rods F⁸, and move independently of the latter. The upper ends of the interlocking rods F⁹ are thinned and shouldered, as already described, and arranged to co-operate with the interlocking blocks v^5 in the frame T⁵ in a manner similar to that already described. The rods F⁸ are simple locking-rods. They do not interlock, the interlocking being effected between the doors S′, which protect the pushes B³ of the multi-candidate group. The rods F⁸, which are operated by the pushes B³ through the rods C⁴ and the counter-levers D³, are provided with locking devices similar to those already described—viz., the dogs s^5 and the locking-bar R⁷. The interlocking rods F⁹ are provided with locking-dogs s^6, which also engage with the locking-bar R⁷. w^7 is the rock-shaft, which operates the locking-bar R⁷ in the same manner as that already described with reference to the rock-shaft w. When the voter desires to vote for one of the candidates in the multi-candidate group, he swings the door S′ of the proper push downward, as indicated by the full and dotted lines in Fig. 25, and this movement raises the corresponding interlocking rod F⁹ and causes its dog s^6 to engage with the notch in the locking-plate R⁷, so that the rod is locked in its elevated position. He then actuates the push B³, and this by the rod C⁴ and lever D³ operates the toothed wheel E⁴ and its counter, and raises the locking-rod F⁸ and engages the dog s^5 with the locking-plate R⁷. When the door S′ is opened and the interlocking rod F⁹ operated, the upper end of the rod is thrust in between the interlocking blocks v^5. If there are two candidates offered by the same party for the same office in the multicandidate group, the frame T⁵ is so arranged for two of the adjacent lines of pushes that their corresponding series of interlocking blocks v^5 v^6, Fig. 24, will permit two of the interlocking rods F⁹ to be inserted between the blocks, which rods may be either both in the same vertical line or one in each of the lines. In this case the wedge or block j^3, Fig. 24, between the series of blocks v^5 v^6, will be movable laterally in the frame, and the blocks j^4 j^5 fixed in place, sufficient space being left between the blocks j^4 and j^5 to permit the insertion of two of the interlocking rods F⁹. The stationary blocks, as j^4 j^5, in the case mentioned, are secured in place by pins or screws k^4, Fig. 24. The irregular voting device for each vertical line of pushes is arranged as already described, its interlocking rod F¹⁰, Figs. 23 and 24, extending upward and engaging with the interlocking blocks. The rod F¹⁰ is provided with a locking-dog similar to those on the other rods, arranged to engage with the locking-plate. An arm p^5, Fig. 23, may be placed on each of the locking-rods F⁸, adapted to engage with a pin x^5 in the corresponding locking-rod, so the locking-rod is returned to place by the interlocking rod, or the resetting-bar may be made wide enough to contact with both the locking and interlocking rods. The locking-rods are of the

same thickness throughout their lengths, being arranged to slide through suitable openings in the frame T^5. In case there are three candidates for an office in the multicandidate group, the stops j^4 between three of the series of interlocking blocks v^5 would be removed and space allowed between the stops at the ends of the series of three for the insertion of three of the interlocking rods, and a similar arrangement is made in case the multicandidate group has to be arranged for four or five candidates.

The construction and operation of the revolving door will be understood from Figs. 1 to 5, inclusive. The door consists of a hollow cylinder T, arranged to revolve on a vertical axis, and provided with an opening U, Fig. 3, through which the voter enters the booth.

