

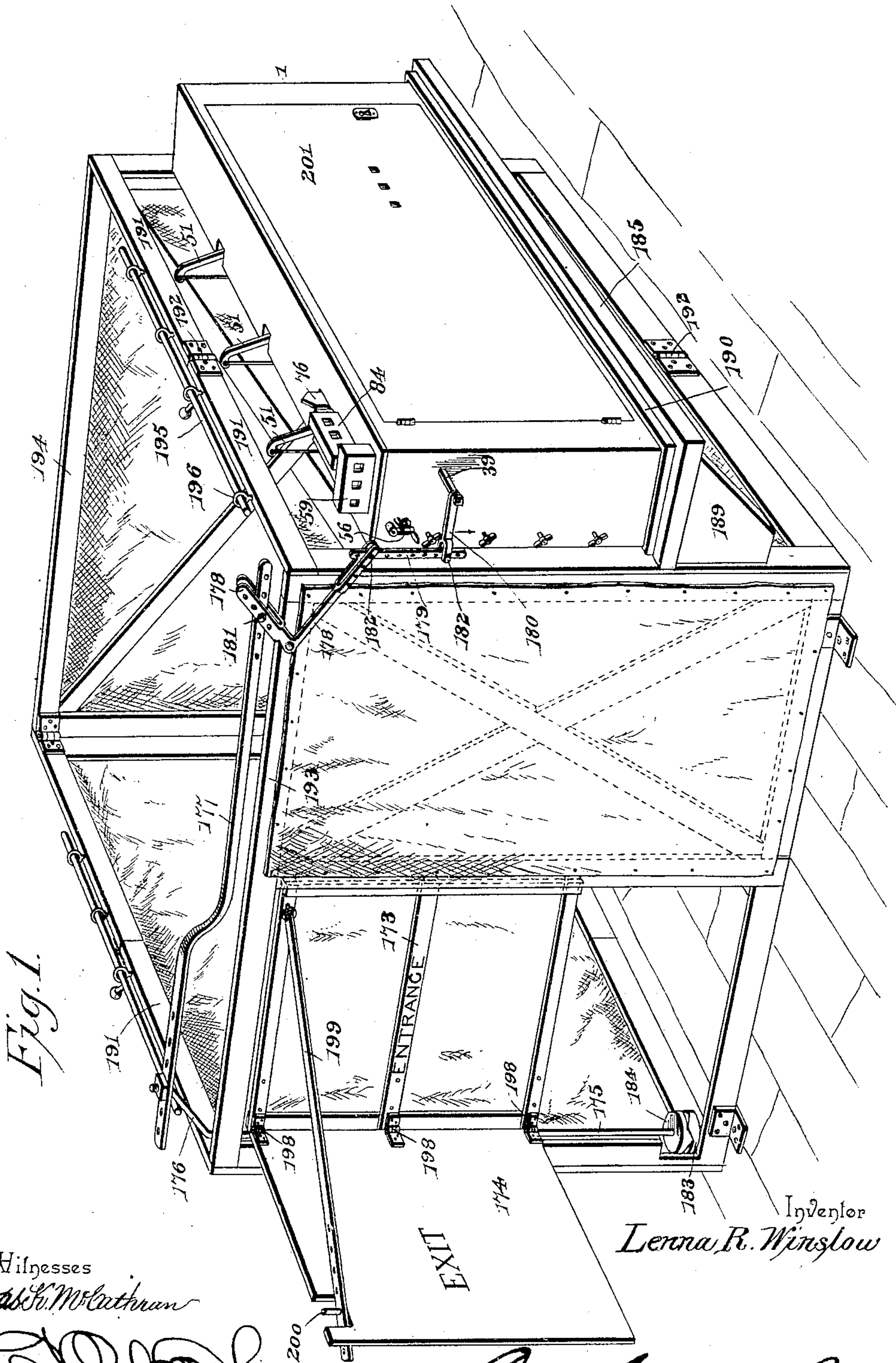
L. R. WINSLOW.
VOTING MACHINE.

APPLICATION FILED SEPT. 22, 1898.

Patented July 5, 1910.

12 SHEETS—SHEET 1.

963,105.



Witnesses
James McLaughlin

[Signature]

Inventor
Lenna R. Winslow

Cash & Co.

L. R. WINSLOW.
VOTING MACHINE.

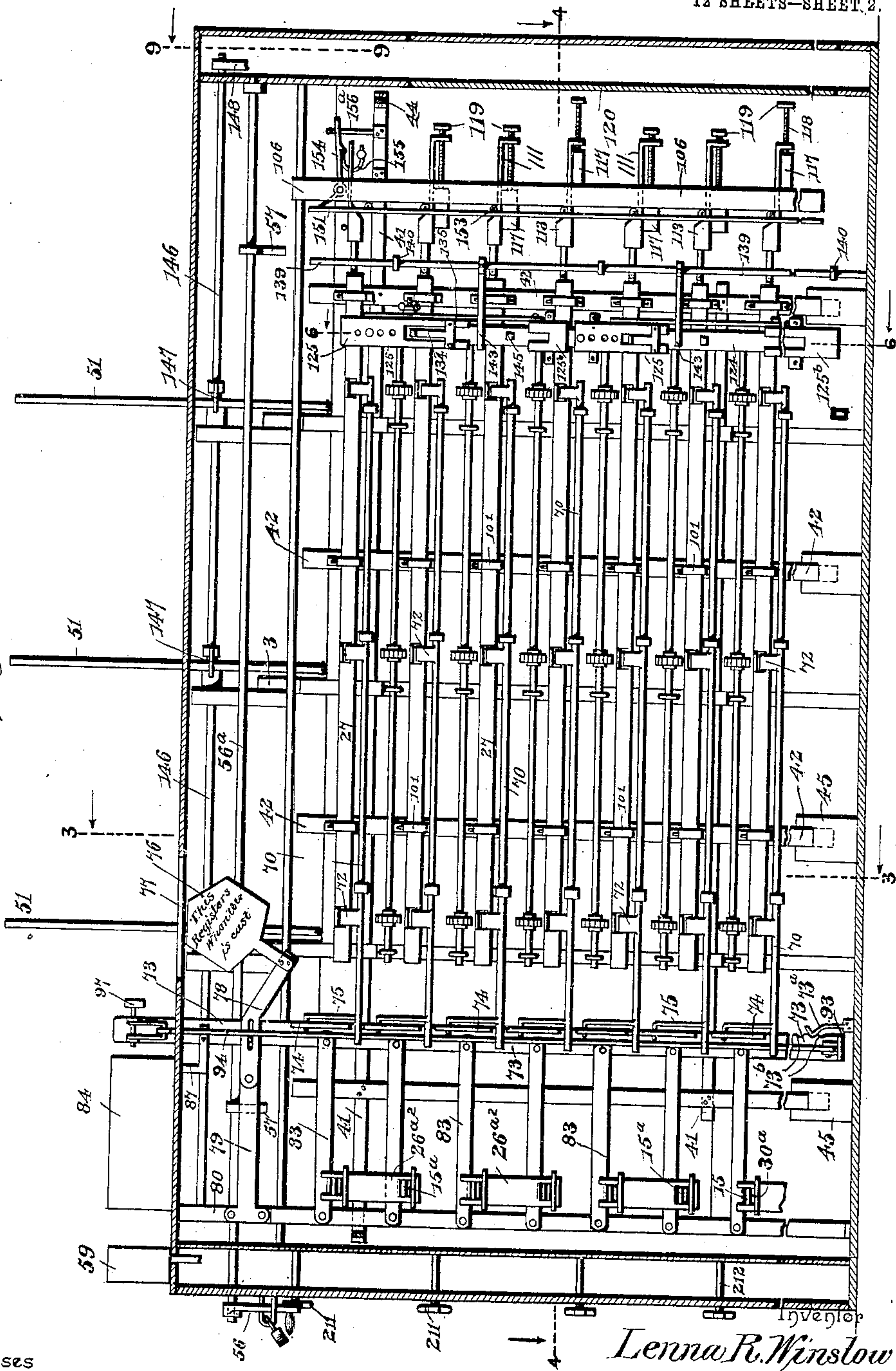
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12 SHEETS—SHEET 2.

Fig. 2.



Witnesses

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VOTING MACHINE.

APPLICATION FILED SEPT. 22, 1898.

Patented July 5, 1910.

12 SHEETS—SHEET 3.

Fig. 30.

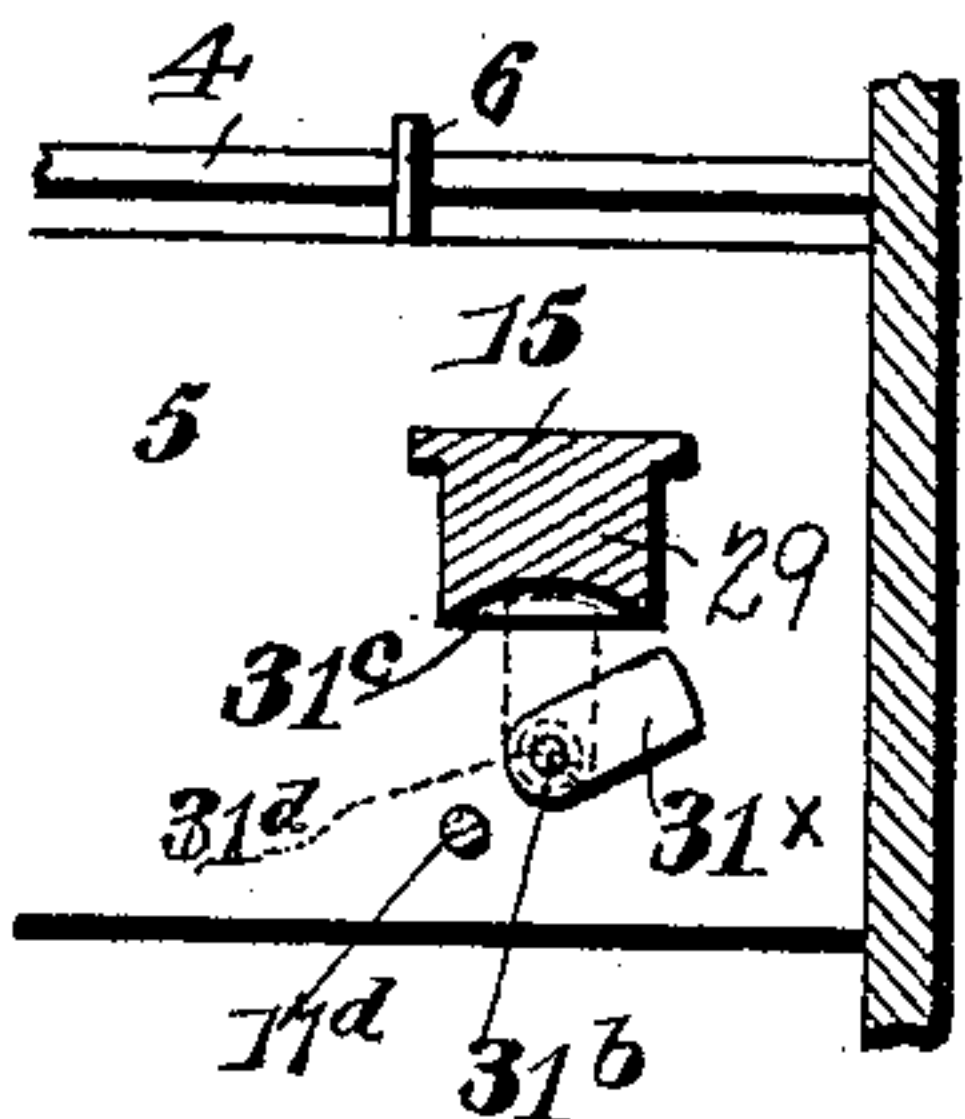


Fig. 30.^a Fig. 3.

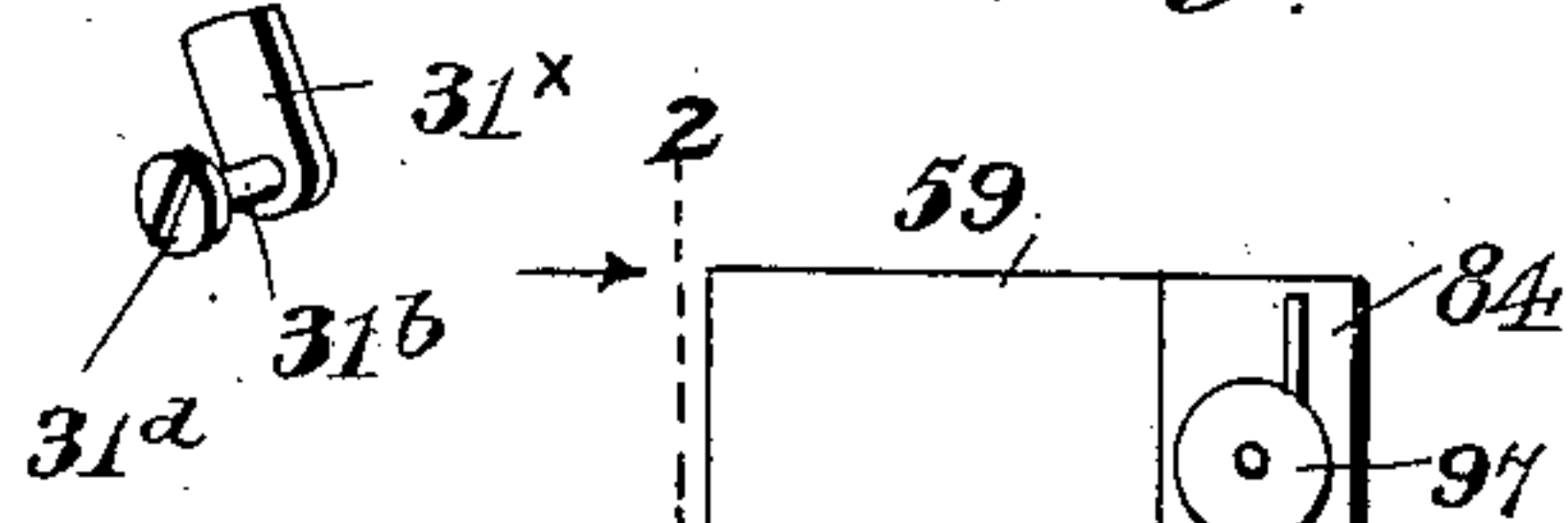


Fig. 28.

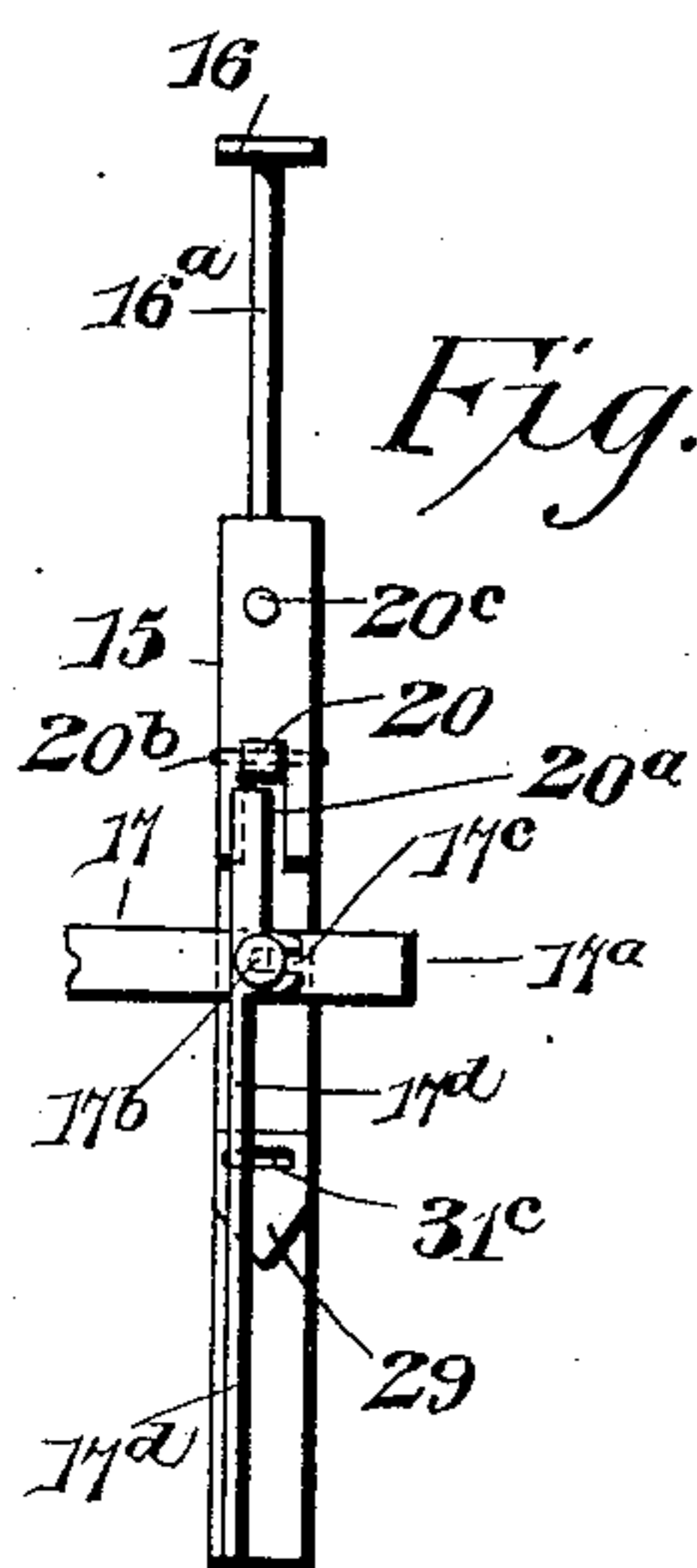
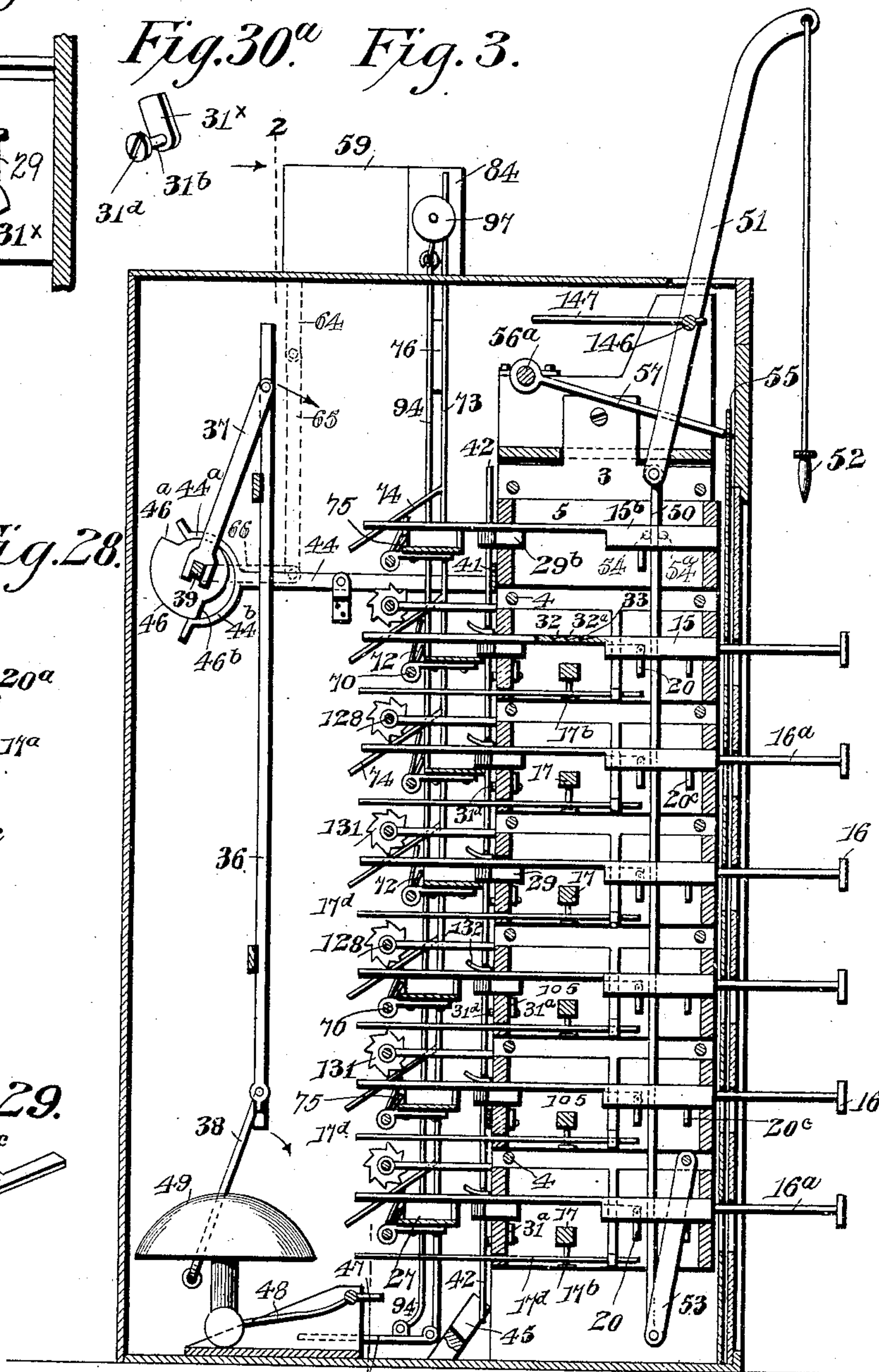
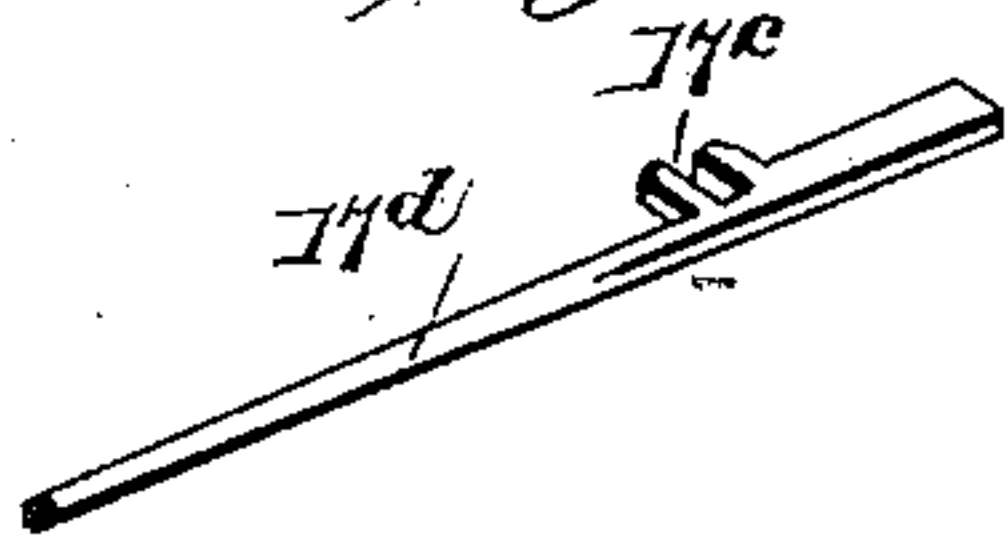


Fig. 29.



Witnesses

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L. R. WINSLOW.
VOTING MACHINE.
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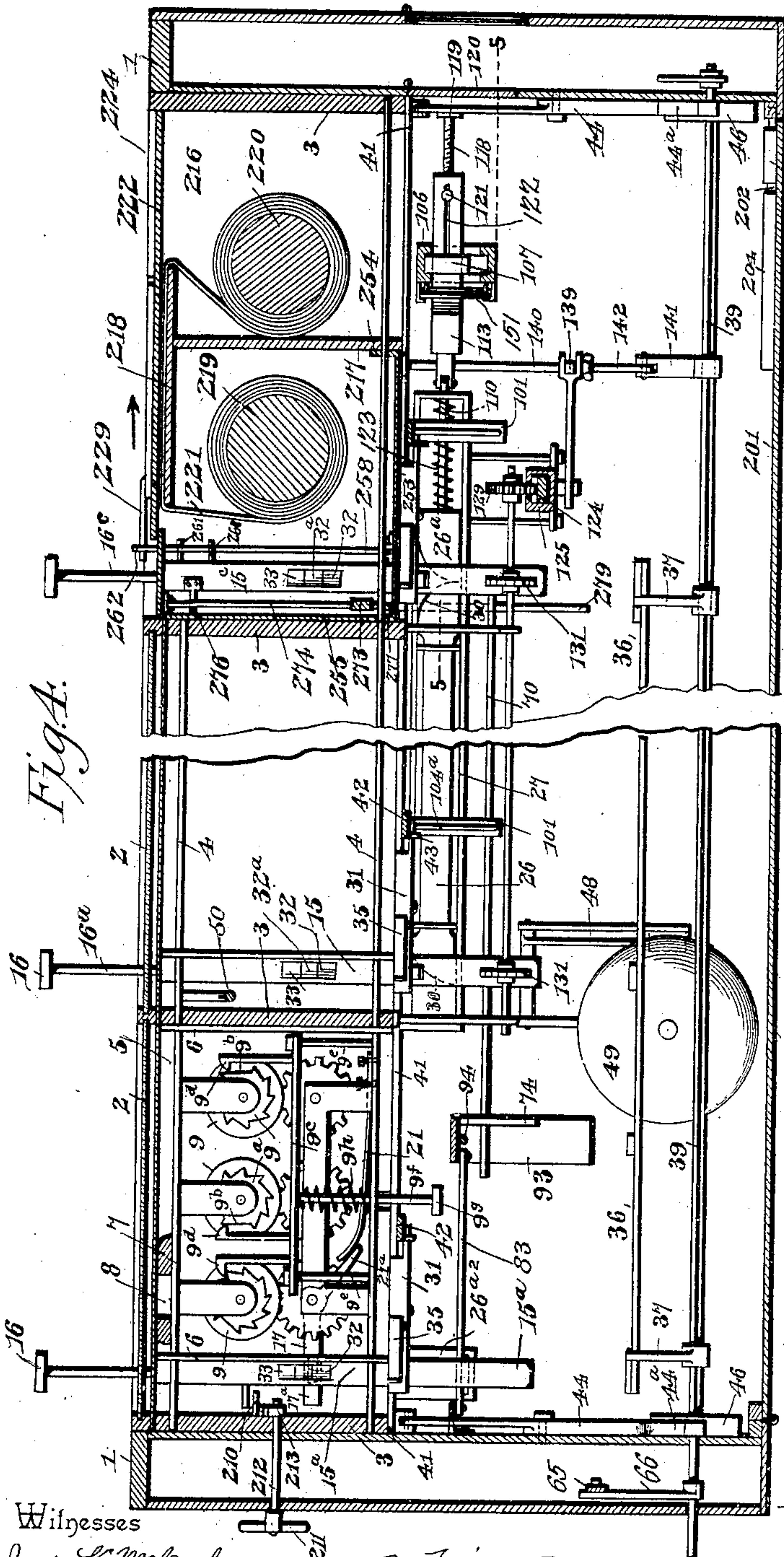


Fig. 4.

