

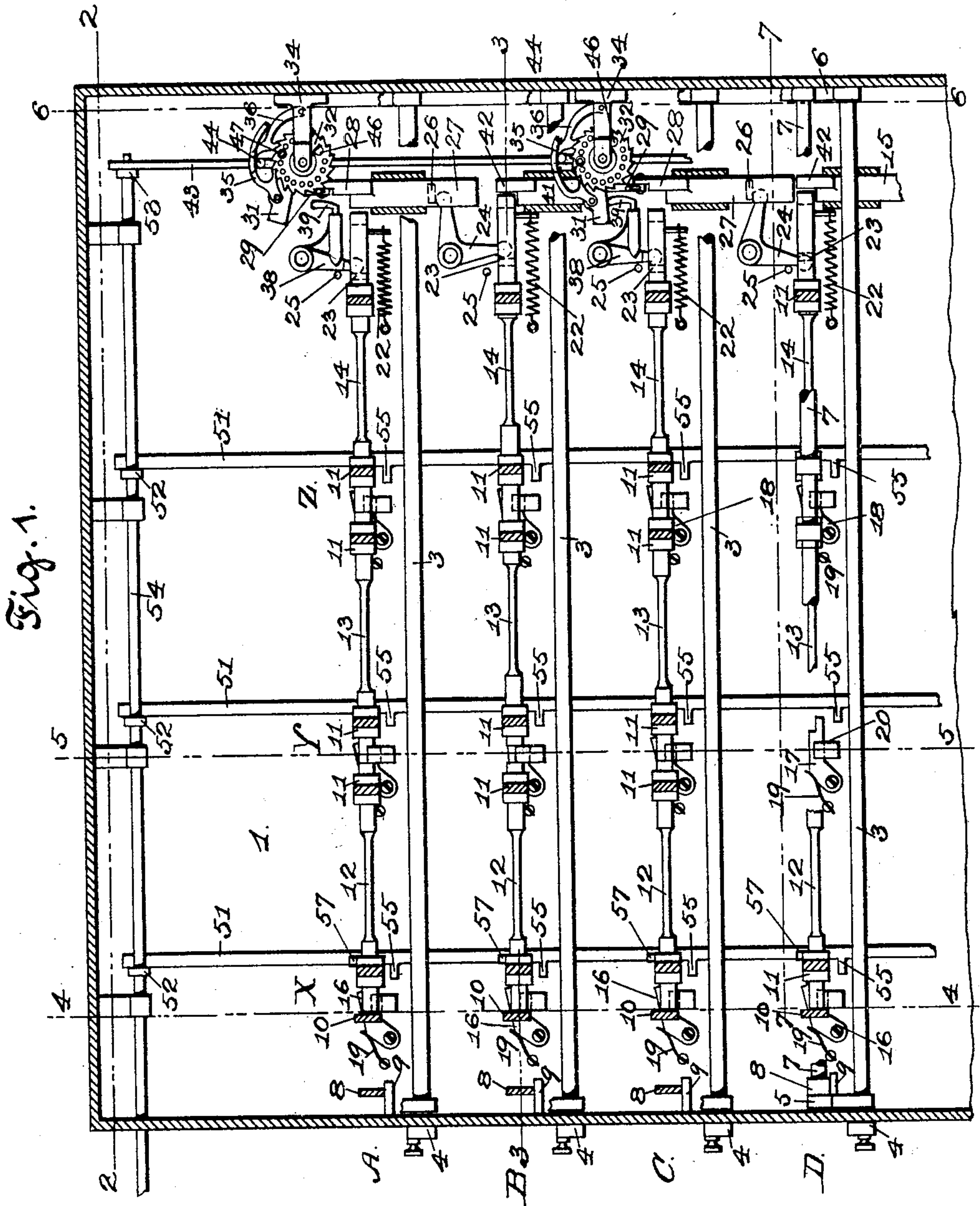
(No Model.)

5 Sheets—Sheet 1.

W. H. HONISS.
VOTING MACHINE.

No. 561,399.

Patented June 2, 1896.



Witnesses:
A. Mutter.
Jennie Kellis.

Inventor:
W. H. Honiss.