The voter passes into the revolving door at U, Fig. 1, and then turns the door partially around so that he can enter the booth from the door when the opening U is opposite V, Fig. 1, after which he leaves the booth by entering the cylindrical door and then turning it so that he can pass out through the opening U at U'. The revolving door and its opening are made of suitable dimensions. The door is formed of sheet metal, being provided with suitable depressed hand-holes q^5 by which it is revolved. After a voter has passed out the inspector or other election official turns the door so as to admit the next voter. The casing P of the booth is provided with suitable openings through which the voters enter and pass out, the sides of the door projecting beyond the casing, if preferred, or the casing may extend inward at the edges of the openings to meet the surface of the door. A single opening through the casing of the booth may be used for the entrance and the egress of the voters, but it is preferable to have two openings, as rapid voting is facilitated by keeping the line of intending voters separate from those who have already voted. Inside the booth the cylindrical door is surrounded by a casing W, Fig. 1, provided with an opening V through which the voter enters the voting compartment. The revolving door is supported on a series of antifriction balls or rollers p, Fig. 4. A ring f is attached to the top of the door, and m' is a corresponding ring supported from the booth by the arms X. Each of the rings f and m' is provided with a groove in which the balls or rollers p are placed, so that the door T may revolve freely, its weight being sustained by the ring m'. The opening in the ring m' is closed by a cover Y, which may be made cone-shaped, and which prevents a voter while inside the cylindrical door from interfering with any of the mechanism. A lamp may be hung from the top of the cone to illuminate the interior of the cylindrical door. In order to prevent the door from turning backward, I provide a suitable ratchet and pawl—such, for instance, as the toothed ring Z attached to the upper part of the door, and the ratchet a' pivoted to the casing or a bracket. The arms X are attached to the top of the booth or to the cross-bars b' b' extending from the casing W to the side of the booth. The ring Z also carries the cam C', which operates the resetting-bar O through the levers G' H'. The cam C' is provided with a cam-groove into which the end of the lever G' projects. The lever G' is pivoted at i' to the bar I', and the lever H' is pivoted at f' to the bar K'. The levers G' H' are connected together by a suitable joint at i^6, Fig. 5, and the lever H' is attached to the resetting-bar O by a suitable connection j', Fig. 4. The bars I' and K' are attached to the casings P and W so as to sustain the levers in proper positions. The levers should be protected from persons inside the booth by a suitable casing, or they may be placed above the top of the booth and protected in any suitable manner.

The mechanism for controlling the operation of the revolving door and for indicating the number of voters admitted to the booth is shown in Fig. 2 and in Figs. 6 to 12, inclusive. On the side of the booth is placed a push k', which serves to unlock the door to permit the entrance of a voter and to actuate the counter l', Figs. 6 and 7, which shows the number of voters who have entered the booth. The push k' slides in a suitable support, its inner end bearing against a bell-crank lever m^4, pivoted at n' and connected to the bar p'. At its upper end the bar p' is pivoted to the lever q', which, when moved upward, releases the door T and actuates the counter l'. The inspector, when ready to admit an intending voter to the booth, pushes in the push k', thereby operating the counter l' and raising the lever q', so as to disengage the stop r' from the lug s' on the door, thereby permitting the door to be turned. The parts remain in this position until, as the door revolves, the stud t' on the door restores the parts to their first positions. A locking device, similar to that already described, retains the rod p' in its elevated position until, as the door revolves, the stud t', striking against the bell-crank lever u', releases the lock on the rod p' and the rod is then allowed to fall, completing the count on the counter l' and restoring the push k' to normal position. To the upper end of the rod p' is pivoted the locking-dog s^2, the point t^2 of which engages in a groove or notch y' in the locking-plate R', when the rod p' is raised, as indicated by the dotted lines in Fig. 10. As the door T revolves, the stud t' trips the bell-crank lever u', raises the locking-plate R', as shown by the dotted lines in Figs. 8 and 10, and disengages the locking-dog s^2, so as to permit the bar p' to fall and restore the push k' to normal position. An arm v', connected to the locking-plate R', rests against the horizontal part of the bell-crank lever u'. When the stud t' on the door strikes against the depending part of the bell-crank lever u', the