Fig. 26.

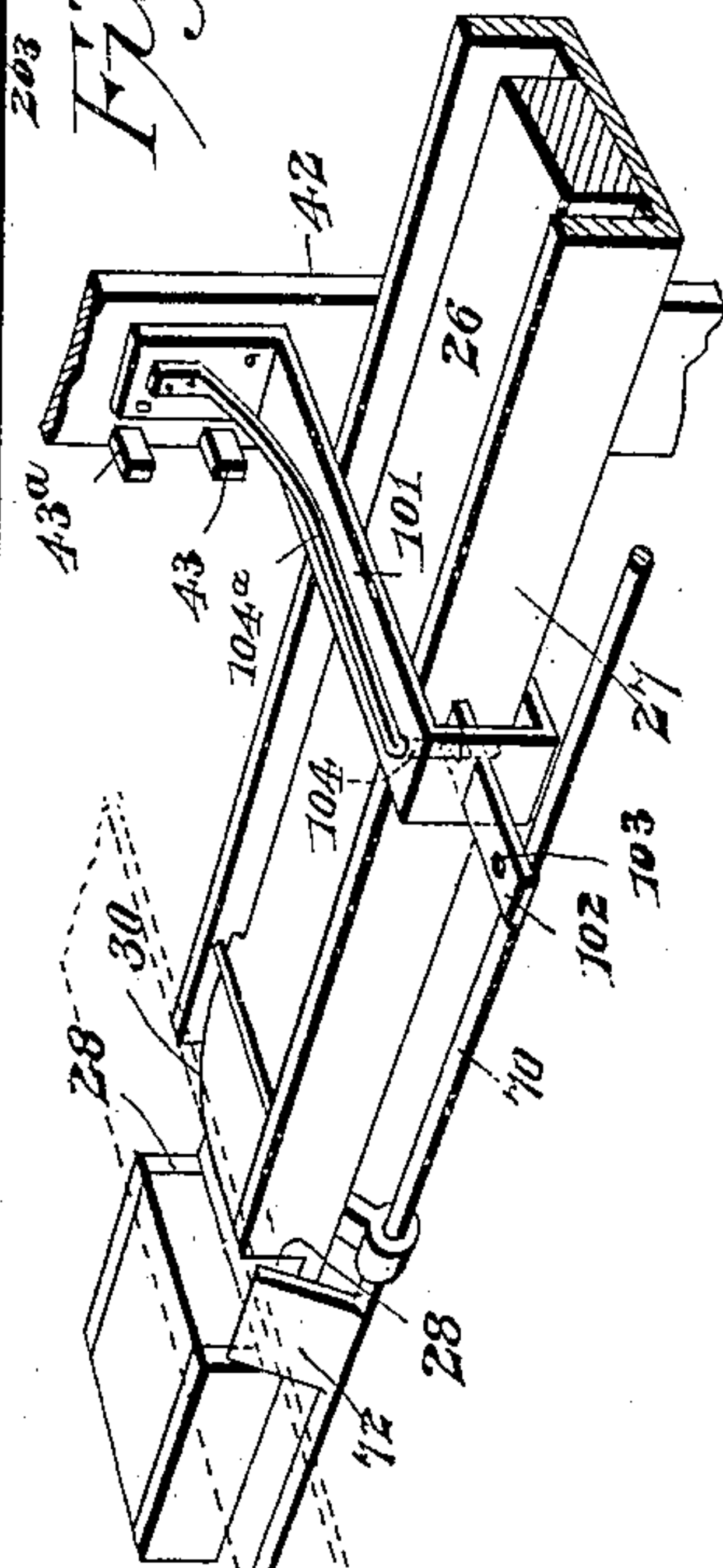
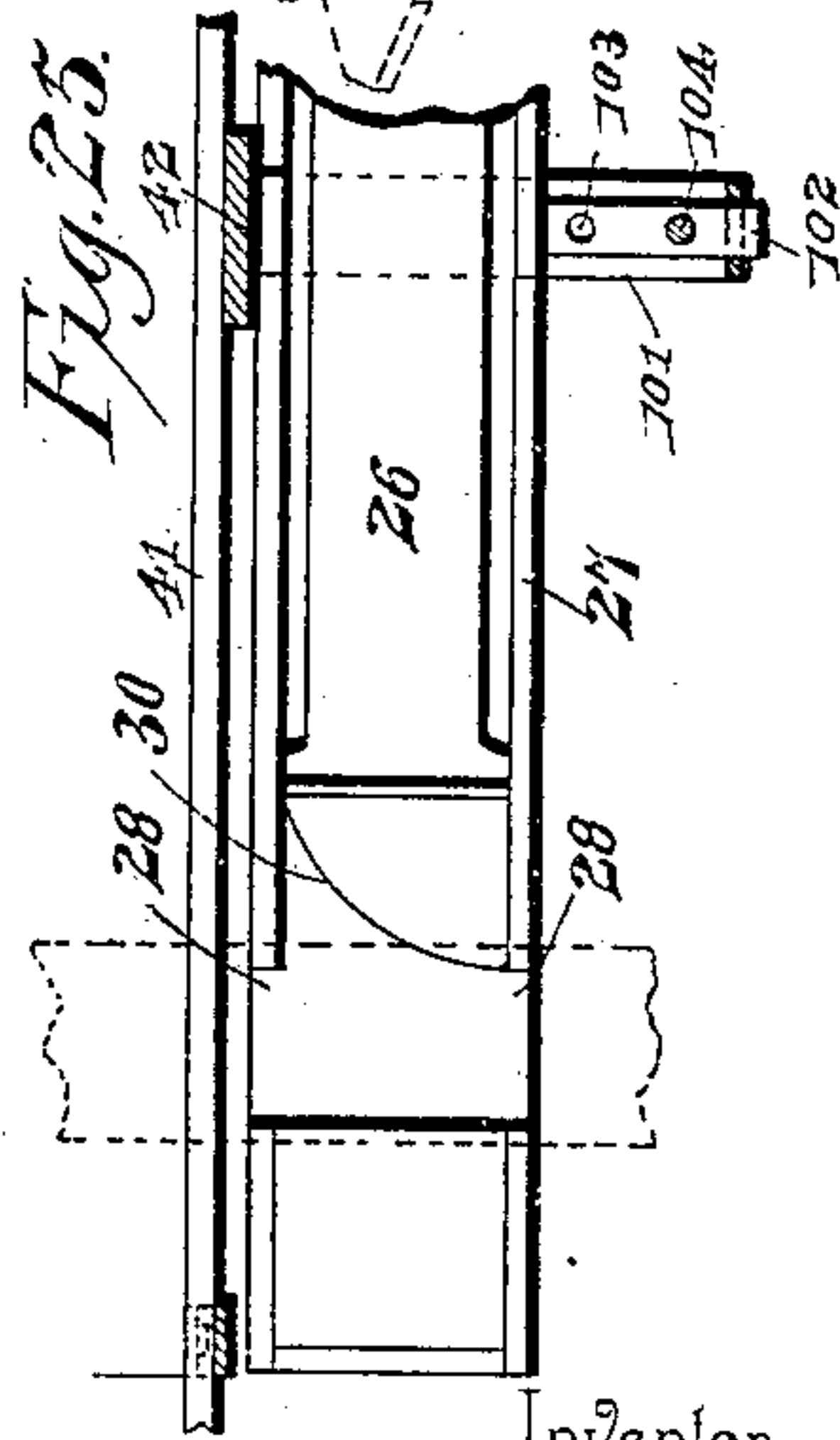


Fig. 25.



Witnesses

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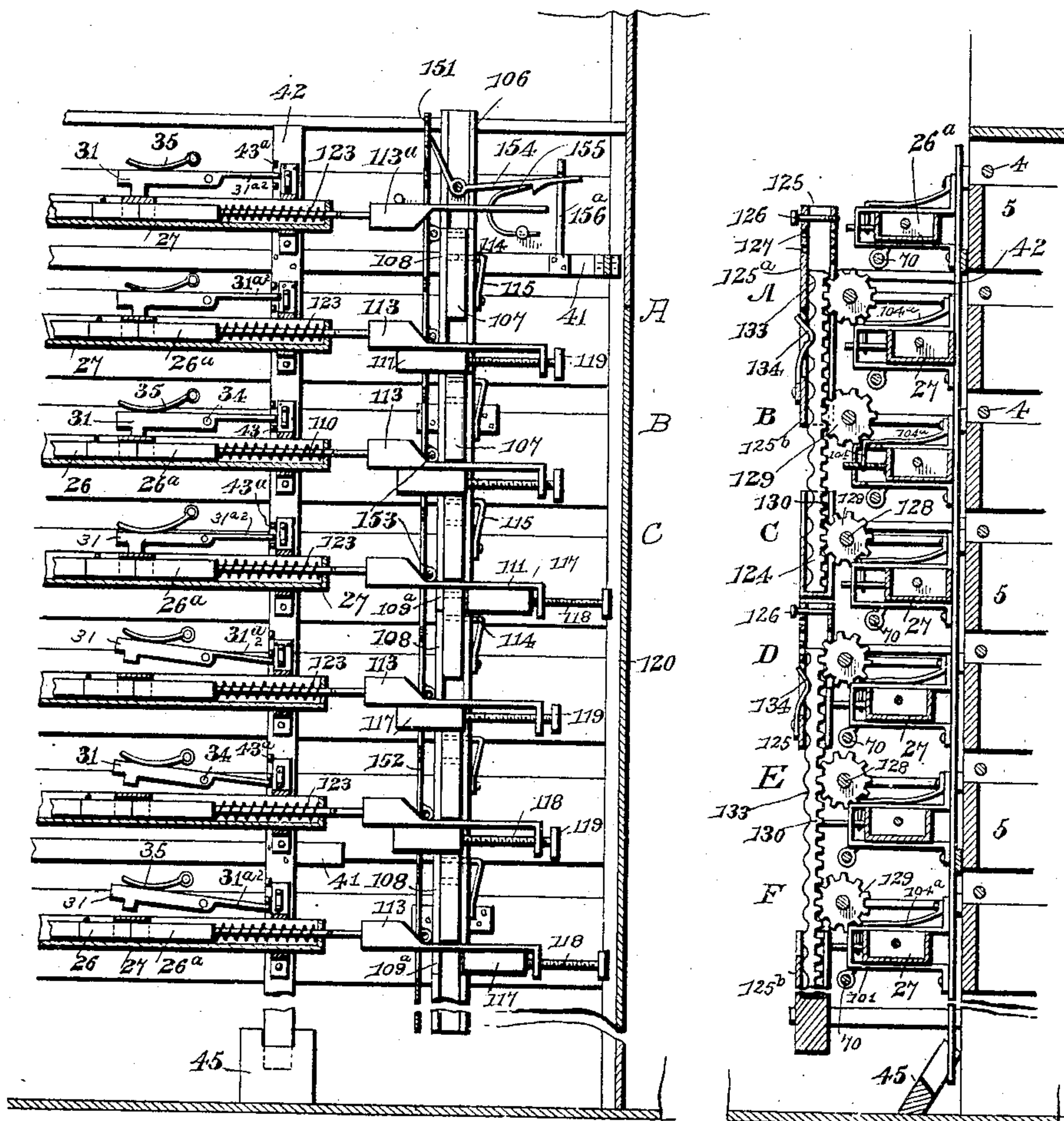
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APPLICATION FILED SEPT. 22, 1898.

Patented July 5, 1910.

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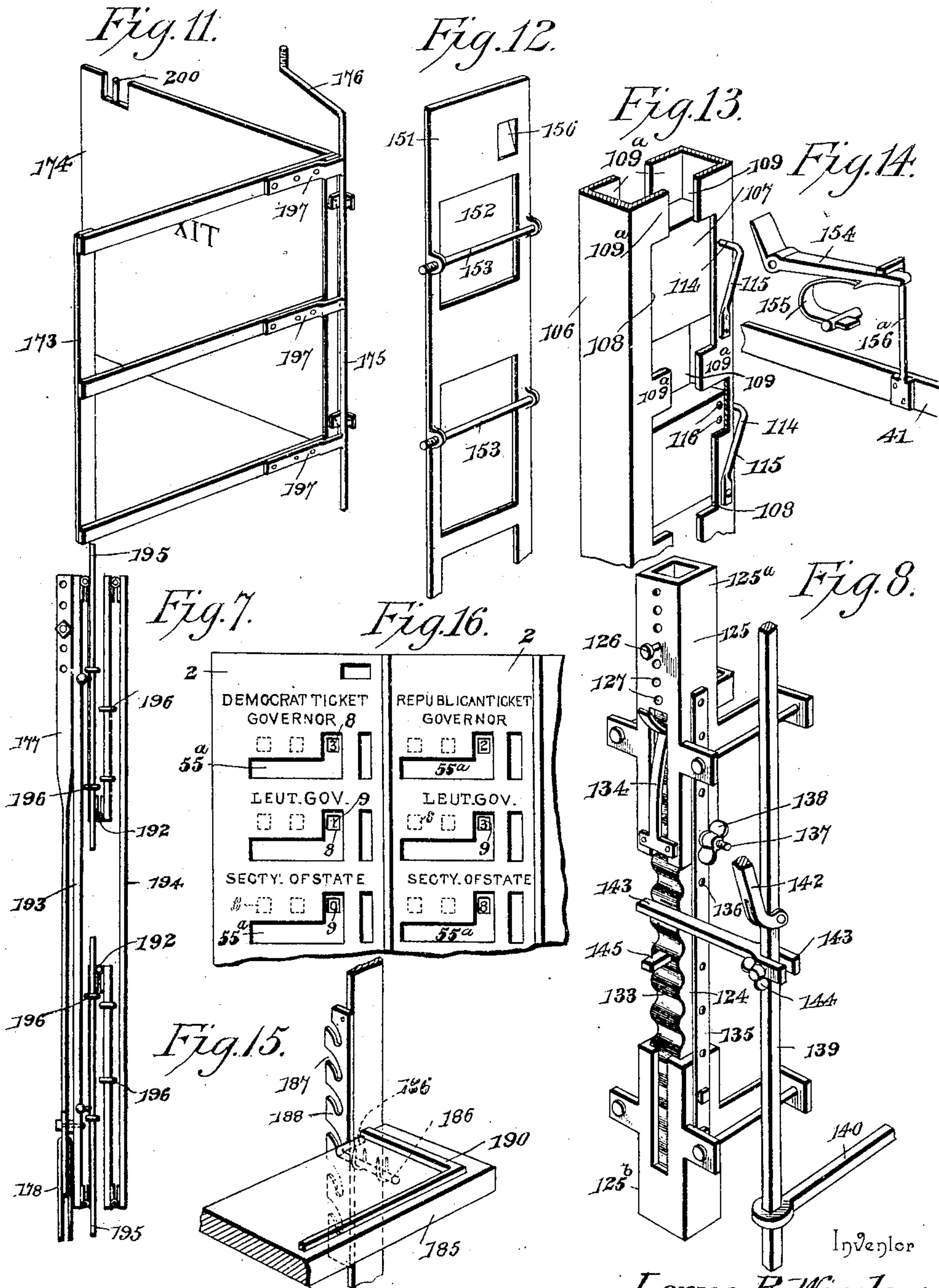
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VOTING MACHINE.

APPLICATION FILED SEPT. 22, 1898.

Patented July 5, 1910.

12 SHEETS—SHEET 6.

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VOTING MACHINE.

APPLICATION FILED SEPT. 22, 1898.

963,105.

Patented July 5, 1910.

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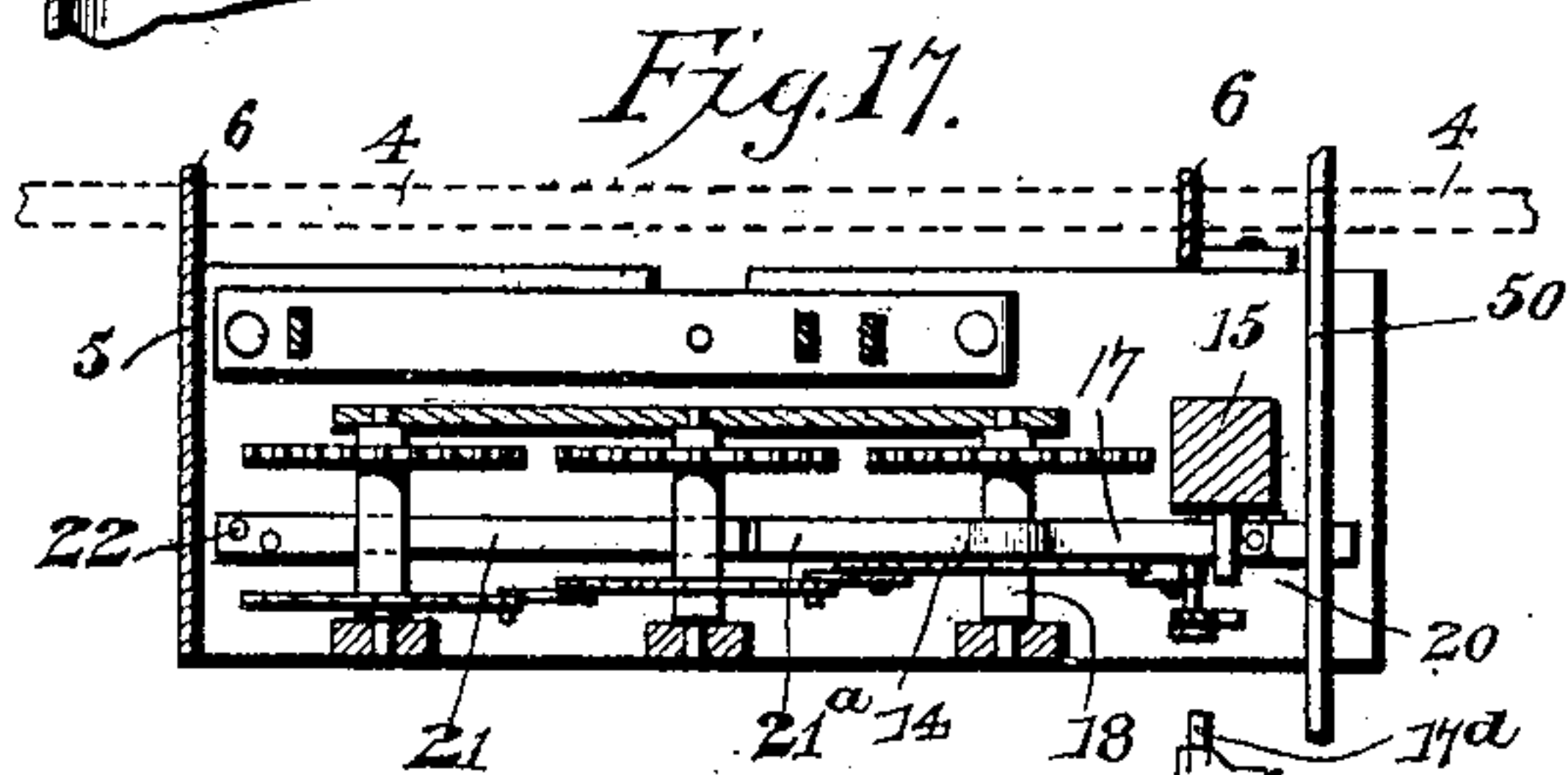
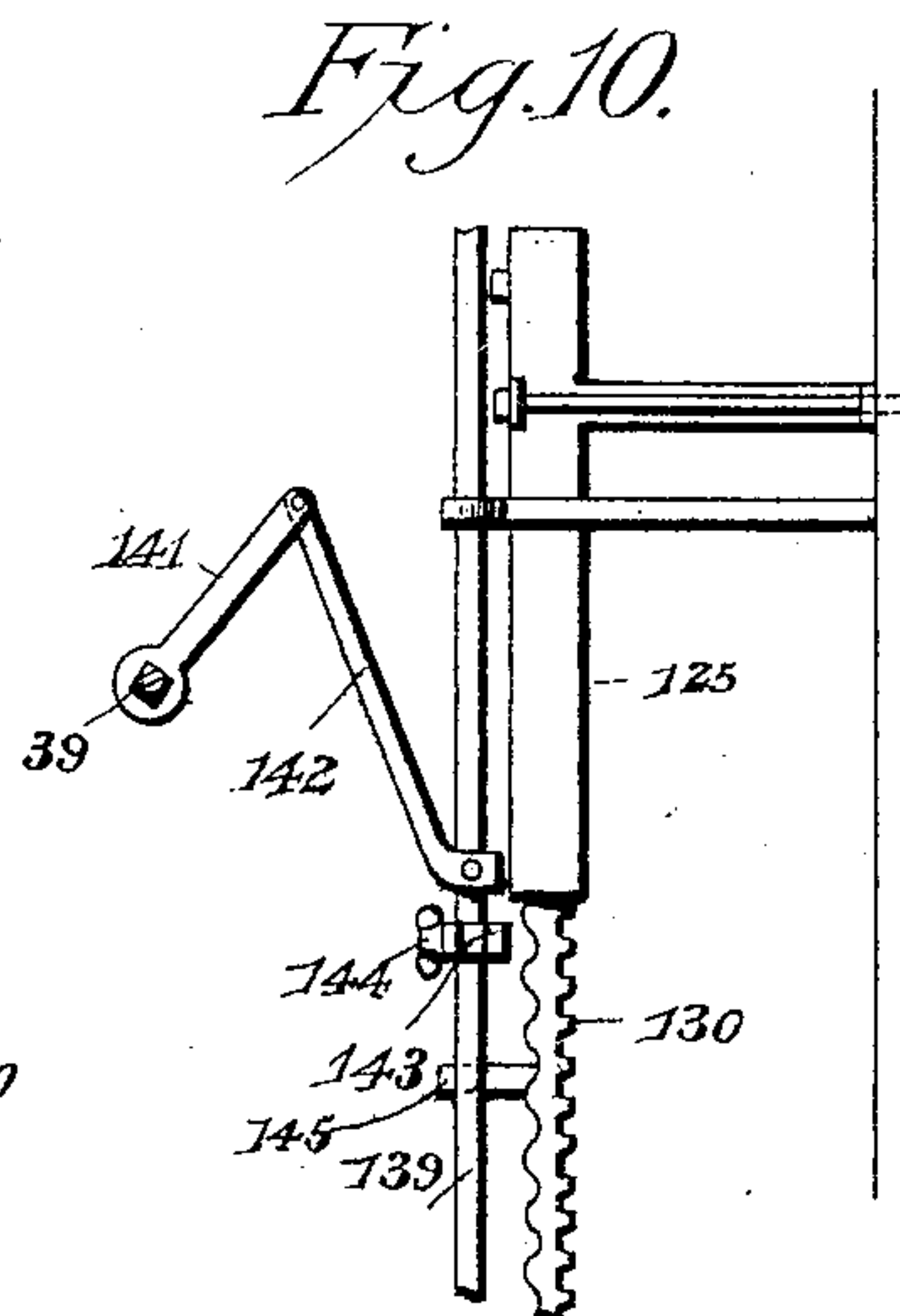
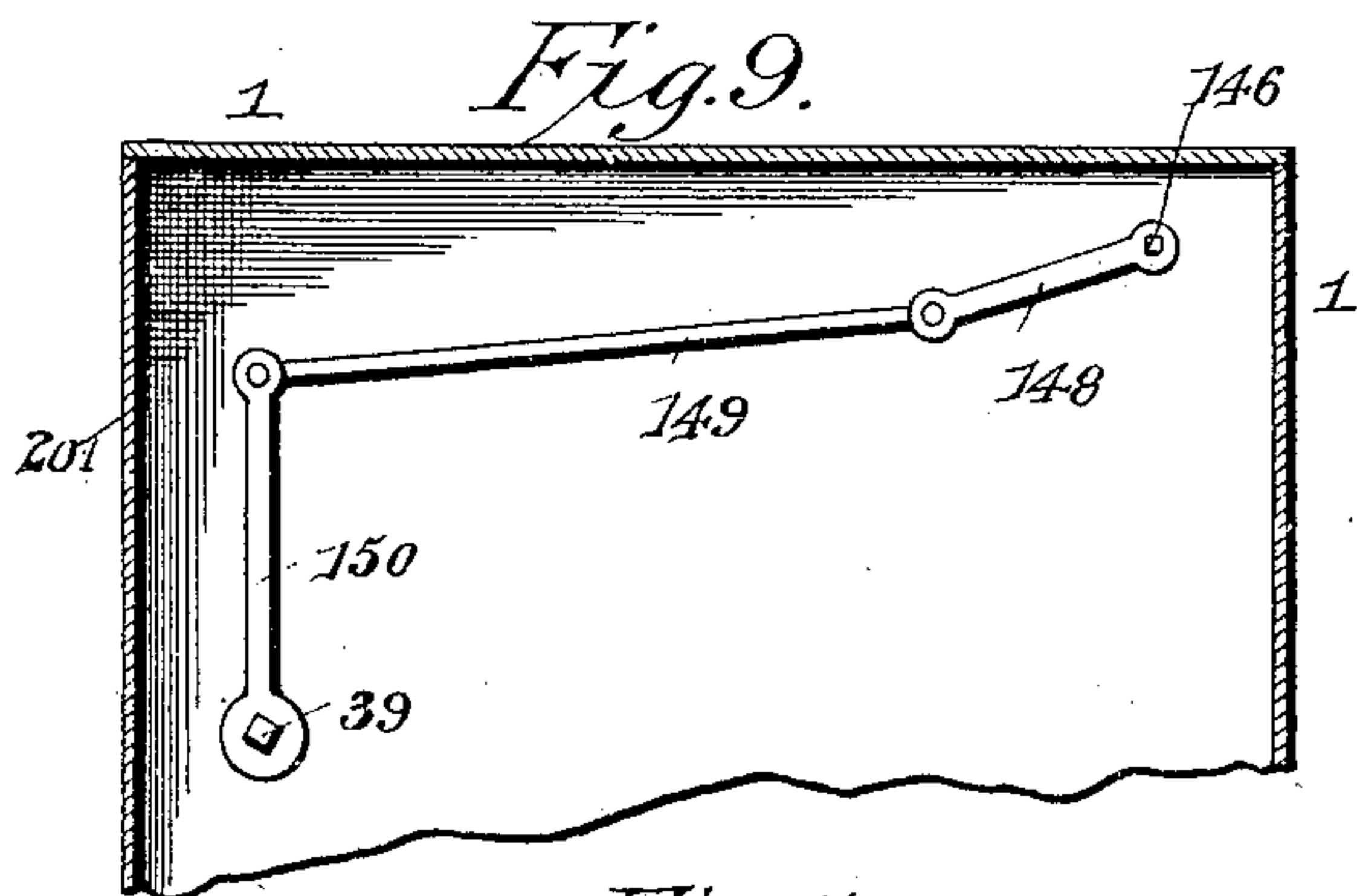


Fig. 18.