other part elevates the arm v' and the locking-plate R', and the dog s^2 is released, so as to allow the rod p' to fall to its original position. The point t^2 of the dog s^2 is disengaged from the notch in the locking-plate R' when the latter is lifted by the shaft g', and the rod p' is then allowed to fall by its own gravity and that of the parts connected to it. The toothed wheel E' of the counter l' is actuated by the palleted lever x', pived at w' to a plate or bracket z', attached to the casing and connected at a^2 with the lever q'. As the lever q' rises, it swings the lever x' on its pivot w' and actuates the toothed wheel E' by the pallets. This toothed wheel actuates the counter l', which is of a construction similar to that already described and is arranged to show the total number of voters admitted to the booth through a slot d', Fig. 2, in the casing. When the stud t' trips the locking-plate R', the lever q' falls and the stop r' is projected into the path of the lug s', thereby arresting the door with the opening U in position to admit a voter into the door, as indicated in Figs. 1 and 2. The locking-plate R' and the bell-crank lever u' are supported by any suitable bracket attached to the casing P—such, for instance, as the bent bar b^2, Fig. 7. c^2, Fig. 7, is an arm attached to the casing W, which supports the pivot d^2 of the lever q'. The bell-crank lever u' is pivoted to the bent arm b^2 at f^2, Figs. 7 and 9. g' is a shaft to which the locking-plate R' and the arm v' are fastened. The shaft g' turns in the bent arm b^2. A stop Q' is provided for the dog s^2, which insures the engagement of the point t^2 with the notch in the locking-plate R'. The dog s^2 is provided with a projection w^3, Fig. 10, which, as the dog is carried up by the upward movement of the rod p', comes in contact with the stop Q' and thus insures the engagement of the point t^2 of the dog with the notch or groove in the locking-plate R'. The stop Q' is supported from the locking-plate by one or more arms i^2. As the locking-plate swings on the shaft g', the stop Q' is moved out of the way of the dog s^2. The plate z', which supports the counter l' and the pivot of the counter-lever x', is attached to the casing of the booth in any suitable manner. It will be understood that various changes may be made in the mechanism for controlling the operation of the revolving door, or that any other suitable devices may be employed for this purpose.

j^2, Figs. 2 and 5, is a speaking-tube, by which communication may be had between the voter inside the booth and the inspector.

k^2, Fig. 1, is a door in the casing of the booth, which may be employed, if circumstances require, to obtain access to the voting-compartment without operating the resetting-bar.

In Figs. 26 to 31, inclusive, I have shown modified constructions of the locking devices for the locking-rods. Their construction will be readily understood from the description already given. Thus in Figs. 26 and 27 the locking and interlocking rod F^4 is provided with a pivoted dog s^4, which as the rod rises engages with the locking-bar R^4, as indicated by the dotted lines. The dog s^4 is pivoted to the rod F^4 at v^4, and its lower end t^4 engages over the edge of the bar R^4 when the rod is raised. w^4 and x^4 are guides attached to the top plate. As the dog rises with the rod, an inclined projection y^4 on the dog comes in contact with the guide x^4 and throws the lower end t^4 of the dog over the locking-bar, the upper end z^4 of the dog being guided by the guide w^4. The rod will thus be locked on the bar until the bar is rocked by a connection with the resetting-bar, in a manner similar to that already described. The shaft w^3, carrying the locking-bar R^4, is operated in the same way as the rock-shaft w, Figs. 16 and 17. The movement of the rock-shaft w^3, as indicated by the full and dotted lines in Fig. 26, releases the rod F^4, and the parts are then restored to normal position. The interlocking frame T^4 and blocks v^5 are the same in all the modified forms of locking devices as those already described.

In the form of locking device shown in Figs. 28 and 29, the rod F^6 is locked by the sliding locking-plate e^2, which as the rod rises is pushed into a notch or recess d^3 in the rod by the arm G^2, having the inclined surface i^3. The locking-plate e^2 slides through one or more suitable supports n^3. The arm G^2 is pivoted to the rod at q^3 and is bent so as to extend parallel to the rod, being provided near its upper end with the inclined surface i^3, which engages with an opening z^2 in the sliding locking-plate e^2. As the rod rises, the inclined surface i^3 forces the locking-plate e^2 toward the left in Fig. 28, and engages it in the recess d^3, by which the rod is locked against any return movement. The arm G^2 is held in place by the stop N', which is carried by the arm or arms f^3, secured to the rock-shaft w^5, the movements of which are controlled by the resetting-bar in the manner already described. To unlock the rod F^5 the rock-shaft w^5 receives a partial rotation, the stop N' swings downward, and the bar R^5, attached to the rock-shaft, swings the arm G^2 away from the rod, draws the locking-plate e^2 out of the recess d^3, and by unlocking the rod permits the parts to be restored to normal position. The locking-plate e^2 may be provided with a lip r^4, which secures its engagement with the rod.

A locking device which operates by a differential movement is represented in Figs. 30 and 31. In this case the locking-rod F^6 is provided with a pivoted cross-bar P', to one end of which is attached the interlocking rod F^7 and to the other end the arm G^3, which operates the locking-plate e^3. n^4 is a suitable support for the locking-plate e^3. A notch or recess d^4 is formed in the rod F^7 for the locking-plate. When the rod F^6 is thrust upward, the cross-bar P' swings on its pivot

t^5, the rod F^7 is forced upward until the interlocking is effected, and the further upward movement of F^7 being arrested by a lug or pin h^3, or other suitable device, the arm G^2 rises and its inclined surface i^4 moves the locking-plate e^3 to the left and engages it with the notch d^4, so as to lock the rod F^7 in place. The rod F^6 will be also locked, a stop o^4 being provided for the cross-bar P'. It will be understood that the arm G^3 may also be used to insert the locking-plate e^3 in a recess in the rod F^6. The arm G^3 is supported by the stop N^2, carried by the arm b^6 on the rock-shaft w^6. The bar R^6 is attached to the rock-shaft w^6, which is operated from the resetting-bar, as already described. The movement of the rock-shaft w^6 withdraws the locking-plate e^3 from engagement with the notch d^4 in the rod F^7, and the parts are then restored to normal position by the continued movement of the resetting-bar. Various other modified forms of locking devices may be employed in connection with my improved voting-machine.

The resetting-bar may be given a sufficient range of movement so that the locking-rods are unlocked before the bar comes in contact with their upper ends. In case the rods do not then descend by their own weight they are forced down and the pushes returned to normal position by the resetting-bar, which is operated positively by the power of the voter on the door. This feature of the positive restoration of the parts is important, as any resistance produced by dust or corrosion is thereby overcome—a result which cannot be secured where the parts are restored by springs or gravity. It will be understood that the resetting-bar may be operated by any other suitable form of entrance or exit door, or other suitable device, such as a turnstile. The push I of the straight-ticket mechanism renders the operation of voting straight similar to the operation of voting selectively, the voter pushing a rod into the plate in each case, while the larger and longer push at one end of the horizontal row is readily recognized, aside from special designations by placards, colors, or emblems to indicate the political party to which any particular push belongs. The casing W around the revolving door may be brought close up to the surface of the door at q^4, Fig. 7, so as to prevent a person outside from looking into the booth, or an additional guard or shield may be located at this point for this purpose. The lower part of the door may be guided so as to run true by the rollers c^3, Fig. 5, supported by the casing in any suitable manner. The placards or name-plates e^4 are preferably placed immediately above the pushes or counters to which they correspond, both on the key-plate and the back-plate. The number of the horizontal rows of pushes, &c., is made to correspond with the number of political parties. Any of the pushes which are unnecessary at any given election can be covered by suitable plates attached to the key-plate. The speaking-tube j^2 is fitted with wire-gauze or other suitable material, which will permit sound to pass, but will not allow the voter in the booth to be observed. It will be understood that under certain arrangements of the parts herein shown a locking-bar without the notch y may be employed. The pushes may be arranged to be used as pulls, the member which is moved by the voter being in either case a slide. Under certain arrangements the locking-bar may itself act as the locking device, the principle of returning the push to normal position by the gravity of the rod or parts connected therewith being retained, so that the voter is informed he has not voted until the push or slide remains in the position to which the voter has actuated it. k^4, Fig. 7, is an interior casing which covers the counter l^4, and which may be provided with a suitable lock. In case pushes are used which come flush with the plate, the doors S' may be simple plates or covers.