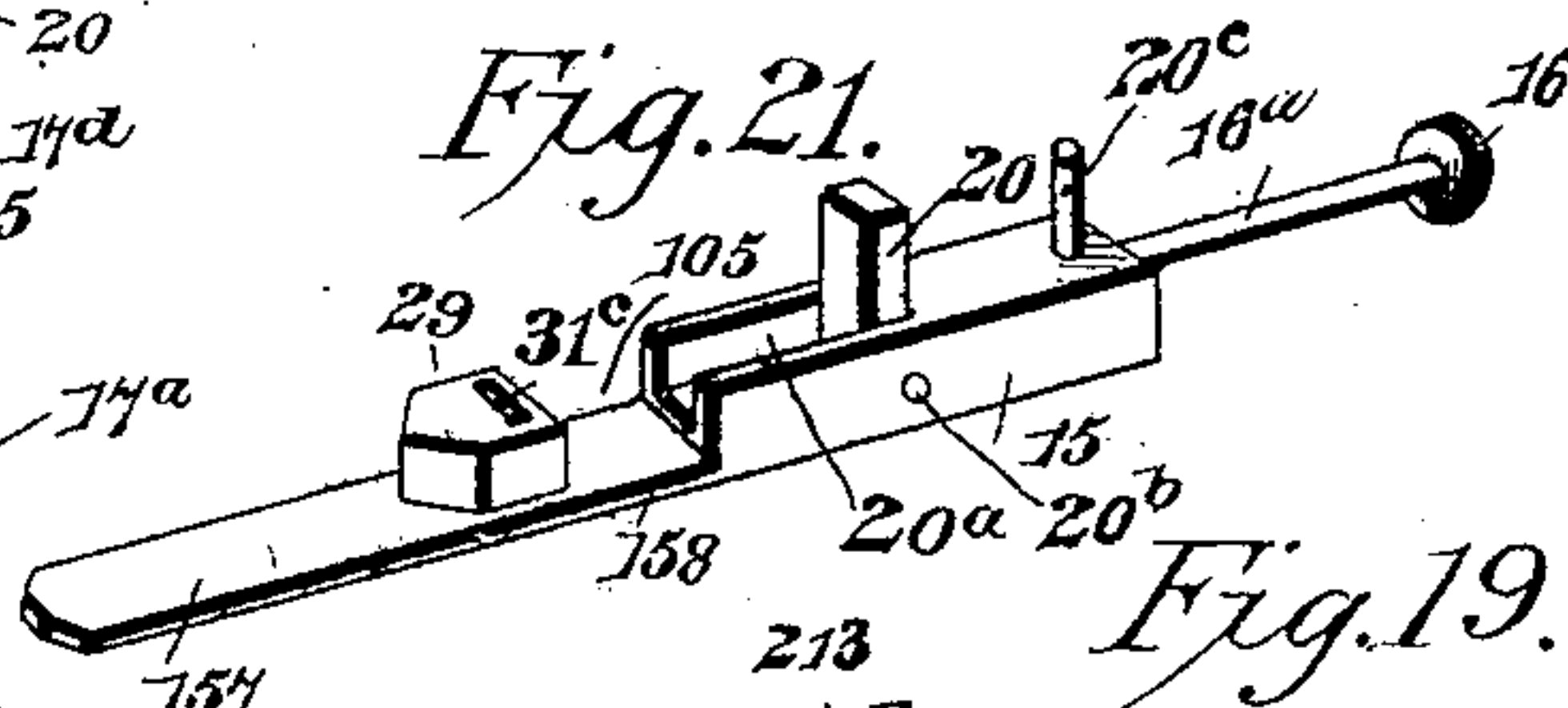
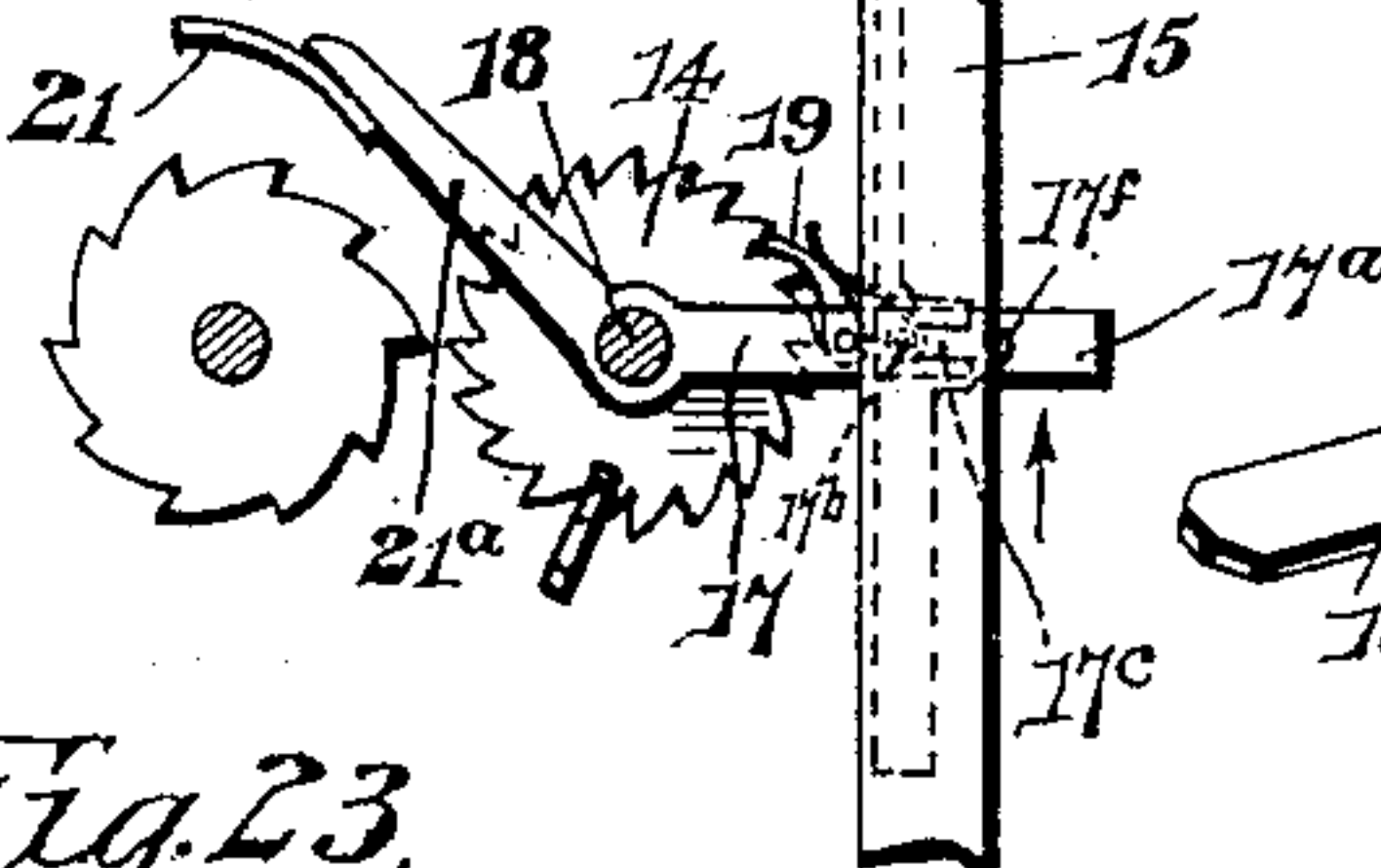


Fig. 19.

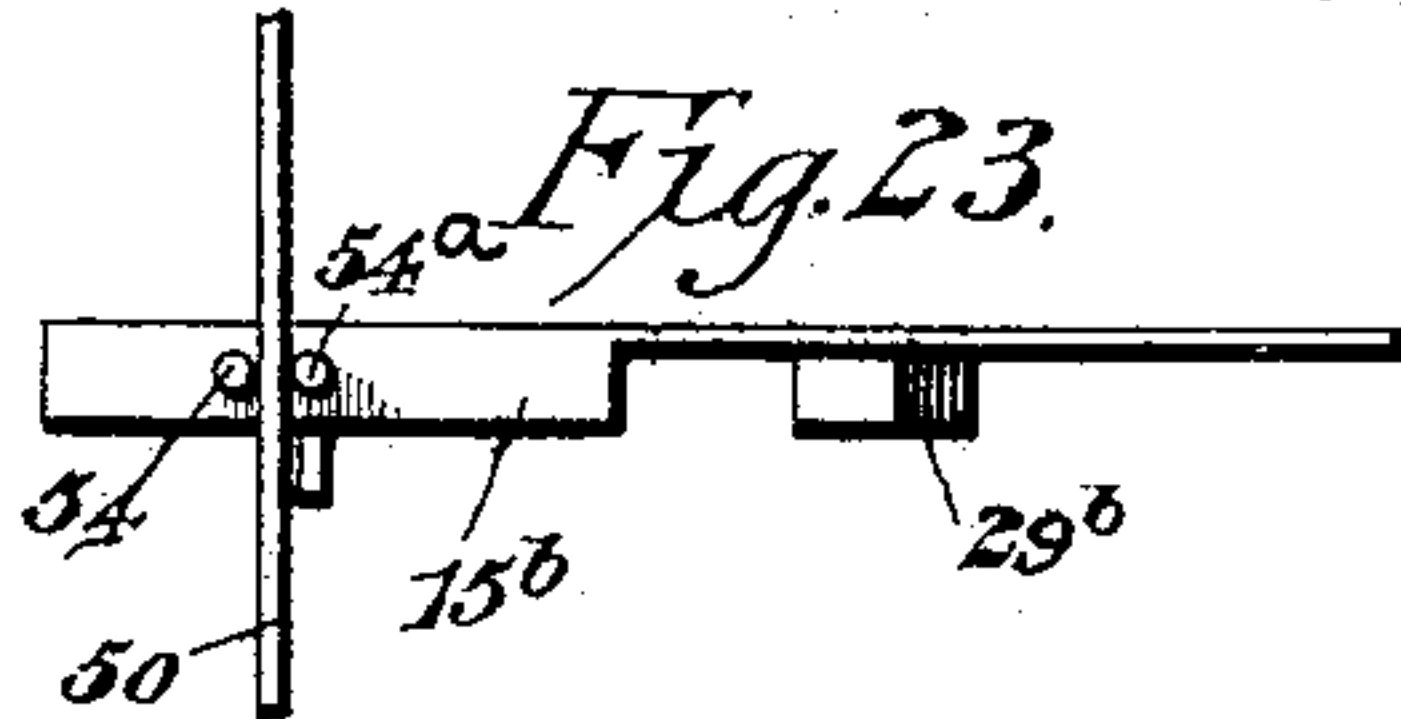
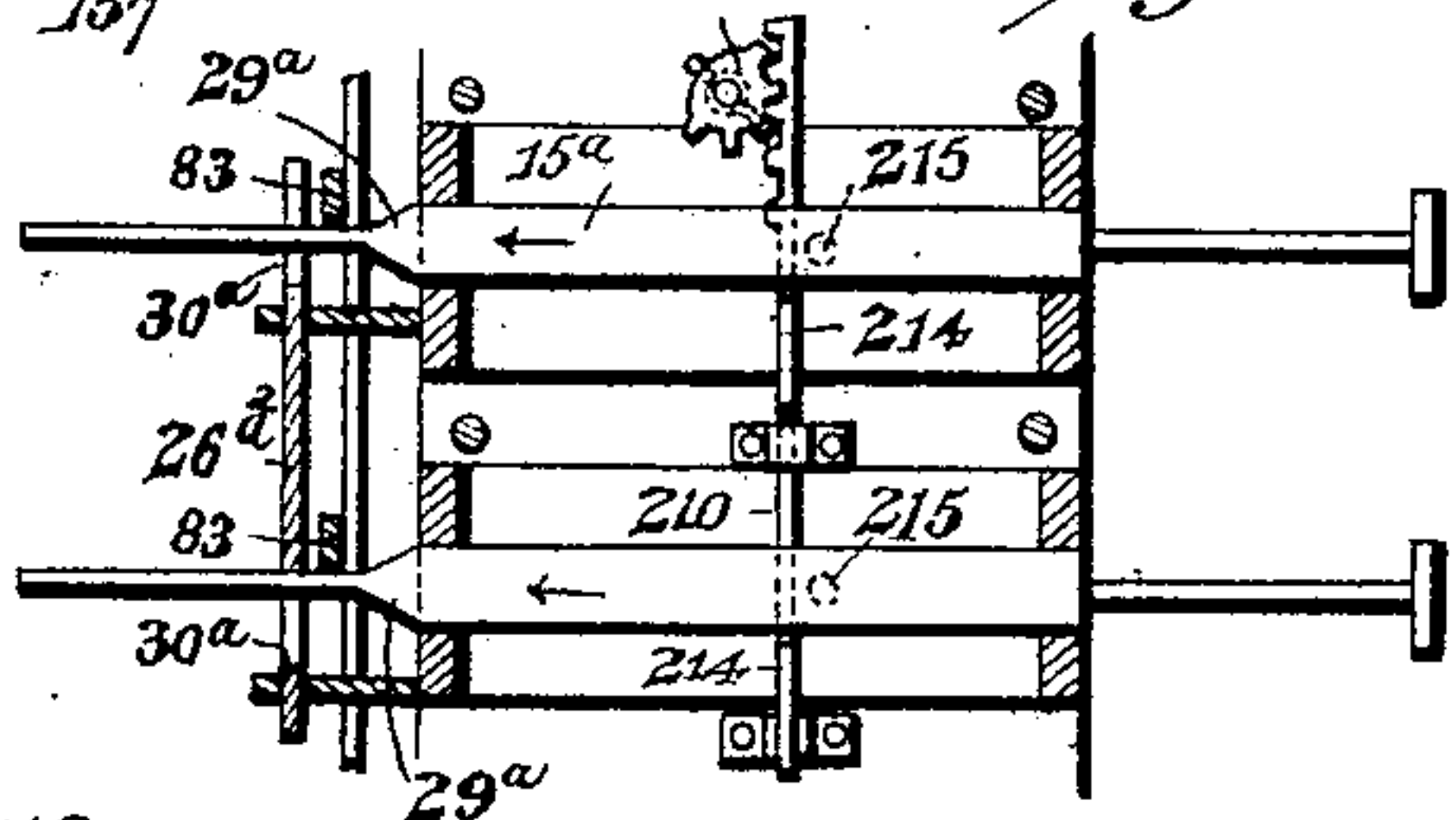


Fig. 22.

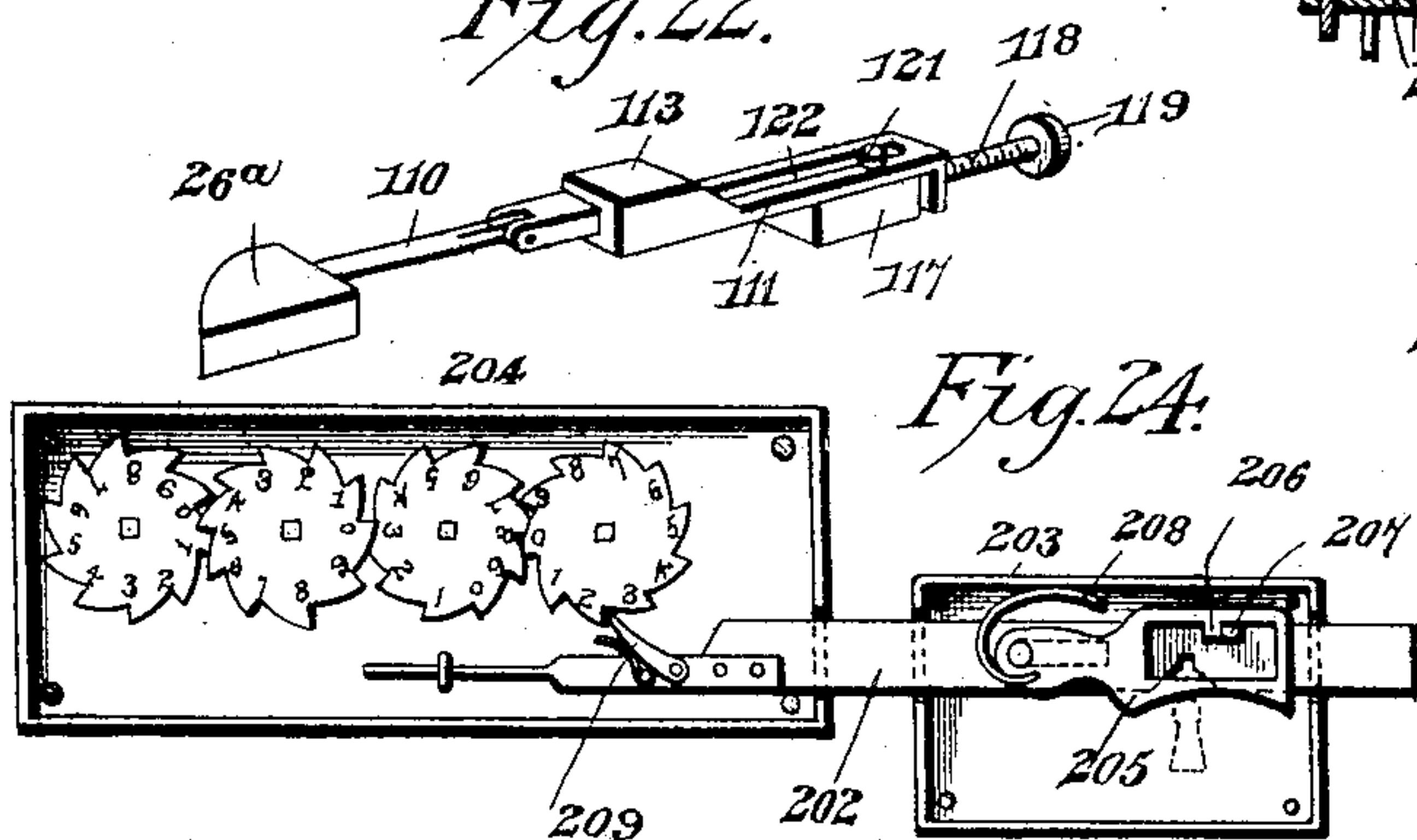


Fig. 24.

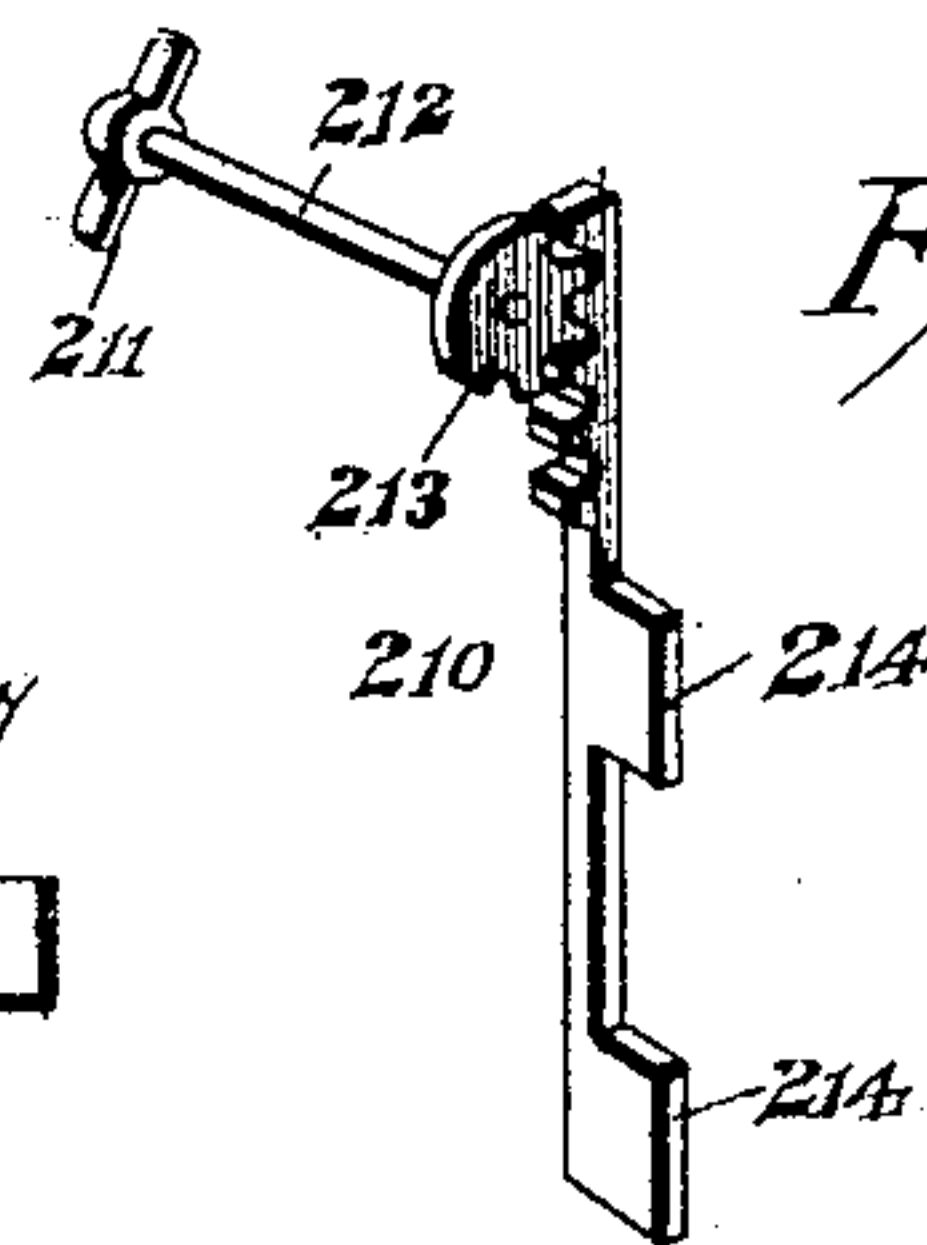


Fig. 20.

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VOTING MACHINE.
APPLICATION FILED SEPT. 22, 1898.

12 SHEETS—SHEET 8.

Fig. 31.

226 226 226

148 146 243 244 250 252 251 240 241 234 264 212 265 220 221 254 219 221 218 221 223 251 262 228 229 262 228 221 221 218 229 231 230 223 51 52 55a 2 55a 225 16 16

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VOTING MACHINE.

APPLICATION FILED SEPT. 22, 1898.

Patented July 5, 1910.

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963,105.

Fig. 35.

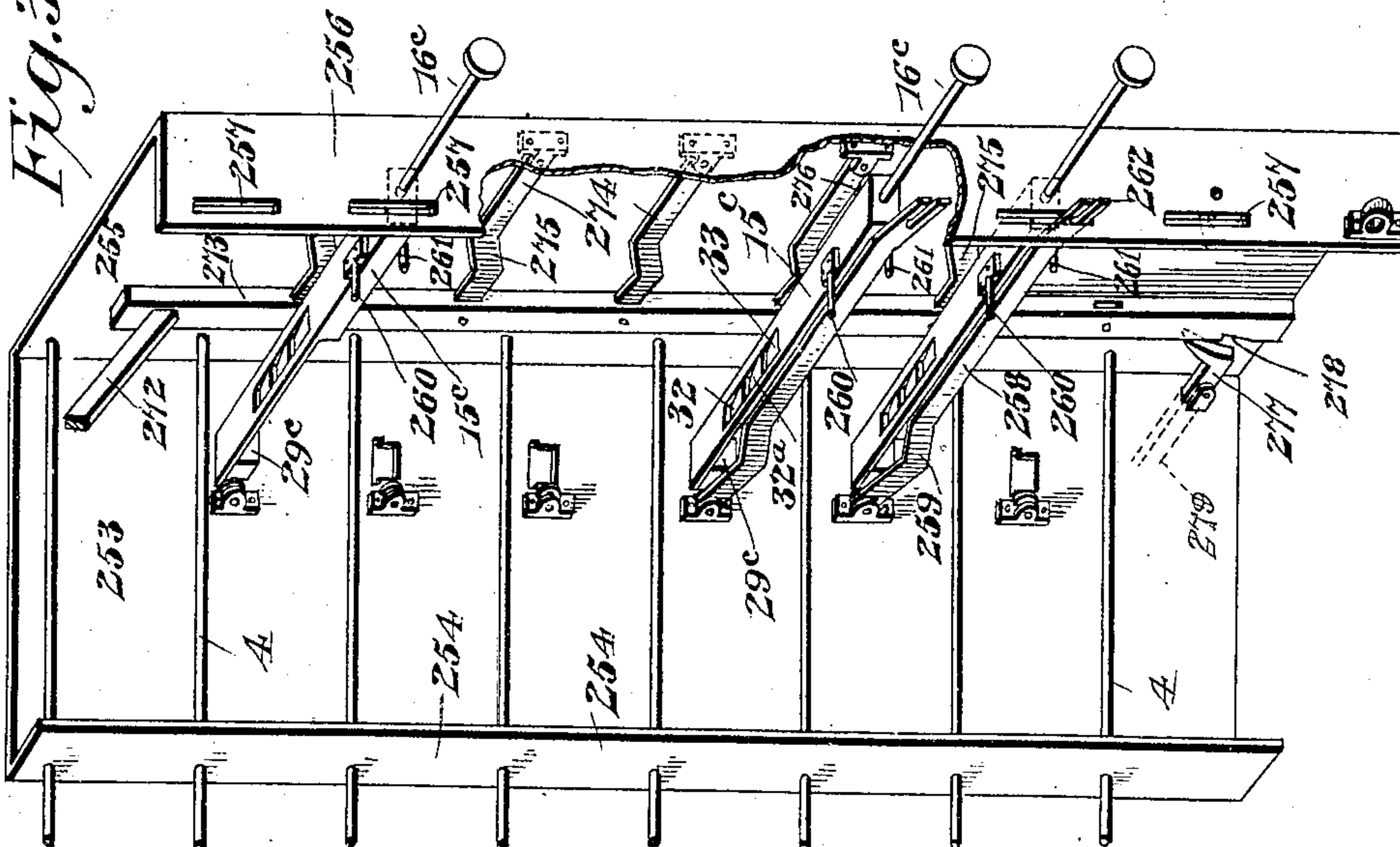


Fig. 32.