In order to assure the voter while inside the booth that his manipulation of the pushes has operated the voting mechanism, I provide the counter shown in Figs. 32 and 33, which is arranged so as to be visible through a slot in the key-plate or any convenient extension thereof. The counter J^3, Figs. 32 and 33, is of the same construction as those already described, being provided with the toothed wheel E^5 and palleted lever D^4. The teeth e^5 of the wheel E^5 are, however, preferably made with a greater inclination on one side than the other, the pallets being formed to correspond, so that in the particular arrangement shown in the drawings the counter-wheel receives nearly its whole motion from the upward movement of the lever D^4, such construction serving to bring the figures on the counter in suitable alignment. The counter-lever D^4 is operated by the locking or interlocking rods or other suitable moving part of the machine actuated by the voter at the time he manipulates one of the pushes or slides, so that he perceives from the movement of the counter that he has actuated the mechanism of the machine and that his vote is recorded. There is one counter for each line of pushes for each office, and the counter is arranged to be operated by any one of the pushes in such line or by the irregular balloting device. In case the straight ticket is voted all the counters which are visible to the voter will be operated simultaneously, and these counters at the close of the election will indicate the total vote cast for the regular candidates for any particular office. In the arrangement shown the lever D^4 is provided with an arm or bar I^2, which extends over the locking-rods of the line of pushes and is adapted to be thrust upward by any one of them. The descent of the bar and the return movement of the lever D^4 is insured by the resetting-bar O. The locking

and interlocking devices and other parts of the machine remain the same as before. The inside counter may also be applied to the multicandidate group.

d^5, Fig. 32, is a slot through which the figures on the counter J^3 may be observed by the voter, said slot being made in a suitable protecting casing M^2, extending upward from the upper edge of the key-plate. The counter J^3 may be protected by a glass plate H^3. The counter may be locked by a suitable locking device operated by the rod F or other suitable moving part of the machine. The counter is supported by the stud h^4 on an arm or bracket K^2 or in any other suitable manner. The booth is provided with a door or doors P^2, Figs. 1 and 2, behind the key-plate, through which access may be had to the counters for the purpose of taking off the vote at the close of an election or for setting the counters before an election commences. The back plate K is made removable to permit the setting of the counters.

It will be understood by the skilled constructor that many changes or modifications may be made in the mechanism of my improved voting-machine without departure from the principles thereof.

I claim—

1. The combination in a voting machine, of a movable slide adapted to be operated by a voter, a counter provided with a toothed wheel, the pivoted counter-operating lever having an angularly arranged arm and provided with pallets adapted to engage on opposite sides of the counter-wheel, the locking-rod connected with the arm, the locking device arranged to lock the arm, and mechanism operated by the voter on leaving the booth for restoring the parts to normal position, substantially as described.

2. The combination, in a voting machine, of a movable slide adapted to be operated by a voter, a counter and the counter-operating lever having an angularly arranged arm, the locking rod connected with the arm, the locking device arranged to lock the arm, the movable locking bar and mechanism operated by the voter on leaving the booth for operating the locking bar and restoring the parts to normal position, substantially as described.

3. The combination, in a voting machine, of two or more movable slides adapted to be operated by a voter, corresponding counters and counter-operating levers having angularly arranged arms, locking and interlocking-rods connected to the arms, locking devices arranged to lock the levers, and interlocking devices arranged to prevent the simultaneous operation of two of the counters, substantially as described.

4. The combination, in a voting machine, of two or more movable slides adapted to be operated by a voter, corresponding counters and counter-operating levers having angularly arranged arms, locking and interlocking rods connected to the arms, locking devices arranged to lock the levers, interlocking devices arranged to prevent the simultaneous operation of two of the counters, and mechanism operated by the voter on leaving the booth for unlocking the locking devices and restoring the parts to normal position, substantially as described.