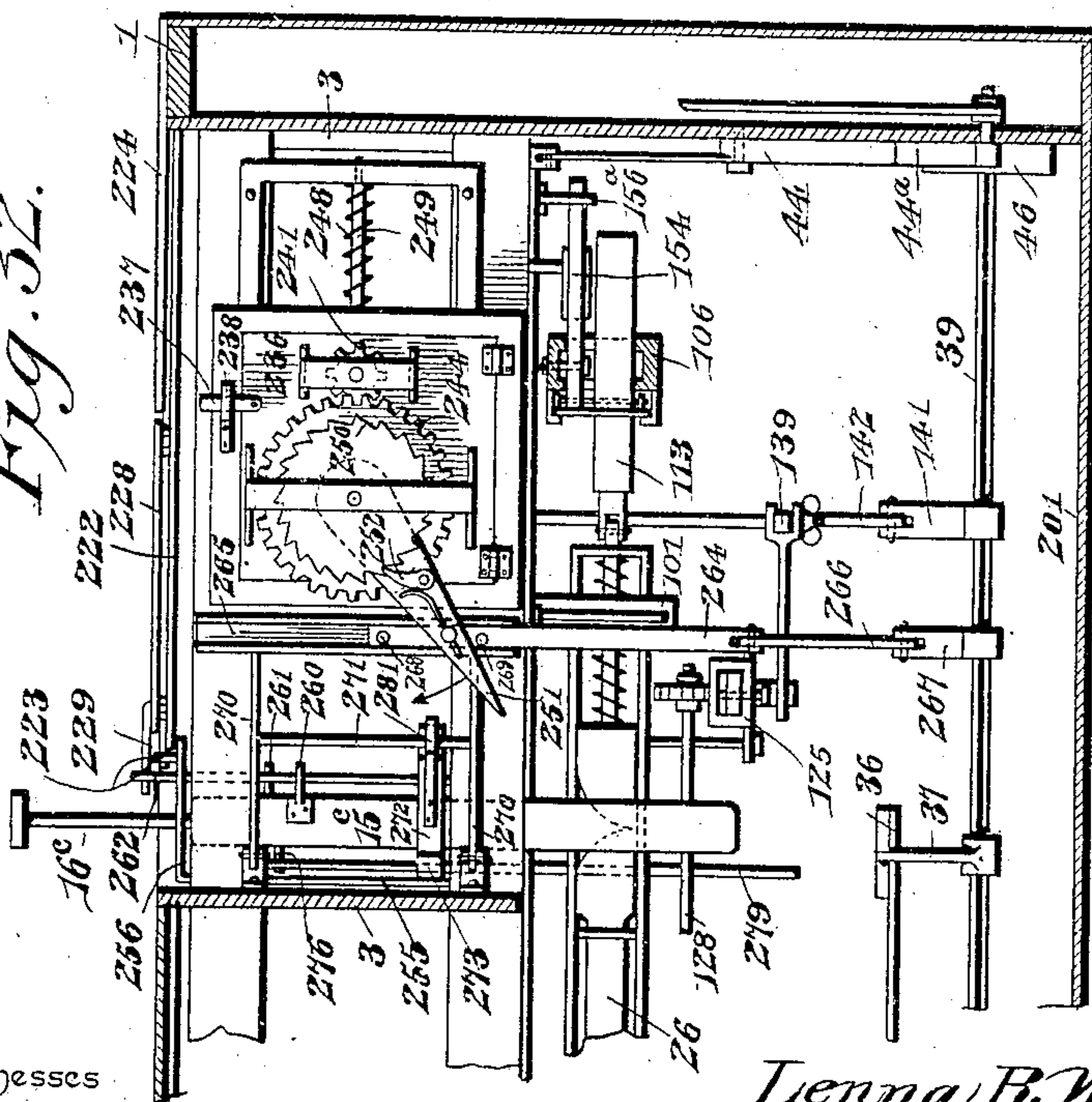


Fig. 39.



Witnesses

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Chas. H. Snow & Co.

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Patented July 5, 1910.

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Fig. 33

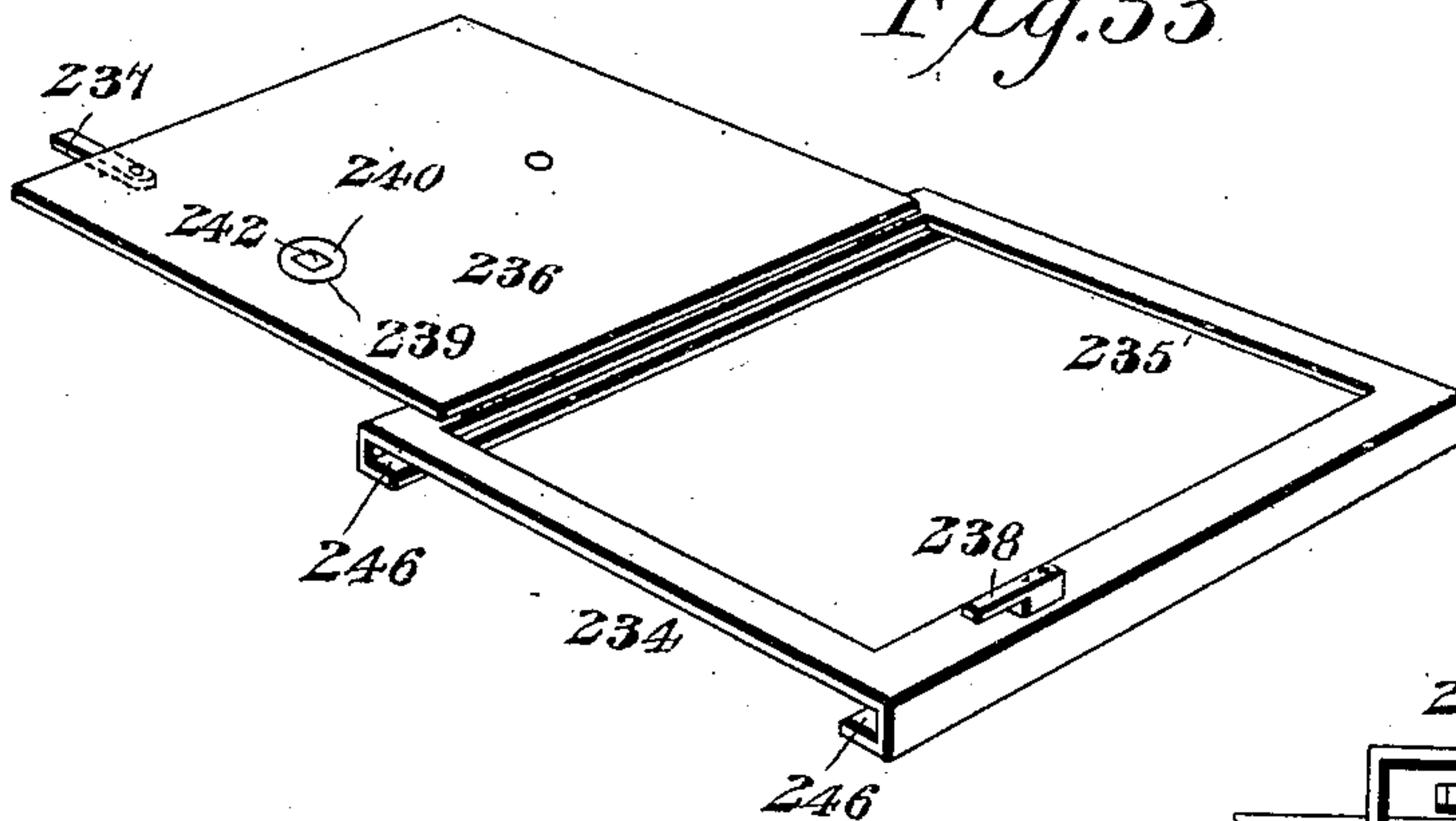


Fig. 34.

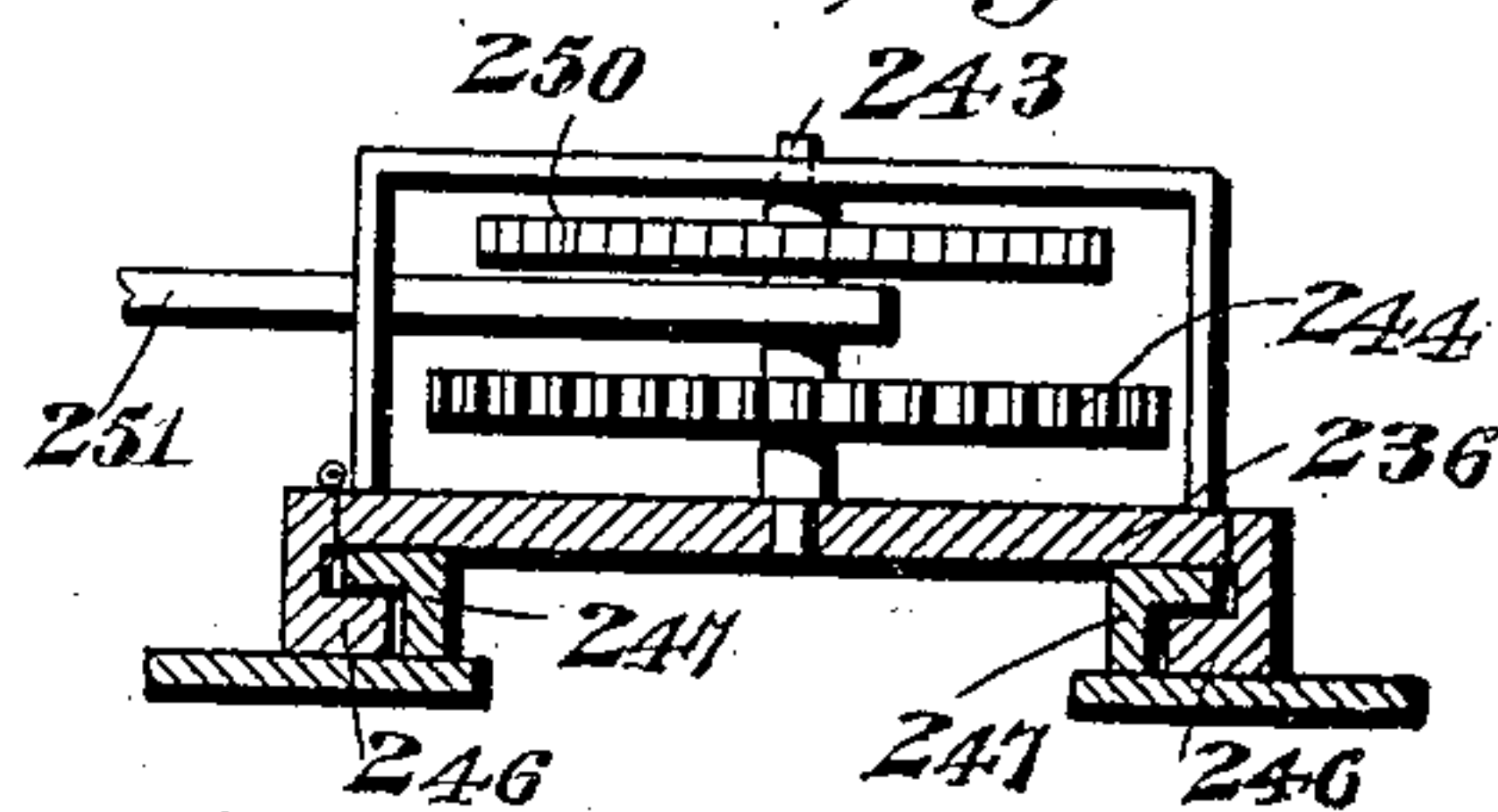


Fig. 37.

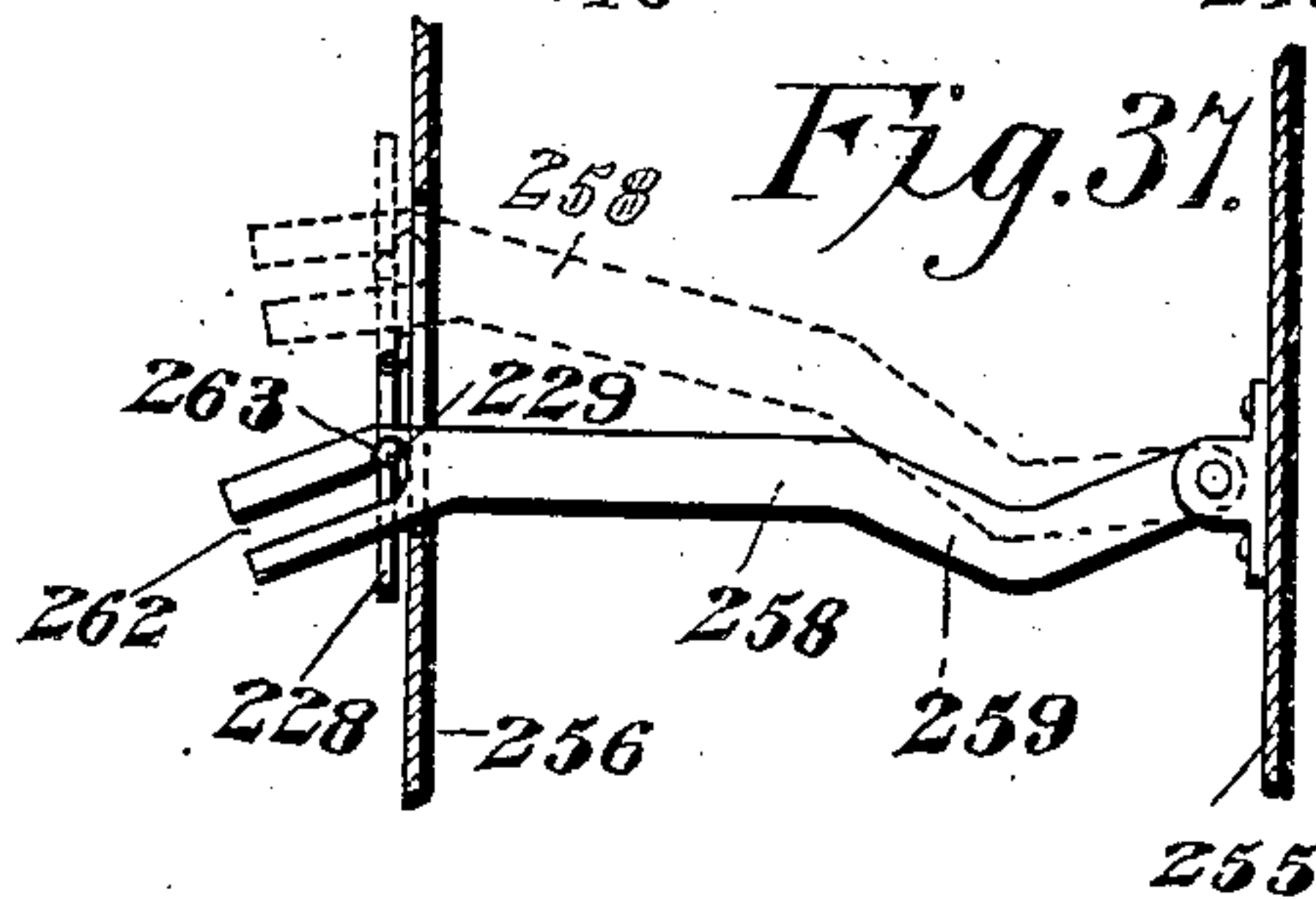


Fig. 36.

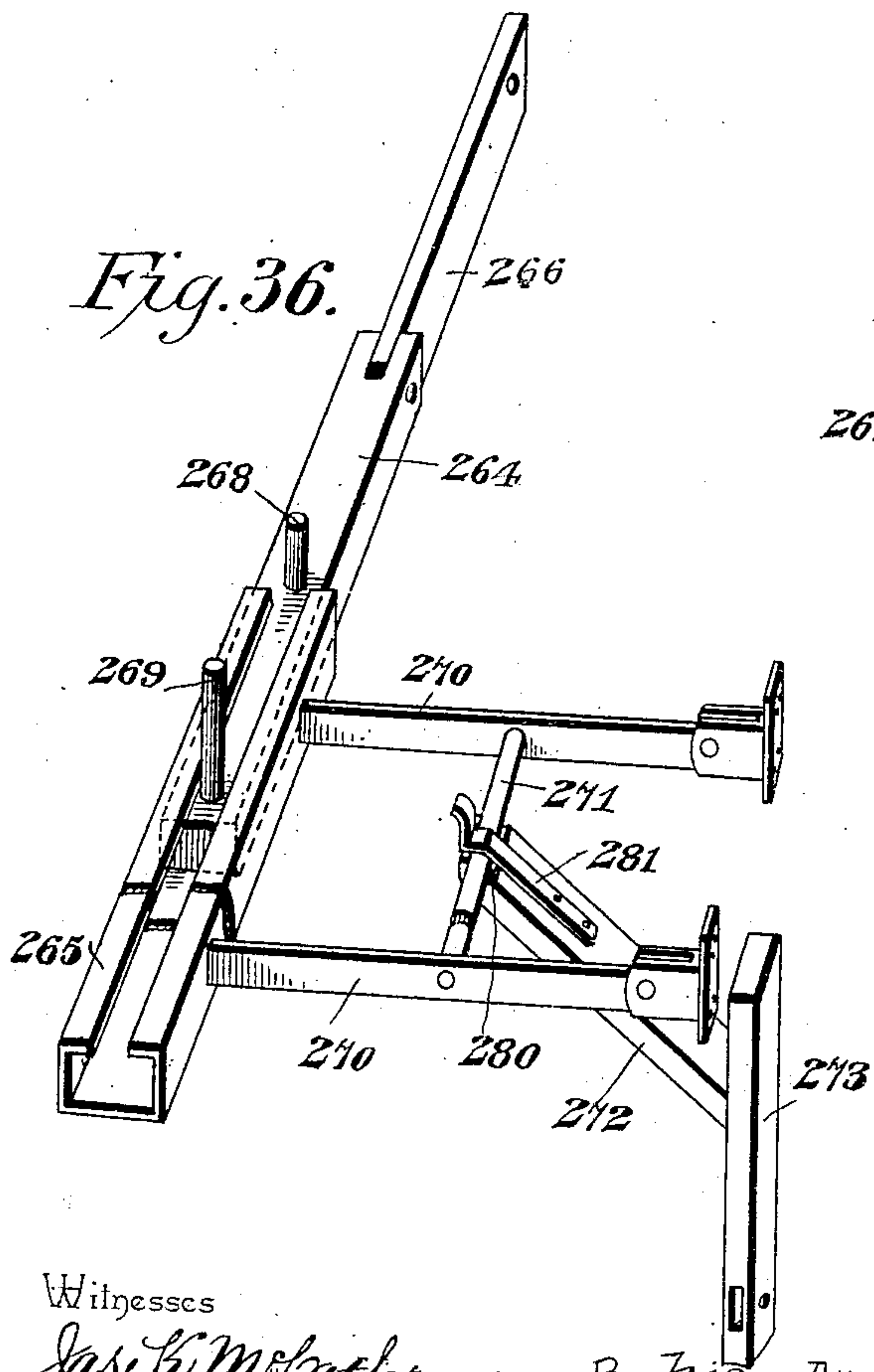
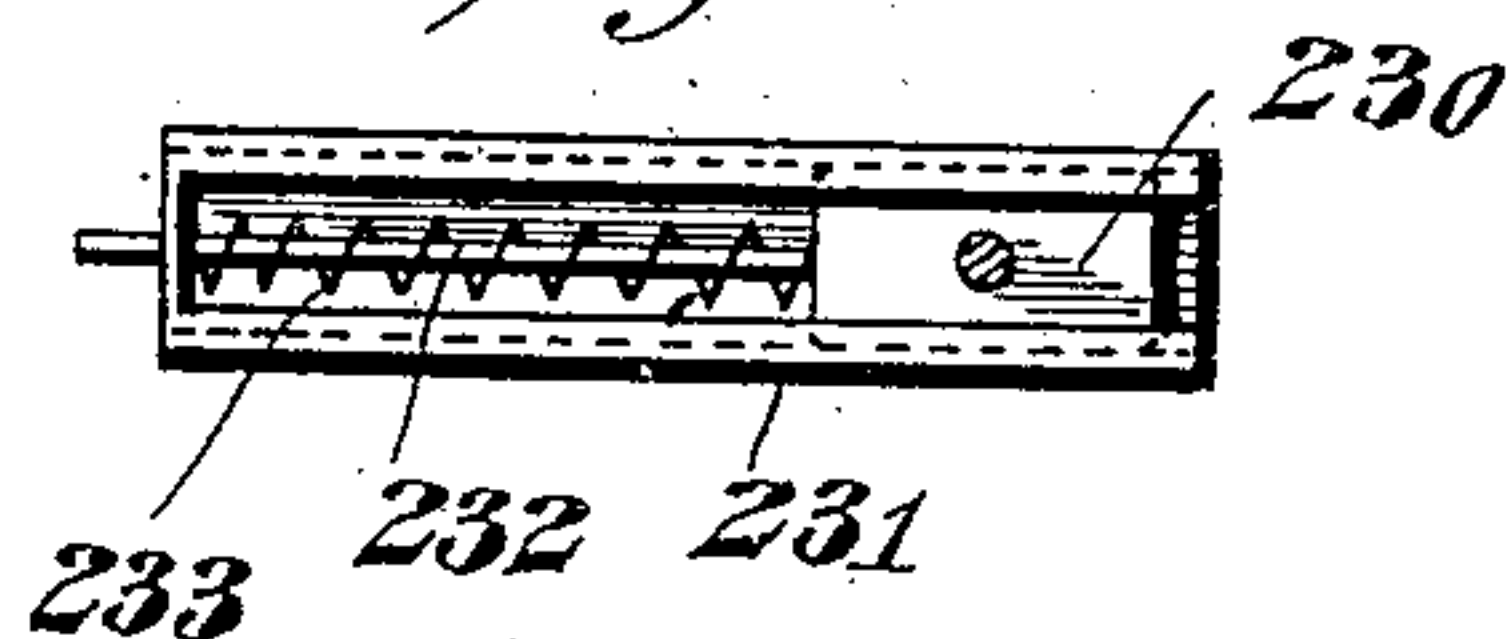


Fig. 38.



Witnesses
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O. D. Ray

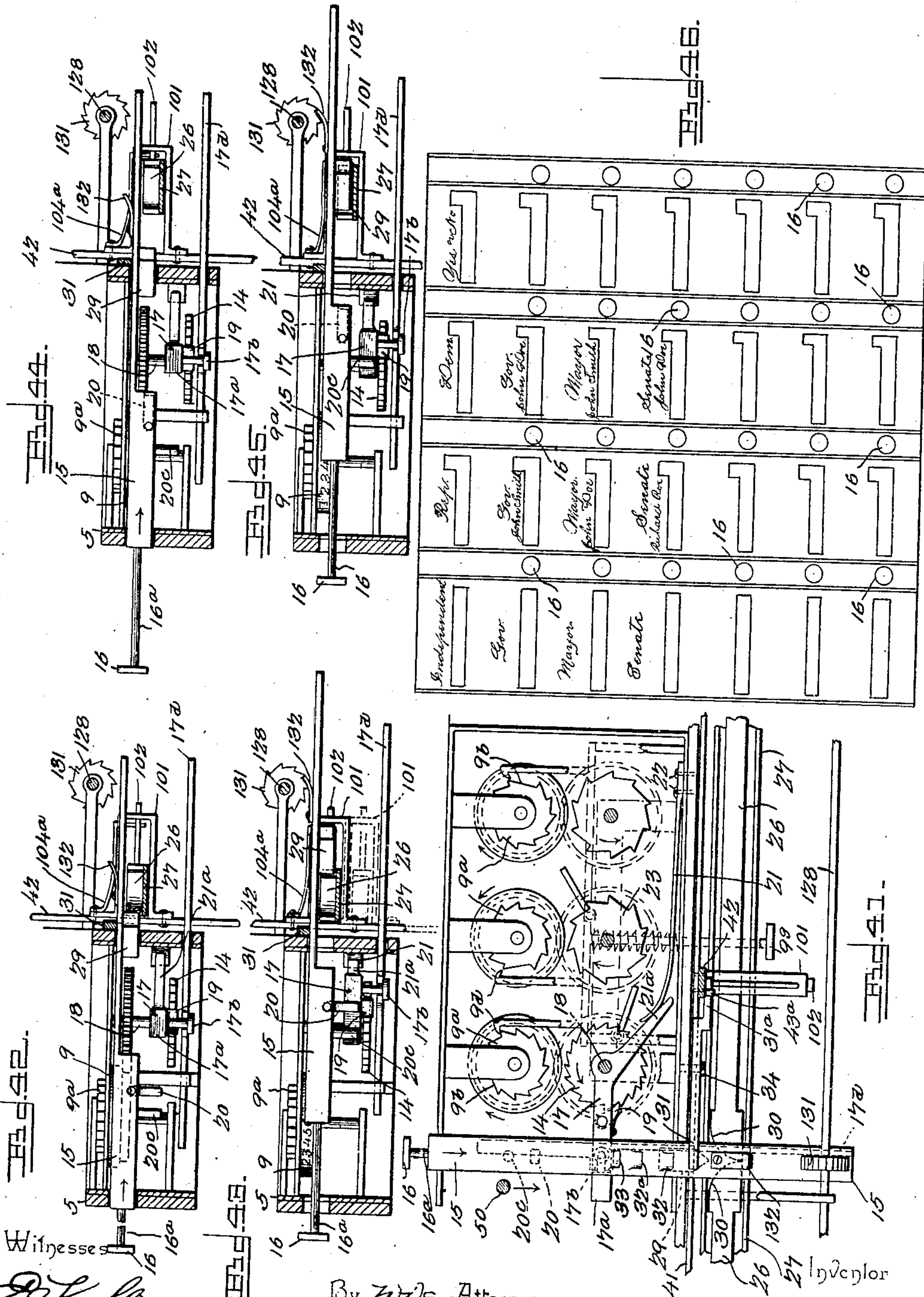
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L. R. WINSLOW.
VOTING MACHINE.
APPLICATION FILED SEPT. 22, 1898.

Patented July 5, 1910.
12 SHEETS—SHEET 12.



Witnesses
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Chas. S. Hoyer

By *W. S.* Attorneys

Lenna P. Winslow
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UNITED STATES PATENT OFFICE.

LENNA RYLAND WINSLOW, OF KANSAS CITY, MISSOURI.

VOTING-MACHINE.

963,105.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed September 22, 1898. Serial No. 691,621.

To all whom it may concern:

Be it known that I, LENNA R. WINSLOW, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Voting-Machine, of which the following is a specification.

My invention relates to voting machines of that class wherein the votes for different candidates are cast by the operation of keys, buttons, or equivalent devices, adapted to be operated either independently or in series, and as the voter may elect, to facilitate discrimination as to candidates without regard to party, or to enable the voter, by a single operation to vote a straight ticket.

My invention relates particularly to an improvement upon the construction and arrangement of parts shown and described in my former Patents 611,403, dated September 27, 1898 and 621,511, dated March 21, 1899.

A primary object of the present invention is to provide such a construction and arrangement of parts as to adapt the machine to be adjusted to form various combinations of voting keys or elements to suit general ticket voting, class voting, minority representation voting and cumulative voting; and in this connection to provide means for preventing the simultaneous operation of two or more counters except by means of the straight ticket voting device; and also to provide means whereby any desired series of voting keys may be locked or cut out when not required, or temporarily, when a voter who is entitled to vote for certain candidates, amendments or propositions, is not entitled, through some legal restriction, to vote upon certain other questions.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, and minor details of construction may be resorted to, without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings—Figure 1 is a perspective view of a voting machine and booth constructed in accordance with my invention. Fig. 2 is a rear view of the voting mechanism showing the casing sectioned on the line 2—2 of Fig. 3. Fig. 3 is a vertical transverse section on the line 3—3 of Fig. 2.

Fig. 4 is a horizontal section on the line 4—4 of Fig. 2. Fig. 5 is a partial vertical section on the line 5—5 of Fig. 4. Fig. 6 is a partial vertical section on the line 6—6 of Fig. 2. Fig. 7 is a top edge view of the booth, folded. Fig. 8 is a detail view in perspective, viewed from the rear, of the limiting device. Fig. 9 is a detail view of the connections between the straight ticket voting devices and the rocking shaft of the resetting mechanism, the casing being sectioned on the line 9—9 of Fig. 2. Fig. 10 is a detail side view of a portion of the limiting devices. Fig. 11 is a detail view in perspective of the booth door or turn-stile. Fig. 12 is a detail view in perspective of a portion of the straight ticket interlocking rack. Fig. 13 is a similar view of a portion of the secondary interlocking mechanism and cut-out devices. Fig. 14 is a similar view of the means for securing the straight ticket interlocking rack in its adjusted position. Fig. 15 is a similar view of the means whereby the casing supporting table is adjustably connected to the booth-frame. Fig. 16 is a partial face view of the casing. Fig. 17 is a detail vertical section of one of the counting or tally mechanisms, and the connections between the same and a voting-key. Fig. 18 is a plan view of the unit-disk operating pawl applied in the operative position to the counter or tally mechanism. Fig. 19 is a detail view of the amendment or proposition voting-key locking devices. Fig. 20 is a detail view in perspective of the same. Fig. 21 is a detail view in perspective of one of the voting-keys. Fig. 22 is a similar view of one of the spacers. Fig. 23 is a side view of one of the straight ticket slides. Fig. 24 is a detail view of a door-locking device and counter or tally mechanism. Fig. 25 is a plan view of a portion of the guide for the main inter-locking blocks, and one of the guide supporting devices, showing the guide in its forward position. Fig. 26 is a detail perspective view of the same, showing the guide in its rear position. Fig. 27 is a detail view of a portion of the counter-actuating pawl. Fig. 28 is an inverted plan view of one of the voting-keys, showing the returning or replacing rod and the contiguous portion of the counter-actuating pawl in their proper positions with relation to the voting keys. Fig. 29 is a detail view detached, of a portion of the replacing rod.

Fig. 30 is a detail view of a portion of a counter-box, showing an independent slide or key locking latch or button. Fig. 30^a is a detail view in perspective of the slide-locking latch or button detached. Fig. 31 is a front view, partly broken away, of a portion of the voting machine to show the independent voting devices, the door of one of said independent voting devices being shown open. Fig. 32 is a partial plan view of the independent voting apparatus showing the casing in section. Fig. 33 is a detail view in perspective of the carriage in which the upper end of the receiving roll is mounted. Fig. 34 is a transverse vertical section of the carriage and the feeding devices for the receiving roll. Fig. 35 is a detail view in perspective of the detachable frame in which the essential features of the independent voting apparatus are mounted, showing a few of the independent voting keys and connections in operative positions. Fig. 36 is a detail view in perspective of the feed-slide, through which motion is communicated from the replacing rock-shaft to the feeding devices of the receiving roll; together with the supporting devices for said slide, and the means whereby the same may be adjusted to throw the slide into and out of operative relation with the feed-lever. Fig. 37 is a detail view of one of the door-operating arms of the independent voting apparatus. Fig. 38 is a detail plan view of the yieldingly actuated bearing-block for the lower end of the receiving roll. Fig. 39 is an inverted plan view of one of the voting-keys of the independent voting apparatus. Fig. 40 is a perspective view of a portion of the machine looking toward the rear and showing parts broken away. Fig. 41 is a top plan view of the preferred form of tally or counter mechanism showing parts in dotted lines, a slide, main inter-locking blocks and related parts. Figs. 42 and 43 are transverse sections through the tally or counter mechanism showing the parts arranged for fractional voting, Fig. 43 illustrating in dotted lines the depression of the interlocking blocks and guide therefor by the replacing frame. Figs. 44 and 45 are figures similar to views 42 and 43, showing the keys arranged for voting full votes, and showing the inter-locking blocks and guides therefor adjusted to the rear so that repeated operation of the same key may be carried on. Fig. 46 is a face view of the ballot.

Similar characters of reference indicate corresponding parts in all the figures of the drawings.

The casing 1 of the voting mechanism is provided in its front wall with a plurality of transparent panels 2, one for each party for which votes are to be cast, and in rear of this front wall is arranged a plurality of

vertical partitions 3 connected by horizontal supporting rods 4. These rods support tally-mechanisms or counters for registering the number of votes cast respectively for the several candidates for office, the tally-mechanism which I preferably employ in connection with the machine being in principle identical with that described and shown in my former patents above mentioned. Therefore, it will be sufficient to explain that the box or shell 5 thereof is provided with perforated ears 6 to fit upon the horizontal supporting-rods 4 between the contiguous partitions 3, and that this box or shell is provided in its front wall 7, for exposure through the transparent panels 2, with inspection openings 8, through each of which may be seen a numeral or character of an index or dial 9. Any desired number of these dials may be employed to register a number of units, tens, hundreds, etc., the units-dial being operatively connected with an operating or units ratchet 14, which, however, is provided with half-step teeth or twenty teeth, to the circumference, for a purpose explained hereinafter, and the dials of higher denomination being operatively connected successively with the units dial to provide for the proper communication of motion thereto.

The spindle of each of the dials 9 carries a mutilated or resetting ratchet 9^a having a toothless or plain portion 9^b, and in connection with said resetting ratchets is arranged a reciprocatory resetting frame 9^c carrying a plurality of toothed arms 9^d arranged respectively in operative relation with the ratchets 9^a, and of sufficiently yielding quality to adapt their toothed front ends to slip idly over the teeth of the ratchets 9^a when the frame 9^c is moved toward the front of the machine. This resetting frame is mounted upon parallel guide-rods 9^e extending forwardly from the rear wall of the frame or casing of the tally-mechanism, and is further provided with an operating-stem 9^f terminating at its rear end in a head or button 9^g. Also, coiled upon the stem 9^f within the casing of the tally-mechanism and adapted to normally and yieldingly hold the frame 9^c in its advanced or forward position, is a spring 9^h. This combination of devices constitutes a resetting mechanism, whereby, previous to an election the several indicating dials 9 may be disposed with their zero characters opposite the inspection-slots or openings of the front wall of the casing. To accomplish this adjustment of the dials the operating stem 9^f of the resetting devices is drawn successively to the rear. At each rearward movement of the resetting frame, the pawls 9^d engage teeth, respectively, of the ratchets 9^a, and turn them through one step, or an interval equal to the distance between two contiguous teeth of said ratchet. When each resetting ratchet

has reached a position with the toothless or plain portion thereof contiguous to the resetting arm or pawl 9^a, further operation of the resetting frame will not affect it, and when the ratchets are thus disposed, the dials 9 will expose the numerals 9 through the inspection openings. Therefore, after all of the tally-mechanisms of the machine have been adjusted to expose the character 9 of each disk, a movement of the voting-key will turn the units-ratchet of each tally-mechanism through one step, and will set all of the dials of that tally mechanism at zero. In practice this final movement of the members of the tally-mechanisms to set the dials at zero is accomplished by means of a straight ticket voting device hereinafter fully described.

The units ratchet is adapted to receive a step-by-step rotary movement from a slide 15, mounted for forward and rearward movement in the box or shell of the tally-mechanism, and extending through a suitable opening in the front wall of the casing to form a projection or button 16 having a reduced neck 16^a, said button and slide combining to form a voting-key.

The means whereby motion is communicated from the slides of the voting-keys to the units-ratchet 14 consist, in the construction illustrated, of a pivotal pawl 17, fulcrumed upon the arbor 18 of the units-ratchet and carrying a spring-pressed tooth 19 for engagement with the teeth of said ratchet. This pawl is arranged in the path of a pin 20 on the slide 15, whereby at the repression of each key the pawl is swung in the direction indicated by the arrow in Fig. 18 to turn the units-ratchet through a distance equal to one full step, or the interval between alternate teeth thereof. The return of the pawl to its normal position, and hence engagement of the tooth 19 with a succeeding tooth of the ratchet, may be accomplished by means of a spring 21, (see Figs. 4, 17, 18, 41, 42, 43, 44 and 45) which is detachably secured, as by fastening screws 22, to the wall or shell of the tally-mechanism, and bears terminally against a tail or extension 21^a of the pawl 17. As above indicated, this return spring 21 may be used to yieldingly hold the pawl 17 in its normal position, and return it to such position after displacement by means of the voting slide, but, preferably, said spring is used only in connection with cumulative voting, as hereinafter more fully explained. I prefer for general voting, and other class voting wherein the votes for each candidate need not be split, or where the operating ratchet of the units-dial should be moved at each operation through a full step, to employ positive means for returning the pawl 17 to its normal position. Therefore, in the construction illustrated, I provide said pawl

with a depending pin 17^b which is engaged with a slot 17^c of a replacing rod 17^d, (see Figs. 27, 40, 42 and 43) the latter being disposed parallel with and below the plane of the voting-slide, and being arranged at its rear end approximately in the vertical plane of the rear end of said voting slide, for engagement by a replacing frame hereinafter described. In operation this replacing rod is repressed rearwardly simultaneously with the voting slide, whereby the operating pawl 17 is returned to its normal position simultaneously with the slide, but, after the operation of the slide, remains in the advanced position, until the slide is returned.

As above described, the voting slide is provided with a pin or projection 20 for engagement with the pawl 17 to communicate motion to the ratchet which is in connection with the units-dial, and which, for convenience in description, I will term the "units-ratchet." This pin 20 is so disposed with relation to the length of the slide, and its path of movement, and also with relation to the position of the pawl 17, that the movement of the slide from its advanced or normal position to the limit of its rearward movement will advance the units-ratchet through a full step, equal to the interval between alternate teeth of said ratchet. This movement may be limited by any suitable means such as the contact of the button 16 with the front of the casing. It is desirable, however, in certain classes of voting, particularly cumulative voting, to limit the movement which is imparted to the units-ratchet to a half-step, or the interval between two contiguous teeth of the ratchet. Therefore, I construct the pin 20 to fold into a recess or cavity 20^a formed in the underside of the slide, said pin being pivoted, as at 20^b, and also to provide an auxiliary pawl operating pin 20^c, arranged upon the slide 15 in front of the pin 20. This auxiliary pin 20^c is so disposed with relation to the path of movement of the slide and the position of the pawl 17, that when the slide is moved rearwardly to the limit of its throw, the auxiliary pin will strike the pawl 17 and advance it through the distance only of a half-step. The advantages of this construction and relative arrangement of parts will become apparent as my invention is further disclosed.

Each vertical series of tally-mechanisms is designed for use in casting votes for the candidates of a particular party, or for a series of amendments or propositions (as shown at the left, Figs. 2 and 4, of the machine illustrated in the drawings, this, however, being to the right of a voter facing the machine), all of the tally-mechanisms for the candidates for the same office in the several parties being arranged in a common horizontal series, or all of the tally mechan-

isms for the candidates, in the several parties, for the same office being arranged in common horizontal or single candidate series; and in order to prevent the slides belonging to the tally-mechanisms in either of these single candidate series from being operated in plural, or to prevent more than one vote being cast for any particular office, I employ inter-locking mechanisms, whereby when one slide in a single candidate series is repressed to operate its respective tally-mechanism, the remaining slides belonging to the tally-mechanisms in the same series are locked against repression. This locking mechanism, which may be termed the main interlocking mechanism, includes locking members or blocks 26 mounted in a guide 27 provided in its front and rear sides with openings 28 which register with the slides. Each slide is provided with a cam-block 29 having a front wedge-shaped cam-face adapted to cooperate with corresponding cam-surfaces 30 on the contiguous ends of the blocks 26, and the lengths of the blocks are so regulated that when a slide is repressed thereby separating the contiguous extremities of the adjacent blocks sufficiently to allow the cam 29 to pass therebetween, the remote ends of said adjacent blocks are disposed in the paths of the cams on the remaining slides of the same single candidate series. This relative arrangement of parts continues as long as the cam of the repressed slide remains between the contiguous ends of the separated blocks, and in order to prevent the withdrawal of an operated slide, and the subsequent operation of other slides, or a subsequent operation of the same slide, I have devised locking mechanism consisting of retaining pawls 31, one of which is arranged in operative relation with each slide, and ratchet-teeth or shoulders 32, 32^a and 33 on the slide. The pawl is normally in rear of the rearmost tooth 32 of each slide, and as said teeth are beveled, the slide may be pushed rearwardly, by pressure applied to its front end, to cause said pawl to engage with the teeth successively, but subsequent withdrawal of the slide is prevented by this engagement until the pawl shall have been disengaged. This pawl is pivoted at an intermediate point, as shown at 34, thus providing an extension or tail 31^a, and the pawl is normally and yieldingly held in operative position with relation to the teeth of the slide by means of an actuating spring 35. As a voting slide is pushed rearwardly, the first operation thereof is to separate the contiguous ends of the adjacent interlocking blocks whereupon the rearmost notch 32 is engaged by the locking pawl 31, thus cutting out all of the remaining slides in the same single candidate series, and at the same time preventing the withdrawal of the operated slide and the subse-

quent operation of another. A further repression of the said slide causes the advance of the units-ratchet through one-half step, or the interval between contiguous teeth, to indicate a one-half vote, whereupon the second or intermediate notch 32^a of the slide is engaged by the locking pawl 31. A further repression of the slide, necessary to register a full vote, by moving the units-ratchet through a full step, or the interval between alternate teeth of the ratchet wheel, will be followed by the engagement of the pawl 31 with the foremost tooth 33 of the slide.

When it is desired to lockout the slide for any reason, as when a candidate has not been nominated for a given office by a certain party, I employ an independent locking device consisting, in the construction illustrated, of a pivotal latch 31^x (see Figs. 30 and 30^a) pivoted to the rear wall of the tally-mechanism box or shell by means of a spindle 31^b, and adapted to terminally engage a seat 31^c in the underside of the cam 29 of the slide. Said latch is preferably pivoted in contact with the front or inner surface of the rear wall of the box or shell, and the spindle thereof projects through the wall to the rear side where it is fitted with a head having a transverse kerf or key-seat 31^d, with which a key may be engaged to turn the latch into or out of operation with the slide, as may be required by the conditions of the election.

After a voter has cast his votes for the several candidates, and before the following voter is allowed access to the machine, it is necessary to return the slides to their normal or extended positions, and in order to accomplish this I employ a replacer, consisting of a frame 36 having vertical bars which are adapted to bear against the projecting rear ends of the slides, and by movement toward the front of the machine, advance all of the slides simultaneously, this frame being supported by upper and lower swinging arms 37 and 38, of which the former are carried by a rock-shaft 39 with which is connected operating means, hereinafter explained, for throwing the replacing frame. In order, however, to prepare the slides for this shifting or replacing movement, it is necessary to release them from the pawls 31, to attain which I provide a trip or releasing frame, comprising upper and lower horizontal bars 41 connecting a plurality of vertical or upright bars 42, which carry pairs of spaced lugs 43 and 43^a between which the tails 31^a of the pawls 31 are adapted to be arranged. This trip-frame is supported at its upper end by means of rocking levers 44, Fig. 3, while the lower extremities of the upright bars 42 are fitted in suitable fixed guides 45, see Figs. 2 and 3. The rear ends of the rocking levers are bifurcated to form

upper and lower arms 44^a and 44^b between which are arranged cams 46 on the rock-shaft 39, whereby, as the rock-shaft is turned to actuate the replacing frame, the releasing frame is either elevated or depressed. Said
 5 cams are provided with upper cam-faces 46^a and lower cam faces 46^b, and when the rock shaft is turned to depress the replacing frame, or swing it in the direction indicated by the arrow in Fig. 3, the upper
 10 cam surfaces 46^a engage the upper arm 44^a of the bifurcation, and, by elevating the rear ends of the rocking levers 44, depress the releasing frame to correspondingly depress the tails of the locking pawls 31 and
 15 remove their engaging extremities from contact with the ratchet teeth or shoulders of the slides; whereas when the rock shaft is turned in the opposite direction, to return the replacing frame to its normal position, the lower cam face 46^b comes in contact with the lower arm 44^b of the bifurcation, and depresses the rear end of the rocking lever to elevate the releasing frame, and thereby
 20 return it to its normal position. The continued movement of the replacing frame, after the slides have been returned to their normal positions, brings the same into contact with an arm 47 on the knocker 48 of an alarm mechanism, which includes a gong 49, see Fig. 3.

The column of tally mechanisms at the right of the machine to the voter (or at the left, as shown in Fig. 2) is designed for
 35 voting upon constitutional and other amendments, and upon propositions, etc., as indicated above, said mechanisms being arranged preferably in pairs, to provide for voting for and against an amendment, or for
 40 voting for contradictory or opposing amendments. Hence, it is necessary to provide locking devices for preventing the operation of more than one of a pair of tally-mechanisms which relate to the same or opposing
 45 amendments, and as the tally-mechanisms relating to the same proposition are arranged in a vertical plane, the slides 15^a thereof are preferably arranged in operative relation with a locking bolt 26^{a2} and have
 50 upper and lower cam-faces 29^a adapted to co-act with shoulders 30^a on the bolt, to provide for locking one slide against repression when the companion slide has been operated.

In connection with the mechanism illustrated in the drawings, I have also shown
 55 straight ticket voting devices, consisting of an actuating rod 50, arranged contiguous to each vertical series of voting keys, and attached at its upper end to an operating lever 51 terminally provided with a loosely attached handle 52, and attached at its lower
 60 end to a link 53. Each operating pawl is provided with an extension 17^a, Fig. 27, projecting beyond the contiguous slide 15 in the path of the actuating rod 50, whereby, when

said rod is actuated by the operation of the voting lever 51, all of the pawls 17, in the vertical series contiguous to said rod, are swung upon their fulcrums to advance the
 70 units-ratchet one full step, but in order that one or more tally-mechanisms of a vertical series may be disconnected from the straight ticket voting devices, for a purpose which will be understood as the invention is more
 75 fully disclosed, said extension is preferably of foldable or displaceable construction, or is foldably mounted upon the body-portion of the pawl, as by a hinge 17^e to adapt it to be dropped out of, or removed from the
 80 path of, the actuating rod 50. The inner end of the foldable section or extension 17^a if flat-faced, with its sides arranged in perpendicular planes, and in operative relation with these faces is a holding spring 17^f, whereby the extension is held either in the
 85 normal extended position indicated in full lines in Fig. 27, or in the folded position, indicated in dotted lines in the same figure, said dotted line position indicating that in which the extension is arranged when out
 90 of the path of the operating rod of the straight ticket voting device. The means for registering the number of straight tickets voted, consist of a slide 15^b, similar in construction to the slides 15 and 15^a, with the
 95 exception that it does not project beyond the face of the casing to form a key; and a tally mechanism or counter actuated by said slide and constructed as those which are used in connection with the slides hereinbefore described. This straight ticket slide is provided with a plurality of lateral pins 54, 54^a
 100 (Fig. 23) between which the actuating rod 50 is arranged, to provide for communicating rearward motion from the actuating rod to the slide 15^b. An opaque shield 55 is preferably arranged between the front faces of the tally boxes and the contiguous front wall or transparent panels of the casing, said shield being provided at intervals with
 110 openings 55^a spaced apart to suit the intervals between the tally-boxes, and having their body portions normally arranged out of registration with the inspection openings thereof. These openings 55^a are of L-shape, with their long arms or body-portions arranged horizontally, and of a length sufficient to expose all of the inspection openings in the front wall of a tally box, while the short upwardly extending arms of said
 115 openings in the shield extend a sufficient distance above the body portions or long arms thereof to permanently expose the inspection openings of the units-dials of the several tally mechanisms. Thus, when the shield is in its depressed or normal position, all of the inspection openings, with the exception of those through which the units
 120 dials of the tally mechanisms are exposed, are concealed, while the units dials of the
 125
 130

tally mechanisms are permanently visible to indicate to a voter, who has operated a key, that his vote has been tallied. When it is desired to expose all of the dials of the tally mechanisms, to show the whole number of votes cast for the different candidates, and thereby disclose the result of the election, this shield is shifted, to cause registration of the transverse or long arms of its openings with the openings in the tally-boxes, by means of a shifting lever 56, exposed outside of the casing, and having its spindle 56^a provided with an arm 57 which is terminally attached to the shield (see Fig. 3).

In order to count the number of voters who have access to the voting machine, and who are supposed to have cast votes for candidates for the several offices, I employ a voter counting device, similar in construction and operation to that shown and described in my said former patents, and including a suitable tally mechanism 59 (not shown in detail in the drawings), which is placed in an exposed position at the top of the casing, where the number is permanently exposed, and actuated by the replacing devices, or those means which are employed for returning the voting keys to their normal positions after each voter has left the booth. In the construction illustrated, connection is established between the tally mechanism 59 and the rock shaft 39 by means of a slide 64, which is connected by means of a link 65 with an arm 66 carried by the rock shaft. It will be seen that each operation of the replacing frame, necessary to rearrange the slides after each voter has left the machine, will be accompanied by the operation of the slide 64, and hence by corresponding adjustment of the tally mechanism 59, whether a voter, after gaining access to the machine, has cast a vote, or not. Furthermore, I have found in practice that it is necessary to employ means, which are independent of the replacing mechanism, for registering the number of actual voters, or, in other words, to provide means for registering the total number of first votes cast by parties having access to the machine, so that the officers of the election can tell from the outside whether a vote has been cast, or not. To accomplish this, I employ the voter counting and indicating devices described and shown in my former patents, the latter remaining exposed throughout the time that the occupant of the booth is casting votes subsequent to the first one cast by him. It is unnecessary to describe and show in detail these devices, but in order that the operation of these parts in connection with the others forming the subject matter of the present invention may be understood, it will be sufficient to explain that, contiguous to each horizontal series of movable parts or slides 15, is arranged a rock shaft 70 mounted in suitable bearings

depending from the undersides of the guides 27, and each provided with a plurality of ears 72 which are arranged respectively in the paths of the slides 15, or the cam-blocks 29 thereof, whereby the repression of a slide in either horizontal series, including that in which the straight ticket voting slides are arranged, will operate one of the rock shafts. Vertically disposed, contiguous to the vertical plane of the rock shafts, is a plunger 73 having projections 74 arranged in the paths of crank-arms 75 on the several rock shafts, whereby the movement of either rock shaft will cause its crank arm to apply upward pressure to the corresponding projection 74, and thus raise the plunger. Operatively connected with this plunger is a display plate 76 adapted to normally occupy a position within the casing, and adapted to be extended through a slot 77 in the top thereof. This display plate is carried by a lever 78 fulcrumed upon a stationary bracket 79 projecting from a fixed bar 80, and having a sliding connection at an intermediate point with the plunger. Each elevation of the plunger causes the extension of the display plate, which, constituting a vote-indicator, is displayed exteriorly of the casing, to the public, said indicator, however, being non-distinctive, in that it does not disclose for whom or for what office a vote has been cast. Connection is established between the amendment voting devices, and said display plate by means of swinging arms 83 pivoted to said fixed bar 80 and resting upon the upper sides of the slides 15^a, said arms 83 being also connected with the plunger 73. The cam faces at the upper sides of the amendment voting slides come in contact with and raise the swinging arms when the slides are repressed.