5. The combination, in a voting machine, of a movable slide adapted to be operated by a voter, a counter and counter-operating lever having an angularly arranged arm, the locking and interlocking rod connected to the arm, the locking device arranged to lock the rod, the irregular-balloting device provided with a bent lever, the locking and interlocking rod connected with the bent-lever, and interlocking devices to prevent the simultaneous operation of the slide and the irregular balloting device, substantially as described.

6. The combination, in a voting machine, of a series of movable slides adapted to be operated by a voter, corresponding counters and counter operating levers, locking rods connected to the levers, and suitable locking devices, and the straight ticket mechanism comprising a push or slide, a rock-shaft provided with arms adapted to actuate the slides and counters, and a pivoted lever between the push and the rock-shaft, substantially as described.

7. The combination, in a voting-machine, of a series of movable slides adapted to be operated by a voter, corresponding counters and counter-operating levers, locking and interlocking rods connected to the levers, suitable locking devices, a corresponding series of irregular-balloting devices provided with interlocking rods, suitable locking devices adapted to lock the interlocking rods, and the straight ticket mechanism comprising a push or slide, a rock-shaft provided with arms adapted to actuate the counters, and a pivoted lever between the push and the rock-shaft and suitable interlocking devices adapted to prevent the simultaneous operation of the straight ticket mechanism and an irregular-balloting device, and vice versa, substantially as described.

8. The combination, with the mechanism of a voting machine, of the revolving cylindrical door T, having aperture U and lug s', the movable stop r', counter E′ and push k', and mechanism whereby the stop and counter are operated from the push, substantially as described.

9. The combination, with the mechanism of a voting machine, of the revolving cylindrical door T, having aperture U and toothed ring Z and provided with lug s', pawl a', the movable stop r', counter E′ and push k', and mechanism whereby the stop and counter are operated from the push, substantially as described.

10. The combination, with the mechanism of a voting machine, of the revolving cylindrical door T, having aperture U and provided with lug s', the movable stop r', coun-

ter E′ and a suitable counter locking device, the push *k′*, mechanism whereby the stop and counter are operated from the push, and means for unlocking the counter operated by the rotation of the door, substantially as described.

11. The combination, with the mechanism of a voting machine, of the revolving cylindrical door T, having aperture U and toothed ring Z and provided with lug *s′*, the pawl *a′* the movable stop *r′*, counter E′ and a suitable counter locking device, the push *k′*, mechanism whereby the stop and counter are operated from the push, and means for unlocking the counter operated by the rotation of the door, substantially as described.

12. The combination, with the push B, of the toothed counter-wheel E, the palleted counter-lever D, the locking-rod F, locking-dog *s*, a stop, as Q, and the locking plate R, substantially as described.

13. The combination, with the push B, of the toothed counter-wheel E, the palleted counter-lever D, the locking-rod F, locking dog *s*, movable locking plate R, resetting bar O, rod S and suitable connections whereby the locking-plate is shifted to unlock the locking-rod and the parts restored to normal position, substantially as described.

14. The combination, with the push B, of the toothed counter wheel E, the palleted counter-lever D, the locking-rod F, the movable locking-plate R, and the stop Q carried by the locking plate, substantially as described.

15. The combination, with two or more pushes B, of corresponding toothed counter-wheels E, palleted counter-levers D, locking and interlocking rods F, and locking dogs *s*, the movable locking-plate R, and interlocking devices whereby the actuation of more than one of the pushes is prevented, substantially as described.

16. The combination, with two or more pushes B, of corresponding toothed counter-wheels E, palleted counter-levers D, locking and interlocking rods F, and locking dogs *s*, the movable locking-plate R, interlocking devices whereby the actuation of more than one of the pushes is prevented, mechanism for unlocking the rods, and the movable resetting bar adapted to restore the parts to normal position, substantially as described.

17. The combination with the push B, of the toothed counter wheel E, the palleted counter-lever D, the locking-rod F, locking dog *s*, and the pivoted locking-plate R, provided with notch *y*, substantially as described.

18. The combination with the push B, of the counter provided with a toothed wheel, the palleted counter-lever D having arm *q*, the locking-rod F, the locking-dog *s*, and movable locking-plate R, provided with notch *y*, substantially as described.