In certain classes of voting hereinafter described, wherein the voting slide is withdrawn after casting a vote, and hence cannot be relied on to hold the rock shaft 70 in that position necessary to maintain the plunger 73 in its elevated position, it is necessary to provide auxiliary means for holding said plunger, and in the construction illustrated, said means consist of a spring holding tongue 73^a arranged in operative engagement with a series of notches or seats 73^b formed in the plunger, preferably near its lower end. As the plunger is elevated, the tongue 73^a slips from one notch or seat to the other, and as the plunger and attachments are light, I have found that a device constructed as described will efficiently hold them in their adjusted positions.

The vote counting devices above referred to, include a counter or tally mechanism 84, which may be of any suitable construction (not illustrated in detail), and which is connected with the plunger 73 by means of an arm 87, whereby said tally mechanism is ac-

tuated to cause an advance step of its ratchet for each elevation of the plunger, but receives no motion from the succeeding operations of voting keys repressed by a voter after the depression of the first key. The plunger is returned to its normal position, in preparation for a second operation under the conditions above mentioned, by the actuation of the replacing devices. The means whereby the return of the plunger is positively accomplished include a foot 93 on the lower end of the plunger, arranged in the path of the replacing frame, said foot being hinged, and being adapted to be withdrawn from the path of the replacing frame, when the mechanism connected with the plunger is not required, by means of a hand-wheel 97 connected with the foot by a wire or rod 94.

In general ticket voting where each political party has a single candidate for a given office, the mechanism thus far described is adequate for ordinary purposes, but it is well known that in class voting, or in voting for a number of candidates for a similar office, as for presidential electors, constables, and the like, each voter has the privilege of selecting from all of the parties, that is, of casting a specified number of votes, corresponding with the number of representatives, such as electors, or constables, and choosing one or more candidates from each of two or more party tickets. It is therefore necessary to provide means for varying the adjustment of the parts of the mechanism and limiting the number of votes which may be cast between two successive operations of the replacing mechanism. In the same way, it is desirable to provide means for controlling the number of votes cast in minority representation voting, where the number of candidates put in the field by each political party is in excess of the number of candidates to be elected, as when three candidates have been nominated, and but two are to receive office; and in addition to this it is desirable, and necessary in some States, to provide for casting a cumulative vote, wherein the voter is entitled to cast a certain number of votes, corresponding with the number of candidates in a given group, but is also entitled to cast the whole number of votes for a single candidate, or to split his vote, as he may elect, as, for instance, where three candidates have been nominated by each political party, and three are to be elected, thus allowing the voter to cast three votes, each voter is entitled to cast one vote for each of three candidates, or three votes for a single candidate, or one and a half votes for each of two candidates, or two votes for one candidate and one for another.

The means whereby votes may be cast and controlled under these several conditions

form essential features of my present invention, and the construction, whereby the machine is adapted for adjustment to suit these conditions, is as follows: The main interlocking block guides 27 are carried by the releasing frame, comprising the up- 70 rights 42 and connecting bars 41, said guides being fitted to slide forwardly and rearwardly in ways 101 projecting rearwardly from the uprights 42, and, therefore, being 75 capable of two positions, which will be referred to hereinafter as "front" and "rear." In order that the guides may be fixed in either of their adjusted positions I provide them with rearwardly extending tongues 80 102, each provided with front and rear perforations 103, for engagement by a spring actuated pin 104 of which the spring arm 104^a is attached to the releasing frame above the guide. Obviously, the engagement of 85 said locking pin with the rear perforation of one of the tongues 102 will secure the guide in its "front" or forward position, while the engagement of said pin with the front perforation will secure the guide in 90 its "rear" position. For general ticket voting, the guides are arranged in their rear positions, and under these circumstances, the repression of a voting key will cause the cam 29 to pass between the contiguous 95 ends of the blocks 26 and separate them, said cam however, remaining between the separated extremities of the blocks and thus locking all of the remaining slides in the same horizontal or single candidate series. 100 Between each cam 20 and the contiguous body portion of the slide, however, is formed a space or recess 105, of a width approximately equal to the guide, and adapted to receive the contiguous ends of the locking 105 blocks, and when the guides 27 are in their front positions, the repression of a voting key to the limit of its rearward movement, which is indicated by the engagement of the locking pawl 31 with the front notch 33, 110 causes the alinement of the recess 105 with the locking blocks, and hence allows the endwise movement of the latter, and, therefore, the subsequent operation of another voting key in the same horizontal series. 115 Obviously, however, the separation or spreading of the above-described locking blocks of the main interlocking mechanism by the cam of a repressed voting key will prevent the simultaneous operation of two 120 keys in the same horizontal series, but it is also desirable to prevent the simultaneous operation of two voting keys in different horizontal series and in the same or different vertical series of a group and the means 125 which I have devised for accomplishing this object consists of a secondary interlocking mechanism and includes a vertical guide 106 in which is arranged a series of secondary locking members, or blocks 107 for vertical 130

sliding movement, said guide being provided at its opposite sides with aligned vertical slots 108 connected in series by reduced throats 109, at opposite sides of which are disposed stops or ears 109^a (see Fig. 13). Connected to the terminal main interlocking block 26^a, by means of a stem 110, is a spacer 111, which is pivoted to said stem for vertical swinging movement, and projects through one of the openings or slots 108 of the vertical guide 106 to normally rest upon the upper edges of the ears 109^a at the lower end of said slot. The spacer which rests for sliding movement upon the ears is thereby limited in downward swinging movement, and the superjacent locking block 107 rests upon and is supported by the spacer. Each spacer is provided with a cam-faced enlargement 113, normally arranged outside of the guide 106, but adapted, when the locking bolts are moved by the repression of a voting key, to pass into said guide and thereby elevate the superjacent block 107.

In connection with the locking block I arrange fastening devices for securing it in either a depressed or an elevated position, and, in the construction illustrated, said means include locking pins 114 carried by spring shanks 115 and adapted to engage either of a pair of upper and lower sockets 116 in the contiguous block. When the locking pin is engaged with the upper socket of a secondary interlocking block, thus preventing the upward movement of the latter, the series of main interlocking blocks in the corresponding single candidate series are locked against endwise movement, and hence the counters, which are arranged in operative relation with said single candidate series of main blocks, are cut out, or locked against operation. When it is undesirable to secure a secondary block in either its elevated or depressed position, the locking pin 114 may be sprung over to one side (as shown in Fig. 13), to occupy a position at the edge of the guide, and hence out of the path of the block.

Mounted for sliding adjustment upon each spacer is a filling block 117, actuated by a feed screw 118, of which the terminal head 119 projects into an end compartment of the casing, where it is accessible by opening a door 120 formed in the end wall of the casing. This filling block may be guided in any suitable manner upon the spacer, as by means of a pin 121, operating in a longitudinal slot 122, and by the operation of the feed-screw, which is terminally swiveled in the filling block, the latter may be adjusted to occupy a position above the upper end of the next lower secondary block of the series. Hence, in order to prevent the operation of two or more voting keys in the same or different vertical series, the uppermost sec-

ondary locking block is elevated and secured in that position by the engagement of the pin 114 with the lower socket 116, and the filling blocks, each of which is equal in thickness to the interval between the upper end of a locking block and the under surface of the superjacent spacer, are adjusted to arrange them within the guide. Each locking block when the fillers are displaced, or outside of the guide, is capable of movement, independently of the superjacent spacer, a distance equal to the thickness of a cam 113, but when the filling blocks are adjusted in the paths of the locking blocks, as above indicated, the only unfilled interval within the guide is that between the uppermost spacer and the lower end of the uppermost locking block. Hence, if endwise movement is imparted to the main interlocking blocks of the uppermost series, the cam 113 of that series will pass under the lower end of the uppermost secondary interlocking block, thus entirely filling the guide and locking out the cams of all the other single candidate series in that group. In the same way, if the main locking blocks of a lower series receive endwise movement by the actuation of a voting key, the cam on the spacer of that series will pass into the vertical guide 106, and will elevate all of the secondary locking blocks above the plane of said operated spacer, with the exception of the uppermost locking block, which, as above described, is secured in position to limit the throw of the lower locking blocks. Obviously, this movement of the secondary locking blocks will cause an upward swinging movement of all the spacers above that which receives the endwise movement.

In connection with class voting, which will be explained more in detail hereinafter, it is necessary not only that voting keys be the same, but also in different single candidate series, shall be capable of successive operation, and in order that after the movement of a voting key, the spacer should receive a reverse endwise movement to withdraw the cam 113 thereof from the block guide 106, I employ yielding means, such as springs 123, for maintaining the terminal main locking block 26^a, and the spacer in their normal positions with the enlargements 113 outside of the guide. This spring is introduced between one end of the terminal locking block and the contiguous end wall of the guide 27. Assuming, for example, that it is desired to arrange the machine to vote for presidential electors, of which there are three to be designated, the locking block guides 27 in three horizontal series are adjusted to their front positions, whereby when a voting key is repressed its cam 29 will pass between and beyond the main locking blocks to release the latter for subsequent endwise movement by another

voting key in the same horizontal series, thus enabling a voter to vote for electors of different political parties, and when the names of the selected electors are in the same horizontal or single candidate series. The operation of a key in any vertical or horizontal series, of the three horizontal series which are thus arranged in combination or grouped prevents the simultaneous operation of any other key in the combination, by reason of the main interlocking blocks and secondary interlocking blocks hereinbefore described, but after the complete repression of said key, any other key in the combination may be operated, as may be selected by the voter. Obviously, the same voting key cannot be operated a second time, for the reason that when repressed it is locked by means of the contiguous pawl 31. It is necessary, however, in this connection, to provide means for limiting the number of votes which may be cast by each voter, and hence I employ limiting mechanism having a limiting bar 124 mounted to slide in a suitable guide 125, and a stop arranged in the path of the limiting bar, and preferably consisting of a pin 126 adapted for engagement with any pair of a series of openings 127 in the guide, the pin being preferably threaded into said openings; together with certain connections between the several voting keys in the horizontal series which are used in combination.

The connection which is established between the voting keys and the limiting slide consists in the construction illustrated, of a series of shafts 128, one for each single candidate series of voting keys, except the slides of the straight ticket devices, and mounted in suitable bearings upon the rear edges of the partitions 3, each shaft carrying a gear 129 meshing with rack teeth 130 on the front side of the bar or slide 124 and also having a ratchet wheel 131 for each voting key in that series. The voting keys are provided, in position to engage the ratchets 131, with spring pawls 132, and, as a voting key is repressed, the contiguous ratchet wheel receives movement through one step, equal to the distance between contiguous teeth, thus imparting a corresponding movement to the limiting bar, and as all of the shafts of the combined single candidate series of voting keys are connected with the same limiting bar, it will be seen that if the movement of the limiting bar is limited by the stop to three steps, only three voting keys can be operated before the limiting bar is brought into contact with the stop, and that subsequent to such contact, all of the voting keys in the said combined or grouped single candidate series will be locked against movement.

In addition to the rack 130 with which the limiting bar is provided, a corrugated

or round-toothed holding rack 133 is employed, for engagement by a holding pawl or brake spring 134 carried by the guide, said pawl being adapted to slip from one depression to the next of the limiting bar, as the latter is advanced by the positive movement of the gears through which motion is communicated from the voting keys and frictionally hold said bar in its adjusted positions.

From the above description it will be seen that when votes are to be cast for presidential electors, constables or other officers voted for under the same conditions, a number of single candidate series of voting keys and counters corresponding with the number of officers which are to be elected, and corresponding with the number of votes to which each voter is entitled, are connected or grouped by disposing the limiting bar 124 in engagement with the terminal gears 129 of said series, the number of series thus connected being immaterial so far as the resulting operation of the mechanism is concerned. As this number varies, the length of the connecting means may be correspondingly varied, as by substituting other limiting bars. The guide 125 which I prefer to use in this connection, is preferably of sectional construction, with its separable aligned members 125^a and 125^b connected by an adjusting bar 135, see Fig. 8, attached to the lower section, and provided with a plurality of openings 136 for engagement with a stud 137 on the upper section, and held in place thereon by means of a thumb nut 138. If, as shown in Fig. 6, it is desired to connect the horizontal series A, B and C for combination or group voting, the guides 27 are arranged in their front position, as hereinbefore explained, a limiting bar 124 of the desired length is introduced for engagement with the gears 129, and the stop pin 126 is arranged in the third opening 127 of the guide or is arranged at such a point as to allow a movement of the limiting bar through three steps before coming in contact with the pin and the fitting blocks of series A and B are adjusted into the guide 106. Therefore, a voter gaining access to the machine is enabled to operate any three voting keys in the three single candidate series arranged in the group or connected by the limiting bar, whether those keys are arranged in the same or different horizontal or vertical series, although he can operate only one key at a time. When the third key has been operated, the limiting bar will be in contact with the stop-pin, and all of the keys in said connected or combined horizontal series constituting a group will be locked against movement. In order to return the parts of the grouping devices to their normal positions, in preparation for a succeeding

ing voter, I employ a plunger 139 mounted in suitable guides 140, and connected by an arm 141 and a link 142 with the rock shaft 39, said plunger carrying a shifting arm 143, preferably mounted for adjustment, and secured in place by means of a set screw 144, and being adapted to engage a stud 145 projecting from the limiting bar. Hence, when the rock shaft 39 is turned to actuate the releasing and replacing frame, the plunger 139 is depressed to bring its shifting arm 143 into contact with the stud 145, and thus correspondingly depress the limiting bar, after which the return movement of the rock shaft 39 replaces the plunger in its elevated position. Obviously, any desired number of the connecting devices, consisting of the limiting bar and its attachments, may be used, to suit the different officers which are to be elected, and in Fig. 6 I have shown two sets of horizontal series connected for combination or group voting, namely, the series A, B, C and the series D, E, F.

There is also a system of group voting, followed under certain circumstances, known as "minority representation" voting, wherein the number of officers to be elected is less than the number of candidates placed in the field by each political party, as when three candidates have been nominated and but two can be elected, each voter being entitled to cast only two votes for any selected two of those candidates. The mechanism above described, however, is adapted for controlling this operation, simply by arranging the stop-pin 126 so as to allow only a number of steps corresponding with the number of votes which each voter is entitled to cast, this pin being arranged in the path of the limiting bar by which the voting devices of the combined series are connected. For instance, if each political party has three candidates in the field for a certain office, and only two of those candidates can be elected, three of the single candidate series of voting devices are connected by a limiting bar 124, but the stop-pin 126 is arranged to allow only two steps of the bar. In addition to the above, the tally mechanism operating pawls 17 must be disconnected or thrown out of operative relation with the straight ticket voting rods 50 by breaking the joints of said pawls, or depressing the extensions 17^a thereof, as hereinbefore explained. This, obviously, does not interfere in any way with the operation of the straight ticket voting levers in the ordinary process of casting straight ticket votes for candidates for those offices wherefor only one candidate is nominated and which are not grouped, but after casting a straight ticket vote for those candidates which come under the general voting system it is necessary to select from the minority representation candidates those

which are to receive the votes. In other words, in minority representation voting the operation can be accomplished only by the manual pressure of the individual voting keys. They cannot be included in a straight ticket vote.

The uppermost series of slides is that designed for registering the number of straight tickets, as in my former patents above mentioned. In this connection I use slides 15^b (Fig. 23) constructed precisely as the voting keys, including a cam-faced block 29^b, and with the exception that the projecting neck and button are omitted, whereby the front end of the slide is permanently located in rear of the front wall of the casing. The guide 27, which is used in connection with the straight ticket voting slides, remains permanently fixed in its rear position, irrespective of the particular adjustments of those guides belonging to the series having individual voting keys, for the obvious reason that after the operation of a straight voting lever, thus casting votes for all the nominated candidates of a party, no subsequent operation of any one of the remaining voting keys of the machine, other than those relating to minority representation, is permissible. The straight ticket voting levers 51 are loosely mounted upon a rock-shaft 146 with their rear or inner arms arranged in the planes of return arms 147 carried by said rock-shaft, the normal position of said returning arms being approximately horizontal, or at the end of the swinging movement of a voting lever.

In the construction illustrated, no means are employed for yieldingly holding, or returning to its normal position, the voting lever, but in place thereof the returning arms 147 are arranged in such position as to practically limit the operative movement of a voting lever, and by means of an arm 148 on the rock shaft 146, a link 149, and an arm 150 on the rock shaft 39 (see Fig. 9) motion is communicated from said rock shaft 39, at each operation of the replacing and releasing frames, to the rock shaft 146, to depress the returning arms 147 and consequently return the voting levers to their normal positions, illustrated in Fig. 3. It will be seen that in this, as in other parts of the apparatus, it has been my aim to employ positive means for returning the various parts of the mechanism to their normal positions, whereby if the returning means, after having moved the parts to said normal positions, are allowed to retain their adjusted position, they will serve as locks to hold the various parts of the mechanism against operation until after the returning means have been replaced, as by the return of the rock shaft 39 to its normal position with the replacing frame 36 removed from contact with the rear ends of the voting keys. For in-

stance, the return of the parts to their normal positions throughout the mechanism is accomplished by turning the rock shaft 39 in one direction, and if the rock shaft is allowed to remain in that position, wherein the replacing frame is in contact with the rear ends of the voting keys, the latter will be positively locked against repression, and at the same time the limiting bar 124 will be locked in its depressed position, and the voting levers 51 will be locked in their normal positions. The advantage of this arrangement will appear hereinafter. Obviously, the tally mechanisms which are arranged in connection with the slides 15^b of the straight ticket voting devices register the number of straight tickets which are voted. It is also desirable, in this connection, to provide means for preventing the operation of the straight ticket voting lever after any voting key has been operated, or to prevent the operation of a voting key after any straight ticket lever has been actuated, except in minority representation voting, or where the number to be voted for is less than the number of candidates of each political party, and hence I provide a locking rack 151, preferably mounted contiguous to the guide 106, for coöperation with the cam-faced blocks 113 of the spacers, said rack, which consists of a frame having a plurality of openings 152 through which said blocks 113 are adapted to pass, being further provided with removable rest-pins 153 for respective contact with the cam faces of the blocks 113. Hence, when a combination or group of horizontal series of voting keys has been established by the use of the limiting bar 124, as hereinbefore explained, and it is desired to allow a voter the privilege of operating all of the keys in a single vertical column or series of those which are arranged in combination by a single operation, or by the operation of the straight ticket voting lever, the pins 153 of the locking rack are inserted in operative relation with the cams belonging to the spacers of the combined horizontal series.

The cam 113^a of the uppermost series of slides, or that series employed in connection with the straight ticket tally mechanisms, is inverted, to arrange the cam-face on the lower side of the spacer, and hence if a straight ticket is voted by the operation of a voting lever, the main locking blocks of the straight ticket tally mechanisms receive a longitudinal impulse which causes the cam 113^a to pass over the uppermost transverse pin 153, and thus lock the rack 151 in its depressed position, and hence, with the remaining pins 153 thereof in such positions as to prevent the subsequent operation of the locking blocks of any of the combined horizontal series of devices. On the other hand, if any voting key is operated, the cam

113 belonging to that horizontal series of main locking blocks receives a longitudinal impulse which raises the locking rack and thereby brings its uppermost transverse pin 153 into the path of the cam block 113^a of the straight ticket voting mechanism, and thus prevents the subsequent operation of the straight ticket voting lever by preventing the longitudinal movement of the locking block of said straight ticket voting mechanisms. In order to maintain the locking rack in its elevated position after having been actuated by the operation of a voting key in one of the combined series, I employ a holding pawl 154 actuated by a spring 155 and adapted to engage a notch 156 in the locking slide or rack, the tendency of this pawl being such as to engage the notch of the rack when the latter is elevated sufficiently to allow one of the cams 113 to pass under the contiguous transverse pin 153. The release of the locking rack when the releasing and replacing frames are operated, is accomplished by means of an arm 156^a carried by the uppermost horizontal bar 41 of the releasing frame, as clearly shown in Figs. 5 and 2. In order to prepare the mechanism for, or such of the series of voting devices as are to be used in connection with, minority representation voting, it is also necessary to remove from the locking rack those transverse pins 153 which are in operative relation with the main locking blocks of said series of voting devices. In other words, if three horizontal series of voting devices are to be used in minority representation voting, the pins 153, which are in operative relation with the voting keys of said series, must be displaced.

There is another class of group voting, known as "cumulative," wherein each voter is entitled to cast a certain number of votes, such as three, for either or all of three candidates placed in the field by each party, the number of officers to be elected being the same as the number placed in the field by each party, or three, but the voter being entitled to cast one vote for each of three candidates, or all three votes for one candidate, or being entitled to split his vote by giving one and one half to each of two of those candidates. In order to adapt the mechanism for thus distributing three votes, or any other selected number, it is necessary to provide for successive operations of the same voting key. To accomplish this I employ the above described lower lugs 43 on the vertical bars 42 of the releasing frame, the tails of the locking pawls 31, belonging to the three horizontal series of voting devices, as D, E, F, Fig. 40 selected for voting under the cumulative system, being engaged under said lugs 43 and thereby held out of operative relation with the voting slides of those horizontal series. To prevent more

than one of the slides in the series D, E, F, from being operated at one time, the uppermost secondary locking block 107 of said series is secured in its elevated position as shown in Fig. 5, the filling blocks 117 of series D and E being adjusted into the guide 106, and the guides 27 all of three series are arranged in their rear positions to prevent a plurality of slides in the same horizontal or single candidate series from being operated simultaneously, and also to prevent the expansion or return of the main locking blocks into the recesses 105 of the slides. The limiting slide, by which the three horizontal series selected for cumulative voting are connected, is then limited by means of the pin 126 to a movement of six steps, each step representing one half vote, which, of course, will be understood, and may be suitably explained upon the face of the machine for the instruction of the voters. With this arrangement a voting key in either of the three connected horizontal series may be repressed and withdrawn any desired number of times, limited to six, to enable the voter to cast six half votes, or three votes, for a single candidate, further operation being checked by the stopping of the limiting slide. On the other hand, each of three voting slides may be repressed and withdrawn twice, to cast one whole vote for each of three candidates, or each of two voting keys may be operated three times to cast three half-votes or one and one-half votes for each of two candidates. When the mechanism is adjusted for cumulative voting, the pawl-actuating springs 21 must be used, in order to return the pawl after each operation, to enable the voter to withdraw and again advance the voting key a number of times which is limited by the mechanism provided for that purpose; but under ordinary circumstances, these springs 21 should be placed in position only in connection with those parts of the apparatus which are designed to be used in cumulative voting. Otherwise, the spring should be omitted, and it will be understood that the detachable means whereby the springs are secured in place provides for their adjustment or removal with facility.

In the above description it has been set forth that the ways 101 in which the main block guides 27 are mounted for forward and rearward adjustment are carried by the releasing frame, and the object of this arrangement will be understood when it is explained that the longitudinal expansion or return movement of the locking blocks 26 into the recesses 105 of the slides, when the guides 27 are arranged in their front positions, is such as to lock the slides against forward movement or retraction when encountered by the replacing frame, thus rendering it necessary to withdraw the locking

block guides downwardly or transversely with relation to the paths of movement of the voting keys when it is desired to return the operative parts of the mechanism to their normal positions. Hence, when the releasing frame is depressed, by the operation of the rock shaft 39, to disengage the pawls 31 from the voting keys, the locking blocks 26 are simultaneously withdrawn from the planes of the keys to leave the latter free for movement by the replacing frame. In order that the movement of the voting keys may be smooth and uniform, I preferably extend the blades 157 thereof to form lateral flanges 158, which rest upon and slightly overlap the contiguous extremities of the blocks 26 as the cams 29 pass between said blocks. The blades 157 extend to the rear a sufficient distance to allow the replacing frame, while in contact therewith, to move forward a sufficient distance to replace all of the voting keys without coming in contact with contiguous portions of the mechanism.

From the foregoing description it will be seen that I have provided interlocking grouping mechanism for use in connection with voting elements and counters arranged in single candidate series, said grouping mechanism being common to a plurality of single candidate series, and consisting of a series of movable members, preferably blocks, arranged for relative longitudinal movement, cams actuated by the voting elements for moving or separating the movable members, and movable group-defining means consisting of filling blocks, the positions of which determine the number of single candidate series which are to be arranged in a group. When these group-defining elements are displaced or removed or withdrawn from the guide or from the paths of movement of the movable members of the grouping mechanism the spaces between adjacent movable members are approximately equal to the depths of the cams on the spacers to permit free independent movement of the blocks or in other words when the filling block carried by a particular spacer, as, for instance, that belonging to the series C in Fig. 5 of the drawing is withdrawn or displaced from the paths of the blocks, the block which is operatively related, and may be said to belong, to series D is free to move vertically a distance equal to the depth of the cam 113 of series D, whereby motion cannot be communicated by the block of series D to the movable members of the series thereabove; whereas when the filling block of a particular single candidate series is advanced or adjusted in the paths of the movable members so as to occupy a position in the guide, the space between the spacer which carries said block and the next lower block is fully occupied,

and, therefore, any movement of the lower block will be communicated through the filling block and spacer to the movable block which rests on said spacer. By adjusting a number of the filling blocks into the paths of the interlocking blocks, any desired number of the interlocking blocks may be combined to form a group and thus group the single candidate series for the purposes hereinbefore specifically set forth. In other words, to combine a series of interlocking blocks to form a group it is only necessary to adjust the filling blocks into the paths of the interlocking blocks, and to define or separate the groups it is only necessary to arrange the filling block of the lowermost or terminal spacer of a given group so as to occupy a position out of the paths of the interlocking block so as to permit the next lower interlocking block to operate without affecting the interlocking blocks arranged thereabove. This is true whether the interlocking block belonging to the uppermost single candidate series of a group is adjusted upward and locked in its raised position as indicated in the series A and D of Fig. 5 or not. Under any circumstances the above described arrangement prevents the simultaneous operation of two or more keys either in the same or different single candidate series which are grouped as above described, because the unoccupied space in the series of grouped secondary interlocking blocks is only sufficient to receive one cam. However, in order to prevent the further elevation of the uppermost interlocking block of a group, without depending upon the interlocking rack 151 I prefer, as indicated in Fig. 5, to lock the uppermost interlocking block of a group in its elevated position whereby this elevated and secured block forms a stop to prevent the introduction of more than one cam 113 into the guide at one time.

In order that the operation of the rock shaft 39 may be controlled automatically to replace the parts of the mechanism after the conclusion of the operations of each voter, I have found it desirable to employ a booth, of which the entrance and exit opening in one wall is fitted with a turn-stile or double door having an open-work entrance leaf 173, and an exit leaf 174 of closed construction, said leaves being arranged approximately perpendicular to each other, or at an angle of ninety degrees, and being adapted to swing simultaneously and in a common direction as a voter enters or leaves the booth. Obviously, as he enters he carries the entrance leaf with him, and as the entrance and exit leaves are connected, he closes the exit leaf behind him, and as the exit leaf is of closed construction, the voter is secluded and is enabled to vote without having his operations

inspected. On the other hand, when the voter leaves the booth he carries the exit leaf outwardly and thereby closes the entrance leaf, which, being of open construction, enables spectators to discover the improper occupation of the booth, in case a person should gain access thereto by other than lawful means. These connected door-leaves are mounted upon a spindle 175, of which an upper crank-arm 176 is connected by a pitman 177 with a bell-crank lever 178, this bell-crank lever being in turn connected by a link 179 with an arm 180 on the rock shaft 39. As the turn-stile or door is swung to allow a voter to leave the booth, the arm 180 is swung in the direction indicated by the arrow in Fig. 1, thereby actuating the releasing and replacing devices within the casing of the voting machine and returning the voting devices to their normal position, but when the turn-stile or door reaches the position illustrated in Fig. 1, where it remains until a succeeding voter enters the booth, the arm is fully depressed, and hence the replacing frame 36 is in contact with the rear ends of the voting keys, and the several other parts of the mechanism are locked positively in their normal positions, as hereinbefore explained. When the entrance door swings to admit the succeeding voter, the arm 180 is swung in the opposite direction to that indicated by the arrow in Fig. 1, and hence the replacing frame is withdrawn from contact with the voting keys, and the other parts of the voting mechanism are released to allow the occupant of the booth to vote. The pitman, bell-crank lever, and link, which form the parts of the connection between the door and the rock shaft 39, are constructed to allow relative adjustment to vary the throw of said parts with a given movement of the door. In the construction illustrated, the pitman is provided at its extremities with a series of openings, at one end to receive the extremity of the crank arm 176, and at the other end to receive a pin 181 by which connection is made between the pitman and the contiguous arm of the bell crank lever. In the same way the link is perforated to provide for varying the adjustment of the pivot-pins 182 by which connection is made with the other arm of the bell-crank lever and the arm 180. The arms of the bell-crank lever are also provided with series of perforations for a like purpose.

The careless operation of the turn-stile or door, by which it would not be fully closed when a voter enters the booth, would allow the replacing devices within the casing to occupy positions which might interfere with the subsequent casting of votes, and in the same way, the careless opening of the door as a voter leaves the booth would not effectually return the parts to

their normal positions, and might allow fraudulent operation thereof. In order to prevent this I provide the spindle 175 with cooperating fixed and movable cam disks 5 183 and 184, the former of which is fixed to the frame of the booth, while the latter is carried by the spindle. These disks are provided on their facing surfaces with co-operating cams which are held in contact 10 by gravity due to the weight of the door, and are so constructed, with opposite beveled faces, that when the door has been swung in one direction through approximately forty-five degrees, the further movement thereof will be accomplished automatically, and thus will positively throw the door to the limit of the movement necessary in order to insure the accurate operation of the mechanism.

20 I have deemed it desirable to so construct the booth as to enable it to be folded for transportation, and in order to accomplish this it is necessary to provide means for removing the casing of the voting mechanism from the booth. In the construction 25 illustrated, Fig. 15 a table 185 is provided with bracket arms 186 which are adapted to engage seats 187 on the contiguous uprights of the booth-frame, said seats being formed in plates 188 to provide for varying the adjustment of the table. Bracing blocks 30 189 are also arranged to depend from the ends of the table and bear against the contiguous uprights of the booth-frame. The upper surface of the table is fitted with a holding rib 190 within which the casing 1 is fitted. The frame of the booth is so constructed that the side walls, contiguous to one of which the casing 1 is arranged, are 40 divided upon vertical central lines to form side-wall sections 191, hinged together, as shown at 192, and adapted to fold in parallel planes between the front and rear walls 193 and 194, the position when folded, being indicated in Fig. 7. To hold the side walls in 45 their extended or normal positions, or with their sections in alinement, I employ bolts 195 fitted in keepers or guides 196, and adapted to be withdrawn to allow the folding of said sections. Obviously, the outer edges of the side-wall sections are hinged to the contiguous edges of the front and rear walls. The door-sections or leaves are also adapted to fold in parallel planes when not 55 in use, and to accomplish this I secure the entrance or skeleton door 173 to tongues 197 projecting horizontally from the hinge rod or spindle 175, and hinge, as at 198, the closed or exit door-leaf 174 to the skeleton leaf. Then, in order to maintain these door leaves in their proper positions when in use, I employ a brace-rod 199, loosely connected, as by interlocking eyes, at one end, to the skeleton leaf, and provided with perforations 65 at the other end to engage a stud 200

on the closed leaf. When this bar is disengaged the leaves of the door may be folded into parallel planes.

As there is a liability of an attempt being made to tamper with the tally-mechanisms 70 of a voting machine between the times of the election and the official counting, I have devised means, in connection with the rear door 201 of the voting machine casing, for detecting such an attempt. This means consists of the connection between a lock-bolt 75 202, (Fig. 24) arranged in a suitable casing 203 which is riveted to the inner surface of the door 201, and a tally mechanism 204, preferably having a plurality of dials, from 80 four up, whereby, at each retraction of the lock-bolt, the units-dial of the tally mechanism will be advanced one step. In the preferred construction of lock a spring-actuated tumbler 205 is shown, the same being provided with a stud 206 for arrangement in 85 the path of a corresponding ear or stud 207 on the lock-bolt, this tumbler being held in its normal position by a spring 208. When a key is inserted, and the tumbler is 90 raised, the bolt may be repressed, to release the door of the casing, and in so doing a pawl 209, carried by an extension of the bolt, engages the ratchet teeth of the units dial. With this device it is necessary, only, to observe, at the completion of an election, the 95 number indicated by the tally mechanism of the lock, and if, before taking of the official count, an attempt should be made to change the adjustment of any of the voting tally 100 mechanisms, an effort to unlock the door 201 will change the combination shown by the tally mechanism 204, and thus apprise the judges of the election of the attempt, and enable them to act in accordance with the 105 law governing the tampering with votes or ballots in an election district.

In connection with the voting devices for amendments, propositions, etc., I use means whereby the voting keys relating to any 110 given question may be locked to prevent the operation of either of them by the occupant of the booth, when, by reason of some technicality, said occupant is not entitled to a vote in connection with said question. The means illustrated in the drawings 115 (Figs. 19 and 20) for accomplishing this object consist of a stop-bar 210, preferably one for each pair of amendment voting keys, and provided with exterior means of adjustment, such as a handle 211 having its spindle 212 provided with a segment or mutilated gear 213 meshing with a rack on said bar. This bar is provided with a plurality 120 of ears 214 corresponding with the number of slides with which it is to cooperate, and adapted to be arranged in the path of stop-pins 215 carried by the slides. It will be seen that the stop-bar may be elevated to 125 allow these stop pins to pass freely, and 130

thereby allow operation of the slides, or may be adjusted to dispose the ears 214 in the paths of the stop-pins, and thus prevent the occupant of the booth from manipulating either of the slides.

In addition to the mechanism above described, it is necessary for a complete voting machine that means should be provided whereby a voter, who is not satisfied with the nominated candidates for one or more offices, should have the privilege of casting a vote for a non-nominated candidate, or one of his own selection, but at the same time it is necessary to guard, by suitable devices, against, first voting independently for a candidate for an office for which a regular vote has been cast, and, second, voting the same name successively for the same or for different offices. It is equally desirable however, that a voter should be enabled to cast an independent vote without betraying the fact to the judges or officers of the election, either that he wishes to cast a vote for a candidate for any particular office, such candidate being other than those nominated, or even that it is his desire to cast an independent vote for either of the several offices named in the various tickets. In order that these conditions may be fulfilled, the mechanism which I have devised for independent or "scattering" voting, is constructed as follows: At a suitable point in the casing, as, for instance, at the left hand end to a voter facing the mechanism, or at the end opposite the tally mechanisms designed for voting upon amendments and other questions, is a compartment 216 having a fixed partition 217 located at an intermediate point, and extending rearwardly from a fixed platen or writing plate 218 which is arranged parallel with and contiguous to the front of the casing. In this compartment, respectively upon opposite sides of the plane of the partition 217, are paying or supply and receiving rolls 219 and 220, to which are connected opposite ends of a sheet or strip 221 of paper or similar material constituting a recording medium, the direction of movement of the recording medium from the supply roll to the receiving roll being indicated by the arrow in Figs. 4 and 31, and the intermediate portion of said medium being arranged to traverse the writing plate 218, as clearly shown in Figs. 4 and 31. The front of the compartment 216 is closed by a front wall or face-plate 222, which may be secured in place by means of pins 223, or their equivalents, engaging perforated lugs projecting forwardly from a fixed portion of the casing, as hereinafter explained. The locking means for the front or face plate 222 are covered and concealed, to prevent an occupant of the booth from gaining access thereto by a hinged guard door 224, which may

be locked in place by any suitable means, such as a bolt 225, mounted to slide upon the inner surface of a contiguous fixed portion of the wall of the casing, and adapted to engage eyes or keepers 226. The supply and receiving rolls are axially parallel, and the recording medium carried thereby is of a width sufficient to be exposed simultaneously through a plurality of inspection or access openings 227 formed in the face plate 222, each of said openings being fitted with a movable door, flap, or closure 228, preferably hinged at its upper edge, and having a laterally extending pin 229 to which motion may be communicated to open or close the door or flap. The spindle of the supply roll is mounted in fixed bearings in the casing or frame of the apparatus, but the spindle of the receiving roll is mounted in movable bearings, the bearing for the lower end of said spindle being formed in a bearing block 230 fitted in a flanged guide 231 which is arranged in a horizontal position extending from and in a direction perpendicular to the plane of the partition 217. Extending longitudinally from the bearing block is a stem 232 (Fig. 38) upon which is coiled a spring 233, projecting through a suitable opening in the end of the guide 231, the function of said spring being to yieldingly maintain the bearing block in such a position as to hold the side of the receiving roll in contact with the contiguous side surface of the partition 217.

Obviously, as the recording medium is reeled upon the roll 220, and the diameter of the roll increases, the roll will be pushed outwardly or from the plane of the partition in opposition to the tension of the spring 233, but a firm pressure of the recording medium against the surface of the partition will be maintained at all times, and the rotary movement of the roll in order to coil the recording medium thereon will be accomplished in opposition to the resistance due to the friction caused by said contact. The upper end of the receiving roll spindle is mounted in a slide consisting of a carriage 234, (Figs. 31 to 34) the construction of the latter involving essentially an open frame 235 and a plate or table 236 hinged to or otherwise mounted to fold upon, the frame, a locking device consisting of a pivotal latch 237, or the equivalent thereof, being mounted upon the plate or table to engage a catch 238, whereby said plate or table may be secured in its normal position, but may be readily released and displaced to facilitate the removal of the receiving roll. Said plate is provided at a suitable point with a bearing 239 in which is mounted the hub 240 of a pinion 241, the latter being arranged preferably above the plane of the plate. Said hub of the pinion is provided with a cross-sectionally angular socket

in which is fitted the squared upper extremity of the receiving roll spindle, and it is obvious that by displacing the plate 236 the upper end of said roll spindle may be dis-
 5 mounted, and that the roll may then be withdrawn through the open frame 235 of the carriage to facilitate the counting of votes which may have been recorded thereon. Also mounted in the plate 236 is the spindle
 10 243 of a driving gear 244 which meshes with said pinion 241, and is adapted to communicate rotary motion thereto, and hence to the receiving roll. The carriage frame 235 is inwardly turned at its side edges to form
 15 guide flanges 246 which take into guides 247 fixed to the frame of the machine, and the carriage is yieldingly held with the surface of the roll, or the recording medium thereon, in contact with the surface of the parti-
 20 tion 217 by means of a spring 248 coiled upon a stem 249, the operation of the spring 248 being supplemental to that of the spring 233, hereinbefore described, for actuating the bearing block 230. Upon the spindle
 25 of the driving gear 244 is fixed a ratchet wheel 250, and in operative relation therewith, and mounted upon said spindle 243, is a feeding lever 251 carrying a spring
 30 pressed pawl or dog 252 to engage the teeth of said ratchet wheel during the movement of the feeding lever in the direction indicated by the arrow in Fig. 32, the movement of said feeding lever, obviously, being in a
 35 path concentric with the ratchet wheel. The essential features of the independent voting mechanism, and particularly those portions of said mechanism which are em-
 40 ployed for communicating motion to the doors or flaps 228 and to the supply and receiving rolls, are mounted in a plate frame having a rear wall 253 and side walls 254
 45 and 255 (Fig. 33) provided with openings to receive the rear guide rods 4, the front guide rods not intersecting the chamber 216, and a front flange 256 which is flush with the
 50 face plate 222, and in this face flange 256, and respectively contiguous to the access openings 227, are formed vertical slots 257 through which project the front ends of
 55 cam operating arms 258, (Fig. 37) pivotally mounted at their rear ends upon the rear wall 253 of the plate frame, and extending forwardly parallel with voting keys which
 60 are substantially of the construction hereinbefore described, and consist of slides 15° having forwardly extending stems 16° terminating in heads or buttons, and also hav-
 65 ing notches or shoulders constituting ratchet teeth 32, 32^a and 33 for engagement by locking pawls which, in construction, arrange-
 ment and operation, are identical with the pawls 31 hereinbefore described in connection with the other voting keys of the apparatus. Said independent voting keys also
 carry cam blocks 29° which are identical in

construction and operation with those here-
 inbefore described in connection with the other voting keys. The cam operating arms
 258 are provided near their rear or pivotal
 ends with cam faced offsets 259, of which
 70 the upper and lower faces are depressed rearwardly and are preferably parallel, and the voting slides 15° are provided with up-
 per and lower operating pins 260 and 261
 75 which are arranged respectively in operative relation with the upper and lower edges of the cam arms. Hence, as a voting key is
 repressed, or moved rearwardly in accordance with the operation hereinbefore de-
 80 scribed in connection with the voting keys of the other portion of the apparatus, the main locking blocks are first spread to ex-
 clude other voting keys in the same hori-
 zontal series it being understood that the
 85 independent voting keys are arranged in horizontal series corresponding with those of the other voting keys of the apparatus
 and being coöperatively related with said other voting keys, whereby when a general
 90 voting key is operated, all of the other general voting keys and the independent vot-
 ing key in the same horizontal series are locked, and in the same way when an inde-
 95 pendent voting key is operated, all of the general voting keys in the same horizontal series are locked; after which the lower pin
 261, by coming in contact with the depressed
 cam faced lower edge of the arm 258, raises
 the front end of said arm. The front end
 100 of the operating arm is slotted or bifurcated, as shown at 262, to engage the lateral pin
 229 of the adjacent door, flap or shutter 228
 and it is obvious that the elevation of this
 bifurcated front end of the arm 258 will
 105 open the shutter, and thus expose a portion of the surface of the recording medium 221,
 which is equal in area with the opening 227,
 whereupon the voter may write the name of
 a selected non-nominated candidate upon the
 110 recording medium. In other words, if none of the candidates placed in the field by the
 several political parties is satisfactory to a
 voter, he may, instead of operating one of
 the general voting keys, repress the inde-
 115 pendent voting key of the same horizontal series, and thereby raise the flap or shutter
 228, which will enable him to write the name
 of the selected candidate upon the recording
 medium. The voter cannot, however, close
 120 the flap or shutter, for the reason that it is locked in an open position by the voting
 key, and the latter is held by the locking
 devices provided for that purpose, and de-
 scribed in connection with the other voting
 125 keys of the apparatus. When, however, the rock-shaft 39 is operated to actuate the re-
 leasing and replacing frames, the voting
 slides 15° in common with the others of the
 apparatus are returned to their normal or
 130 advanced positions, whereupon the upper

pins 260 of the slides 15° by operating in connection with the upper sides of the cams 259, positively return the arms 258 with the flaps or shutters to their normal positions. At the inner ends of the slots in the front ends of the arms 258, and at the upper sides of said slots, are formed small offsets or seats 263 which engage with the pins 229 when the operating arms 258 are depressed, whereby said flaps or shutters are positively locked against opening movement, except by the releasing operation of the voting slides.

I am aware of the existence of voting machines wherein the voter, by operating a key, is given access to the surface of a recording medium, consisting, for instance, of a roll of paper, and, by operating other keys, may gain access to other recording mediums, so that he may write any desired number of names for different candidates, one of these devices consisting of a recording medium and a key being placed at the end of each series of general voting devices; but when independent recording mediums are employed for the different individual or independent voting devices, there is no way of preventing a voter from writing the same name on two or more recording mediums, for instance, in class voting, for the reason that each device operates independently of all of the others in regard to the movement of the paper rolls. In order to prevent this I use a single continuous recording medium, common to all of the access openings; and, furthermore, I use such a construction and arrangement of feeding devices, for the recording medium that the latter is not affected by the movement of the voting slides. On the other hand, the advance movement of the rolls, to move the recording medium sufficiently to expose an unmarked surface, is accomplished by the same means which are employed for returning the other portions of the apparatus to a condition for operation by a succeeding voter or occupant of the booth. Thus, I employ a feed-slide 264 mounted for movement in a horizontal guide 265, and connected by a link 266 with an arm 267 on the rock shaft 39, said slide being provided with operating and returning pins 268 and 269 located upon opposite sides of the feed-lever 251. This disposition of parts secures the operation of the feeding mechanism only when the rock shaft 39 is turned to replace the voting slides, it being obvious that the operating pin 268 is arranged in rear of the lever 251, and hence is adapted, during the forward movement of the slide 264 to turn said lever in the direction indicated by the arrow in Fig. 32, and hence impart rotary movement to the gearing and to the receiving roll. It is also desirable, however, in order to economize in the use of the recording medium, and feed the same

only after one or more names have been written thereon, to provide such feeding devices as to be thrown into operative position only after the actuation of one of the voting slides 15°. Therefore, the guide 265 is mounted for movement toward and from the plane of the feeding lever 251, and the operating pin 268 is made of such a length as to be insufficient to reach the feed lever when the guide is in its normal position, thus rendering it necessary to move the guide 265 toward the plane of the feed lever, in order that said advancing pin may be arranged in operative relation with the feeding lever (the return pin 269, however, being of such a length as to intersect the path of the feed-lever in all positions of the guide, whereby the feed-lever is returned to its normal position during the backward sliding movement of the slide 264, in any position of the guide).

In order to accomplish the above operation, the guide 265 is supported by swinging arms 270 (Fig. 36) which, connected by a cross rod 271, constitute a swinging bracket pivotally mounted upon the side wall 255 of the plate frame hereinbefore described. Connected by an arm 272 with said cross rod 271 is a plunger 273 which is mounted to slide vertically upon said side wall 255 of the plate frame, and is supported by a series of swinging arms 274, pivotally mounted upon the flange 256 of said plate frame, and provided with cam faced off sets 275. The voting slides 15° are each provided at the side opposite the pins 260, 261 with a trip pin 276, arranged in operative relation with the offset 275 of an arm 274, whereby when a slide is repressed, to open a flap or shutter 228, said pin 276 coacts with the cam 275, raises said arm 274, and hence the plunger 273, and thereby imparts upward swinging movement to the bracket arms 270 and raises the guide 265 to elevate the short operating pin 268 into the path of the feed-lever. Thus, when an independent voting slide is operated, it not only exposes a suitable portion of the surface of the recording medium to enable a voter to write the name of a candidate thereon, but throws one element of the feeding mechanism for said recording medium into operative relation with the other element, and the parts are locked in this operative relation by a dog 277 which engages a notch or shoulder 278 in the plunger 273. This dog is provided with a trip arm or extension 279 which extends rearwardly beyond the rear wall 253 of the plate frame into the path of the replacing frame 36. Hence, when the rock shaft 39 is turned to operate the replacing frame and return the parts of the mechanism to their normal positions, the slide 264 is advanced, thus bringing the pin 268 into contact with the feed lever 251 and advancing the latter

through a distance sufficient to conceal the inscribed portion of the recording medium and bring an un-inscribed portion of the surface of the recording medium opposite the access openings, but as the motion of the replacing frame continues it comes in contact with the trip arm 279, and thereby disengages the dog 277 from the plunger 273, and allows the latter, with the guide 265, to drop to the normal position, with the operating pin 268 below the plane of the feed lever 251. Upon the return movement of the rock shaft 39, to withdraw the replacing frame from contact with the extremities of the voting keys, the return pin 269 of the slide 264 comes in contact with the feed lever 251 and returns it to the normal position indicated in Fig. 32. Thus, the advance movement of the recording medium is accomplished only after the portion which has been exposed, or has been opposite the access openings 227, has been used, thus economizing in the use of the recording medium. But a still more important advantage in this construction than that of economy is gained by the fact that if a voter casts votes for more than one independent candidate, all of the names written by him on the recording medium, which is common to all of the access openings 227, are arranged in a vertical column. No intermediate feeding of the recording medium is possible. Therefore, when the recording medium is removed from the machine in making up the totals of the election, all of the independent votes cast by the several voters using the independent mechanism, are arranged in vertical columns, and hence a fraud perpetrated by any voter, in the way of writing the same name in several openings, is obvious at a glance, and those votes may be stricken out. In other words, the mechanism as described constitutes a positive check upon voting the same name more than once, either for the same or different offices. The arm 272 which forms the connection between the plunger 273 and the bracket which supports the guide 265, is detachably connected with said bracket, in order to enable this portion of the mechanism to be disconnected when desired, such detachable connection, as illustrated in the drawings, Fig. 36, consisting of a seat 280 formed in the end of the arm 272 to receive the cross bar 271, and a spring tongue or latch 281 attached to said arm and provided with an offset to close the seat.

As a further means of economizing in the use of the recording medium, it is desirable to secure such a relation between the members or elements of the feeding mechanism for the receiving roll, as to advance the recording medium, at each movement, through a distance just sufficient to conceal the used portion and expose a portion of the surface

which is free from markings, or, in other words, to advance the recording medium through a distance which is equal to or but slightly exceeding the length of the access openings 227. A positive feeding mechanism, or one which turns the receiving roll through a given angular distance for each movement of the feed-lever would cause a gradual increase in the extent of movement of the recording medium, for the simple reason that as the recording medium accumulates upon the receiving roll, the latter will take up a greater amount at each revolution, or during angular movements of equal extent. Therefore, it is necessary to employ some form of variable feed. That form of variable feed mechanism which I have found to be efficient in this connection, is constructed as follows: The ratio between the diameters of the operating gear 244 and pinion 241 is such that for each advance movement of the feed lever, the pinion shall be turned through one complete revolution, thus turning the receiving roll through one complete revolution, but as the recording medium is reeled upon the receiving roll, thus increasing the diameter of the surface upon which the recording medium is reeled, it is necessary to reduce the angular movement of the operating gear for each advance movement of the feed-lever, and this I accomplish by reducing the angular movement of the feed lever as the operation of the mechanism proceeds. In this connection I utilize the fact that as the recording medium is reeled upon the receiving roll the latter is pushed farther from the plane of the partition 217, thus carrying the axis of the receiving roll farther from the vertical plane of movement of the feed lever operating slide 264. The carriage 234 in which the upper end of the receiving roll spindle is mounted, also carries the feed lever, feeding ratchet, and connecting gears, and hence as the recording medium is reeled upon the receiving roll said carriage is moved farther from the vertical plane of the slide 264, and, therefore, the pins on the slide engage with the feed-lever 251 at more remote points from the fulcrum of said lever at each successive movement of the device. If the difference in distances from the fulcrum of the lever and the points of engagement of said pins therewith is insufficient to accomplish the desired reduction in the angular adjustment of the operating gear 244, said feed-lever may be tapered toward its extremity, as shown in the drawings, see Fig. 32, and the extent of taper may be varied to secure an accurate relation between the parts, whereby as the receiving roll recedes from the plane of the partition 217 by reason of the accumulation of the recording medium thereon, the advance of the recording medium by the feeding mech-

anism will be proportionate, and said recording medium, at each advance movement, will traverse a distance equal to or but slightly exceeding the length of one of the access openings 227. Thus, it will be seen that there is a compensating relation between the elements of the feeding mechanism, controlled by the reeling of the recording medium upon the receiving roll, to insure the proper forward movement of the recording medium, limited, to that which is necessary to conceal the record of a previous voter from the succeeding voter, without wasting the material of the recording medium. This relation between the parts, in addition to that hereinbefore described whereby no advance movement of the recording medium is produced except after one of the independent voting keys has been operated to expose a portion of the recording medium, enables me to economize in the use of the recording medium, and at the same time provides a check against "repeating", or voting the same name for more than one office.

As hereinbefore described, I preferably employ the plate frame shown in detail in Fig. 35 to support the voting keys, shutter operating and trip arms, and cooperating parts, whereby the same may be placed in or removed from the casing of the machine with facility, but in addition to the above, said frame forms a convenient means whereby the face plate 222 is secured in place, said face plate being removable, after displacing the guard door 224, to give access to the independent voting mechanism for removing or replacing the recording medium.