19. The combination with the push B, of the counter provided with a toothed wheel, the palleted counter-lever D, having arm *q*, the locking-rod F, the locking-dog *s*, movable locking-plate R provided with notch *y*, the lever h^2, the resetting bar O, and a suitable connection, as S, between the resetting bar and the lever, substantially as described.

20. The combination, with the key-plate A, of the toothed counter-wheel E, the slide B, the palleted counter-lever D having arm *q* extending toward the plate, the locking rod F connected to the arm *q* and located between the plate and counter-wheel, a locking device adapted to lock the rod in place, and the rock-shaft H provided with an arm arranged to operate the push while permitting its independent movement, substantially as described.

21. The combination, with two or more series of pushes arranged in vertical lines, of corresponding series of counter-wheels, palleted counter levers and locking and interlocking rods, each rod provided with a locking device, a movable locking plate adapted to engage the locking devices, suitable interlocking devices and mechanism operated by the voter while leaving the booth adapted to shift the locking plate to unlock the rods, substantially as described.

22. The combination, with two or more series of slides or pushes B arranged in vertical lines, of corresponding counter-wheels, palleted counter levers and locking rods, each rod provided with a pivoted locking dog, and the pivoted locking plate R arranged to engage with the dogs, the rock-shaft *w* and suitable connections whereby the locking plate is operated by the resetting-bar to unlock the rods, substantially as described.

23. The combination in a voting machine, of the regular vote-registering mechanism provided with a locking and interlocking rod, a locking device applied to the rod, and the irregular-balloting-device, comprising a receptacle for a ballot-holder having its lower part movable, a sliding rod, as C^2, a bent lever, as D^2, a locking and interlocking rod F′, suitable interlocking devices, and mechanism operated by the voter while leaving the booth adapted to restore the regular voting mechanism to normal position, and to operate the movable part of the ballot-holder receptacle, substantially as described.

24. The combination, in a voting machine, of the irregular-balloting-device G, comprising a suitable ballot-holder receptacle having its lower part movable, the sliding rod C^2, pivoted bent lever D^2, the locking rod F′ having locking device applied thereto, and mechanism operated by the voter while leaving the booth to unlock the rod and to operate the movable part of the receptacle, substantially as described.

25. The combination, in a voting machine, with a push, toothed counter-wheel and palleted counter-lever of the multicandidate group, of the pivoted door S′, arranged to protect the push and to swing in a plane parallel with the key-plate to uncover the same, the locking rod F^9 provided with a locking device,

the locking rod F[8] pivoted to the counter-lever, and provided with a locking device, and the movable plate R adapted to unlock both rods, substantially as described.

26. The combination, in a voting machine, with a series of two or more pushes, and their corresponding toothed counter-wheels and palleted counter-levers, of the multicandidate group, of a series of two or more pivoted doors S′, arranged to protect the pushes and to swing in a plane parallel with the key-plate to uncover the same, corresponding interlocking and locking rods F[9], provided with locking devices, the locking rods F[8] pivoted to the counter-levers, and provided with locking devices, the movable plate R, by which all the rods are unlocked, and suitable interlocking devices between the rods F[9], whereby the operation of only one of the doors at a time is permitted, substantially as described.

27. The combination, with the slide B, toothed counter-wheel E, lever D, and locking rod F, of the irregular-balloting-device G, locking rod F[9], suitable locking devices and the inside total-vote counter J[3], substantially as described.

28. The combination with the locking-rod F of a voting machine, of the palleted counter-lever D[4], the counter-wheel E[5], counter J[3] arranged inside the booth and visible to the voter only, and the resetting-bar O, substantially as described.

29. The combination with the slide B, and its corresponding counter, counter-lever and locking and interlocking-rod, of the irregular-balloting-device G, its locking and interlocking-rod, suitable locking and interlocking devices, and the inside total-vote counter J[3], substantially as described.

SYLVANUS E. DAVIS.

Witnesses:
GEO. WILSON,
H. C. H. COOPER.