In order that the full advantage of using the described means for detecting the casting of a plurality of independent votes for the same name may be fully understood, it should be supposed, for instance, that a series of ten voting keys in each political column is established for presidential electors. Of course, ten keys are also included in the independent column, for the reason that a voter is entitled to cast his ten votes for non-nominated candidates, if he so elects. Now, if the voter, instead of voting for ten different non-nominated candidates, assuming that he casts all of his votes for non-nominated candidates, should write one name in two or more places, or, in other words, casts two or more votes by means of the access openings 227 for the same elector, which is contrary to law, it would be detected by the fact that all of the names written by any one voter would be disposed in the same vertical column. Hence, duplicates may be thrown out. With the use of independent recording mediums for the different access openings, or controlled by different voting slides, this duplication of names

could not be detected, or, if possible, only by a careful comparison of the several recording mediums, which is rendered wholly unnecessary with an apparatus constructed in accordance with my invention.

It should be understood in connection with the independent voting devices, that the operation of the arm 274, the plunger 273, and the bracket arms 270, is accomplished by the movement of the first slide repressed by each voter; but that the trip pin 276 does not reach that portion of the offset 275 which is necessary to move the arm 274 until the notch 32^a is engaged by the pawl 31 which is employed for securing said slide in its different adjusted positions, or for preventing the withdrawal of a slide after the first step in its repression has been accomplished. After the engagement of the notch 32^a by means of said pawl, the further movement of the voting-slide will elevate the plunger, and thus allow the voter to proceed as hereinbefore explained. The shutters do not reach an open position until the slide locking pawl 31 has engaged the notch 33. After the slide has been repressed sufficiently to cause the engagement of the notch 32^a by the pawl 31, the elevation of the plunger begins, and simultaneously the opening movement of the shutter 228 is instituted, said shutter rising as the pawl 31 slips from the notch 32^a to the notch 33. This requires the voter to completely operate all of the locking devices, limiting devices, etc., prior to his gaining access to the record medium.

In connection with the straight ticket voting devices, as hereinbefore described, it will be observed that in addition to the rear pins 54, carried by the straight ticket voting slides 15^b, to enable the rods 50 to repress said straight ticket voting slides, the slides named are provided with the front pins 54^a arranged in front of the rods 50, and serving to prevent the return movement of a rod when, a slide 15^b having been repressed, the slide locking pawl has engaged the first notch thereof. In other words, the pins 54^a serve to maintain the rods 50 in a definite position with relation to the operating pins 54, and hence prevent the subsequent movement by the same voter of the same straight ticket voting devices. The release of the parts is accomplished, as hereinbefore fully explained in connection with other features of the apparatus, by the operation of the replacing devices. In this connection it should be noted that it may be desirable to allow a voter the privilege of operating all of the tally mechanisms in a single vertical series, including those tally mechanisms which are arranged in combined series, and, in accordance with the system of combination voting hereinbefore described, such movement of the tally mechanisms may be ac-

accomplished by a single operation, or by the
 operation of a straight ticket voting lever,
 but to prevent subsequent operation of vot-
 ing keys in a voted or other series, the pins
 5 153 of the locking rack are inserted in op-
 erative relation with the cams belonging to
 the spacers of each horizontal series. Ob-
 viously, these pins should be omitted from
 those series of voting devices which are de-
 voted to minority representation voting.
 10 Thus, all of the operating pawls 17 in a sin-
 gle vertical column or series, with the ex-
 ception of those devoted to minority repre-
 sentation voting, may be operated by a sin-
 15 gle movement of a straight ticket voting
 lever, while all other voting keys are locked
 by such operation. Furthermore, it should
 be observed that the operation of locking
 out the voting keys in other series, as here-
 20 inbefore explained, takes place prior to the
 communication of motion by the simultane-
 ously operated slides or keys to the tally
 mechanisms. In other words, when a
 straight ticket voting lever is operated, the
 25 main locking blocks of the several tally
 mechanisms in the series which is in con-
 nection with said lever, receive a longitudi-
 nal impulse, causing the cam 113^a to pass
 over the uppermost pin 153, prior to the en-
 30 gagement of said straight ticket voting lever
 with the extensions 17^a of the pawls 17. Or
 when any voting key is operated, the locking
 bolts of such horizontal series, combined or
 otherwise, with the exception of the minor-
 35 ity representation series, receive a longitudi-
 nal impulse, causing the cam 113 to pass un-
 der the pin 153 and elevate the rack 151, and
 lock the straight ticket series of locking
 blocks prior to the engagement of the pawl
 40 operating pin 20 of such voting key with
 the pawl 17 of the tally mechanism, or si-
 multaneously with the engagement of the
 notch 32 by the pawl 31. As the rack 151
 45 receives its motion from the several hori-
 zontal series of locking blocks and the lock-
 ing blocks receive their motion from the first
 repression (when that repression is sufficient
 to cause the pawl 31 to engage the notch 32),
 it is obvious that the complete operation of
 50 the rack 151 is attained simultaneously with
 the spreading of the locking blocks and
 prior to the engagement of the operating
 pawls 17 by the pawl operating pins 20, or
 by the straight ticket rods 50. When the
 55 mechanism is adjusted for cumulative vot-
 ing the pin 20 must be folded out of opera-
 tive relation with the pawl 17, thereby caus-
 ing the pawl 17 to receive its motion from
 the pin 20^c, which will accomplish a move-
 60 ment of the pawl 17 only sufficient to reg-
 ister a one-half vote for each operation of
 the voting slide. But should a straight
 ticket be voted, the rod 50 when operated,
 will swing the pawl 17 a sufficient distance
 65 to record one whole vote, or two half votes,

as in the other series. Therefore, it is ob-
 vious that with this construction the voter
 may split his vote, as before explained, or,
 by operating the straight ticket rod 50, the
 lawful number of votes is distributed in the 70
 cumulative series, equally between the sev-
 eral candidates on any one ticket, as where
 there are three candidates in each political
 party, and the voter is entitled to cast six
 half votes among the three candidates, or 75
 may, by operating the straight ticket rod,
 cast one full vote for each of the three can-
 didates.

I claim as my invention:

1. In a voting machine, the combination 80
 with voting elements and counters arranged
 in single-candidate series, of interlocking
 mechanism common to a plurality of voting
 elements, and having series of relatively
 movable members, devices actuated by the 85
 voting elements for the respective move-
 ment of said members, and capable of move-
 ment independently of the voting elements
 to communicate motion from one member to
 another of a series, and means movable inde- 90
 pendently of the interlocking mechanism
 into position for communicating motion
 from a member of one series to a member of
 another series, and adapted when displaced
 to permit movement of the members of one 95
 series independently of those of another se-
 ries.

2. In a voting machine, the combination
 with voting elements and counters arranged
 in single-candidate series, of interlocking 100
 mechanism common to a plurality of voting
 elements and having series of relatively mov-
 able members, cam-carrying spacers actuated
 by the voting elements for the respective
 movement of said members, and capable of 105
 movement independently of the voting ele-
 ments to communicate motion from one
 member to another of a series, and means for
 communicating motion from a member of
 one series to a member of another series, and 110
 adapted when displaced to permit movement
 of the members of one series independently
 of those of another series.

3. In a voting machine, the combination 115
 with voting elements and counters arranged
 in single-candidate series, of interlocking
 mechanism common to a plurality of voting
 elements and having series of relatively mov-
 able blocks, devices actuated by the voting
 elements for the respective movement of said 120
 blocks, and capable of movement independ-
 ently of the voting elements to communicate
 motion from one block to another of a series,
 and means movable independently of the in- 125
 terlocking mechanism into position for com-
 municating motion from a block of one se-
 ries to a block of another series, and adapted
 when displaced to permit movement of the
 blocks of one series independently of those
 of another series. 130

4. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking mechanism common to a plurality of voting elements, and having series of relatively movable members each capable of a limited independent movement, devices actuated by the voting elements for the respective movement of said members, and capable of movement independently of the voting elements to communicate motion from one member to another of a series, and means movable independently of the interlocking mechanism into position for communicating motion from a member of one series to a member of another series, and adapted when displaced to permit movement of the members of one series independently of those of another series.

5. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking mechanism common to a plurality of voting elements, and having series of relatively movable members, devices actuated by the voting elements for the respective movement of said members, and capable of a limited movement independently of the voting elements to communicate motion from one member to another of a series and to limit the movement of said members, and means movable independently of the interlocking mechanism into position for communicating motion from a member of one series to a member of another series, and adapted when displaced to permit movement of the members of one series independently of those of another series.

6. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking mechanism common to a plurality of voting elements and having series of relatively movable members capable of a limited independent movement in one direction from a point of rest, devices actuated by the voting elements for the respective movement of said members, and capable of movement independently of the voting elements to communicate motion from one member to another of a series, and means movable independently of the interlocking mechanism into position for communicating motion from a member of one series to a member of another series, and adapted when displaced to permit movement of the members of one series independently of those of another series.

7. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having series of alined relatively-movable blocks capable of a limited independent movement, cams actuated by the voting elements for respec-

tively moving said blocks through a limited distance, and adjustable group-defining means capable of a plurality of positions in one of which motion is communicated thereby from a block in one series to a block in another series, and adapted when in the other position to permit movement of the blocks in the respective series without communicating motion to those of another series.

8. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having series of alined relatively movable blocks, cam-carrying spacers actuated by the voting elements, interposed respectively between adjacent blocks and capable of longitudinal and transverse movement with relation thereto, means for limiting the movement of the spacers in a direction longitudinally of the blocks, and means movable independently of the interlocking mechanism into position for communicating motion from a block of one series to a block of another series, and adapted when displaced to permit movement of the blocks in the respective series without communicating motion to those of another series.

9. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking grouping mechanism common to a plurality of single candidate series and having a guide, series of blocks movably mounted in the guide, cam-carrying spacers actuated by the voting elements and extending into said guide between adjacent blocks for movement longitudinally and transversely of the guide, means for limiting the movement of the spacers longitudinally of the guide, and means movable independently of the interlocking mechanism into position for communicating motion from a block of one series to a block of another series, and adapted when displaced to permit movement of the blocks in the respective series without communicating motion to those of another series.

10. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having series of alined relatively movable blocks, spacers actuated by the voting elements and carrying cams for operating the blocks, the spacers being capable of movement longitudinally and transversely of the series of blocks and being interposed respectively therebetween, and filling blocks mounted upon the spacers for independent adjustment into and out of the path of movement of the blocks.

11. In a voting machine, the combination

with voting elements and counters arranged in single-candidate series, of interlocking grouping mechanisms common to a plurality of single-candidate series and having series
 5 of aligned relatively movable blocks, spacers actuated by the voting elements and carrying cams for operating the blocks, the spacers being capable of movement longitudinally and transversely of the series of
 10 blocks and being interposed respectively therebetween, filling blocks adjustably mounted upon the spacers for movement independently thereof into and out of the paths of the blocks, and adjusting screws
 15 for moving the filling blocks to, and holding them in, their adjusted positions.

12. In a voting machine, the combination with voting elements and counters arranged in single candidate series, of interlocking
 20 grouping mechanism common to a plurality of single-candidate series and having a guide, series of blocks movably mounted in the guide, cam-carrying spacers actuated by the voting elements and extending into said
 25 guides between adjacent blocks movable longitudinally and transversely of the guide, means for limiting that movement of each spacer which is longitudinal of the guide to a distance equal to the depth of the cam
 30 carried thereby, and means movable independently of the interlocking mechanism into position for communicating motion from a block of one series to a block of another series, and adapted when displaced
 35 to permit movement of the blocks in the respective series without communicating motion to those of another series.

13. In a voting machine, the combination with voting elements and counters arranged
 40 in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having a guide, series of blocks movably mounted in the guide, cams actuated by the voting elements for separating said blocks and ad-
 45 justable locking means for securing one of said blocks in a plurality of positions.

14. In a voting machine, the combination with voting elements and counters arranged
 50 in single-candidate series, of interlocking grouping mechanism common to a plurality of single candidate series and having a guide, series of blocks movably mounted in the guide, cams actuated by the voting elements for separating said blocks, means in
 55 connection with each block for securing it in a plurality of adjusted positions, and means movable independently of the interlocking mechanism into position for communicating motion from a block of one series to a block of another series, and adapted when displaced to permit movement of the blocks in the respective series without communicating motion to those of
 60 another series.

15. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having a
 70 guide, series of blocks movably mounted in the guide, each block being provided with a plurality of spaced sockets, cams actuated by the voting elements for separating said blocks, and movable locking pins mounted
 75 in fixed guides for engaging said blocks in either of a plurality of adjusted positions.

16. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking
 80 grouping mechanism common to a plurality of single-candidate series and having series of blocks each mounted for limited movement in one direction from a point of rest, and cam-carrying spacers common to and
 85 actuated by the voting elements of each single-candidate series and each adapted to move one of said blocks, movement of said blocks in the other direction being prevented by the spacers.
 90

17. In a voting machine, the combination with voting elements and counters arranged in single candidate series, of interlocking grouping mechanism common to a plurality of single candidate series and having series
 95 of blocks each mounted for limited movement in one direction, and cam-carrying spacers each common to and actuated by the voting elements of a single-candidate series and capable of a limited movement in the
 100 direction of movement of said blocks and serving to prevent the movement of said blocks in the opposite direction.

18. In a voting machine, the combination with voting elements and counters arranged
 105 in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having series of blocks each mounted for limited movement in one direction, a guide for said
 110 blocks provided with rests, and cam-carrying spacers each common to and actuated by the voting elements of a single-candidate series, and capable of movement in the same direction as said blocks, movement thereof
 115 in the opposite direction being prevented by said rests.

19. In a voting machine, the combination of voting elements and counters arranged in single-candidate series, of interlocking
 120 grouping mechanism common to a plurality of single-candidate series and having series of interlocking blocks capable of movement in one direction from a normal point of rest, cam-carrying spacers capable of movement
 125 in the direction of movement of said blocks, each block being capable of an independent movement equal to the depth of one of the spacer-cams, and filling blocks carried by the spacers and capable of adjustment in-
 130

dependently thereof into and out of positions in the paths of the interlocking blocks.

20. In a voting machine, the combination with voting elements and counters arranged
5 in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having series of interlocking blocks capable of movement in one direction from a normal point of rest,
10 cam-carrying spacers capable of movement in the direction of movement of said blocks, each block being capable of an independent movement equal to the depth of one of the spacer-cams, filling blocks mounted upon the spacers for adjustment independently
15 thereof into and out of positions in the paths of the interlocking blocks, and adjusting screws for moving the filling blocks.

21. In a voting machine, the combination
20 with voting elements and counters arranged in single-candidate series, of interlocking grouping mechanism common to a plurality of single-candidate series and having a series of movable blocks, cam-carrying spacers
25 each common to and actuated by the voting elements of a single-candidate series, and each capable of movement from a point of rest in the direction of movement of said blocks, and means for limiting said move-
30 ment of each spacer to a distance equal to the depth of the cam carried thereby.

22. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking
35 grouping mechanism common to a plurality of single-candidate series and having a series of movable blocks, cam-carrying spacers each common to and actuated by the voting elements of a single-candidate series, and
40 each capable of movement from a point of rest in the direction of movement of said blocks, and stops arranged in the paths of the spacers for limiting said movement thereof to a distance equal to the depth of
45 the cam carried thereby.

23. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking
50 grouping mechanism common to a plurality of single-candidate series and having a series of movable blocks, cam-carrying spacers each common to and actuated by the voting elements of a single-candidate series and capable of movement in one direction to in-
55 terpose the cams thereof between the blocks and also of movement in the direction of the blocks, and stops for limiting the last-named movement of the spacers.

24. In a voting machine, the combination
60 with voting elements and counters arranged in single-candidate series, of interlocking elements each common to and actuated by the voting elements of a single-candidate series, straight ticket voting devices, and a
65 straight ticket interlocking rack actuated by

the straight ticket voting devices for interlocking engagement with said interlocking elements.

25. In a voting machine, the combination with voting elements and counters arranged
70 in single-candidate series, of cam-carrying interlocking elements each common to and actuated by the voting elements of a single-candidate series, straight ticket voting de-
75 vices having a cam, and a straight ticket interlocking rack for actuation interchangeably by the cam of the straight ticket voting devices and the cams of the interlocking elements to prevent subsequent operation of the other.

26. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of cam-carrying
80 interlocking elements each common to and actuated by the voting elements of a single-candidate series, straight ticket voting de-
85 vices having a cam, and a straight ticket interlocking rack having stops for engagement by the cams respectively of the straight ticket voting devices and the interlocking
90 elements, the cams of the straight ticket voting devices and of the interlocking elements being respectively reversed.

27. In a voting machine, the combination with voting elements and counters arranged
95 in single candidate series, of cam-carrying interlocking elements each common to and actuated by the voting elements of a single-candidate series, straight ticket voting de-
100 vices having a cam, and a straight ticket interlocking rack having transverse removable pins for engagement respectively by the cams of the straight ticket voting devices and of the interlocking elements, said cams being
105 respectively reversed.

28. In a voting machine, the combination with voting elements and counters arranged in single candidate series, of cam-carrying
110 interlocking elements each common to and actuated by the voting elements of a single-candidate series, straight ticket voting de-
115 vices having a cam, a straight ticket interlocking rack having stops for engagement by the cams of the straight ticket voting devices and the interlocking elements, said cams be-
ing respectively reversed in position, and means for locking the rack in one of its ad-justed positions.

29. In a voting machine, the combination with voting elements and counters arranged
120 in single-candidate series, of cam-carrying interlocking elements each common to and actuated by the voting elements of a single-candidate series, straight ticket voting de-
125 vices having a cam, a straight ticket interlocking rack having stops for engagement by the cams of the straight ticket voting de-
vices and the interlocking elements, said
cams being respectively reversed in position,
a pawl for locking the rack in one of its ad- 130

justed positions, and replacing devices including a reciprocable bar having an arm for engaging said pawl to disengage it from the rack.

5 30. In a voting machine, the combination with voting elements and counters arranged in series, and interlocking devices for said series of voting elements, of cams respectively connected with said interlocking devices, one of the cams being inverted, and
10 a rack having stops for respective engagement by said cams, said rack being capable of movement to carry its stops into and out of the paths of movement of said cams.

15 31. In a voting machine, the combination with a series of voting elements and counters arranged in single-candidate series, of a limiting device common to a plurality of series and capable of a step-by-step movement in
20 one direction, pawls carried by said voting elements and a series of ratchets common to each series of voting elements and arranged respectively in the paths of said pawls, said ratchets having a common spindle operatively connected with said member
25 of the limiting device.

32. In a voting machine, the combination with a series of voting elements and counters arranged in single-candidate series, of a
30 limiting device capable of a step-by-step movement in one direction, spindles, each of which is common to voting elements of a single-candidate series and is operatively connected with said limiting device for imparting a step-by-step movement thereto,
35 each spindle having ratchets for respective actuation by said voting elements, a stop for limiting the movement of said member of the limiting device, and means for maintaining the latter in either of its adjusted
40 positions.

33. In a voting machine, the combination with series of voting elements and counters, of a limiting slide operatively connected
45 with the movable parts to receive a step-by-step movement in a common direction, a stop for determining the movement of the limiting slide, yielding means for maintaining the slide in either of its adjusted positions,
50 and replacing devices, including a plunger, mounted for movement parallel with the slide, and having an arm for engagement with a stud thereon, substantially as specified.

55 34. In a voting machine, the combination with series of voting elements and counters, of a limiting slide operatively connected with the movable parts to receive a step-by-step movement in a common direction therefrom, a stop for determining the movement
60 of the limiting slide, yielding means for maintaining the slide in either of its adjusted positions, and replacing devices, including a plunger mounted for movement parallel with the slide, and an arm mounted for

adjustment upon the plunger for engagement with a stud on the slide.

35. In a voting machine, the combination with voting elements and counters arranged in single-candidate series, of interlocking
70 mechanism common to each single-candidate series of voting elements for preventing simultaneous operation of two or more voting elements in a series and constructed to allow consecutive operation of different voting elements in the same single-candidate series,
75 locking devices for securing each voting element in its voted position, and a releasing frame supporting said interlocking mechanism and movable to carry the same transversely out of engagement with the voting
80 elements, and having adjustable connection with said locking devices for the voting elements, to provide for permanently holding the locking devices out of engaging position.
85

36. In a voting machine, the combination with voting slides having cams, locking means for the slides and counters, of relatively movable interlocking blocks terminally separable by the cams of the slides, the
90 movement of the slides being sufficient to carry said cams beyond the blocks to allow subsequent operation of other slides in the same series, and a releasing frame supporting the blocks and movable to carry the
95 same transversely out of the paths of the cams and having an adjustable connection with said slide-locking means for varying the positions of the latter with relation to the frame, to provide for permanently holding the locking devices out of engaging position.
100

37. In a voting machine, the combination of voting slides provided with cams, locking pawls for the slides, and counters, main interlocking blocks having a limited movement and terminally separable by the cams of the slides, the movement of the slides being sufficient to carry said cams beyond the interlocking blocks to allow subsequent operation of other slides in the same series, a releasing frame supporting the interlocking blocks, and movable to carry the same transversely out of the paths of the cams, and means for securing the pawls in either of a
105 plurality of positions with relation to the releasing frame; where, when the pawls are in one position, they are permanently held out of engagement with the voting slides, and when in the other position are adapted
110 for disengagement from the voting slides by the movement of the releasing frame to withdraw said interlocking blocks from the paths of the cams.

38. In a voting machine, the combination
125 of voting slides provided with cams, locking pawls for the slides, and counters, interlocking blocks having a limited movement and terminally separable by the cams of the slides, the movement of the slides being
130

sufficient to carry said cams beyond the interlocking blocks to allow subsequent operation of other slides in the same series, and a releasing frame supporting the interlocking blocks, and movable to carry the same transversely out of the paths of the cams, said frame being provided with pairs of lugs, either of which is adapted for engagement with a locking pawl, and adapted respectively to hold the pawl permanently out of engagement with the voting slides, and to trip the pawl when the releasing frame is moved to withdraw the interlocking blocks out of the paths of the cams.

39. In a voting machine, the combination with counters and voting slides having cams arranged in intersecting single-candidate and party series, of series of alined main interlocking blocks arranged parallel respectively with the single-candidate series of voting slides and mounted for transverse movement into and out of the paths of the cams on said slides, means for transversely varying the positions of said interlocking blocks, a vertical guide provided with lateral openings, secondary interlocking blocks mounted for sliding movement in said guide, spacers hingedly connected with the terminal main interlocking blocks for longitudinal movement thereby, and carrying cams for terminally separating the secondary interlocking blocks, and yielding means for maintaining the main interlocking blocks in their normal positions.

40. In a voting machine, the combination with counters, and voting slides having cams arranged in intersecting single-candidate and party series, of locking pawls for engaging and securing the voting slides in their repressed positions and having tails or extensions, a releasing frame mounted for movement in a direction transverse to the slides, and having adjustable connection with said tails or extensions, alined longitudinally movable main interlocking blocks mounted upon the releasing frame parallel with each single-candidate series of slides and terminally separable by the cams thereon, the movement of the releasing frame in one direction being adapted to withdraw said locking blocks from the paths of the cams on the slides, and actuate the pawls to release the slides and replacing devices operatively connected with the releasing frame for engaging and returning the slides to their normal positions.

41. In a voting machine, the combination with voting slides, and counters respectively actuated thereby, said slides being provided with cams, of longitudinally movable main interlocking blocks arranged parallel, respectively, with the series of voting slides, for terminal separation thereby, locking block guides, a releasing frame having ways in which said guides are mounted for move-

ment in a direction parallel with the paths of the cams on said voting slides, said releasing frame being mounted for movement in a direction perpendicular to the paths of the cams, and means for securing the locking block guides at the desired adjustment in said ways.

42. In a voting machine, the combination with voting keys, and counters respectively actuated by the voting keys, said voting keys having cams, of longitudinally movable locking blocks arranged parallel, respectively, with the series of voting keys, for terminal separation thereby, locking block guides, ways in which said guides are mounted for movement in a direction parallel with the paths of the cams of said voting keys, said ways being mounted for movement in a direction perpendicular to the paths of the cams, and adjustable pins for securing the locking block guides at the desired adjustment in said ways.

43. In a voting machine, the combination with voting keys, and counters respectively actuated by the voting keys, said voting keys having cams, of longitudinally movable locking blocks arranged parallel, respectively, with the series of voting keys, for terminal separation thereby, locking block guides, ways in which said guides are mounted for movement in a direction parallel with the paths of the cams of said voting keys, said ways being movable in a direction perpendicular to the paths of the cams, means for securing the locking block guides at the desired adjustment in said ways, and a releasing frame carrying said ways for withdrawing the locking blocks from the paths of the cams of the voting keys.

44. In a voting machine, the combination with voting keys, and counters, said voting keys having cams, and locking pawls for securing the voting keys in their voted positions, of longitudinally movable locking blocks adapted for terminal separation by the voting key cams, locking block guides mounted for movement in a direction parallel with the paths of the voting key cams, ways in which said locking block guides are mounted, said ways being movable in a direction perpendicular to the paths of the voting key cams, and a releasing frame carrying said ways and operatively connected with said locking pawls.

45. In a voting machine, the combination with voting keys, and counters, said voting keys having cams, and locking pawls for securing the voting keys in their voted positions, of longitudinally movable locking blocks adapted for terminal separation by the voting key cams, locking block guides mounted for movement in a direction parallel with the paths of the voting key cams, ways in which said locking block guides are mounted, said ways being movable in a di-

rection perpendicular to the paths of the voting key cams, and a releasing frame carrying said ways, and projections on said frame for engaging tails or extensions on said locking
5 pawls.

46. In a voting machine, the combination with voting keys, and counters, said voting keys having cams, of longitudinally movable locking blocks arranged parallel with
10 the series of voting keys and terminally in the paths of the cams thereof for separation thereby, locking block guides, ways in which said guides are mounted, arranged parallel with the paths of the cams to allow move-
15 ment of the guides in the planes of the cams, and securing devices consisting of pins for engagement with perforated tongues on the

guides for securing the latter in the desired positions.

47. In a voting machine, the combination 20 with voting elements and counters arranged in single candidate series, of interlocking devices for said voting elements having spacers and filling blocks, and gravitating interlocking blocks permanently supported and 25 limited in their movement by the said spacers.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LENNA RYLAND WINSLOW.

Witnesses:

JOHNSTON S. MONTGOMERY,
HEZEKIAH T. WINSLOW.