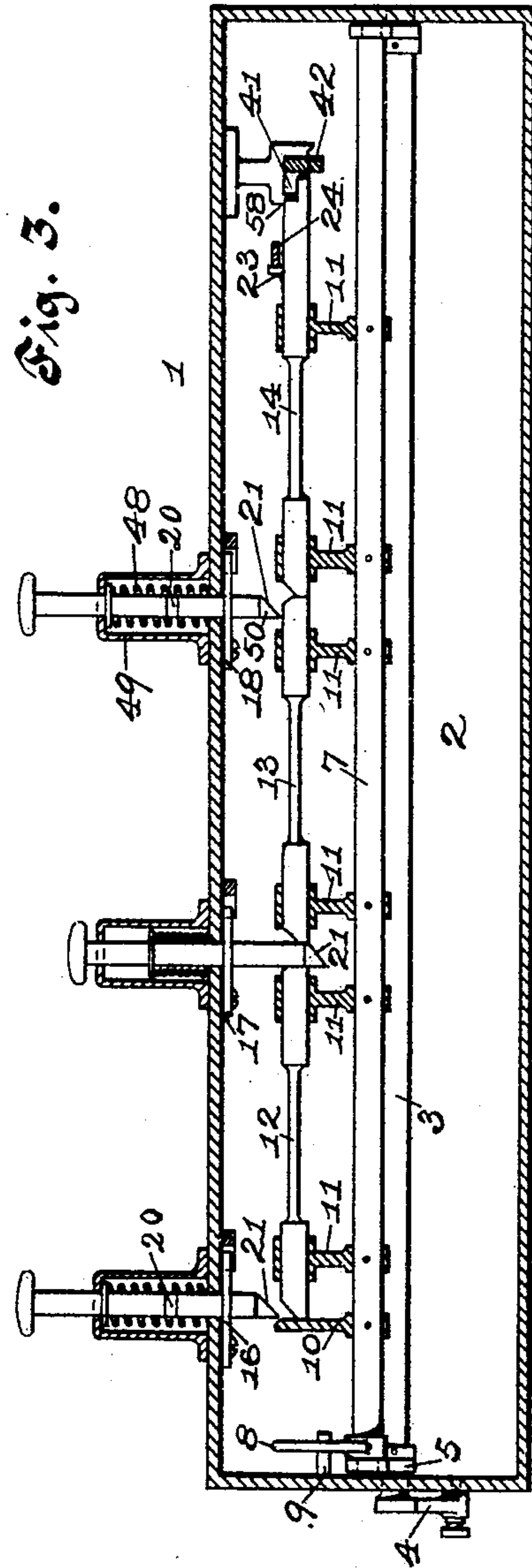
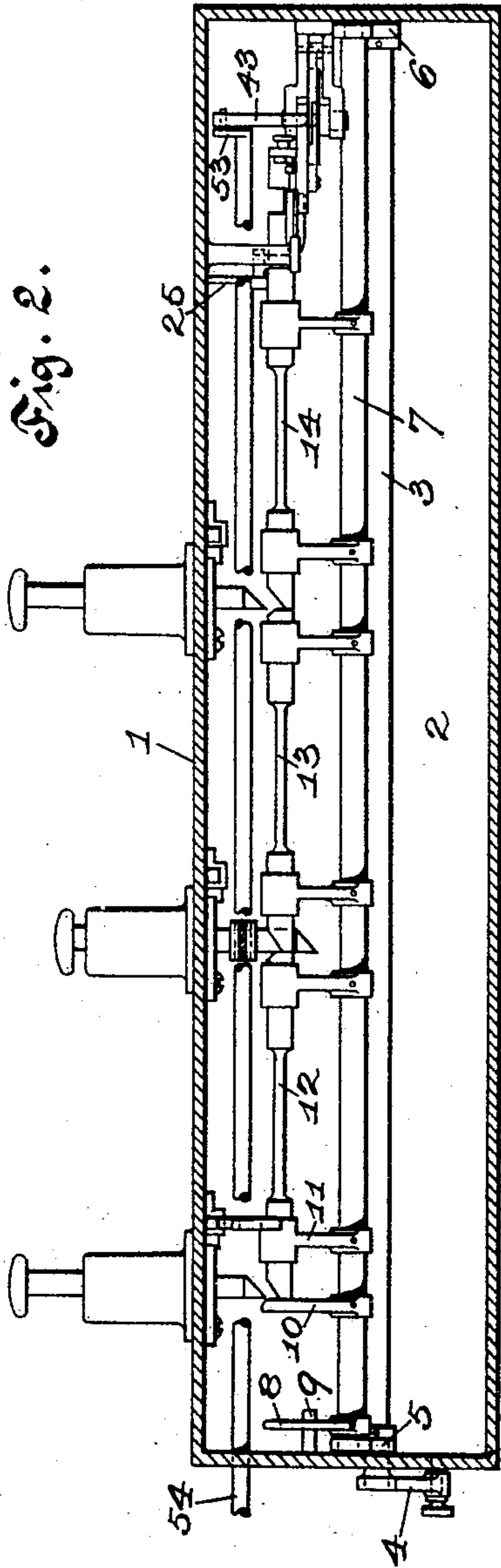
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5 Sheets—Sheet 2.

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Fig. 6.

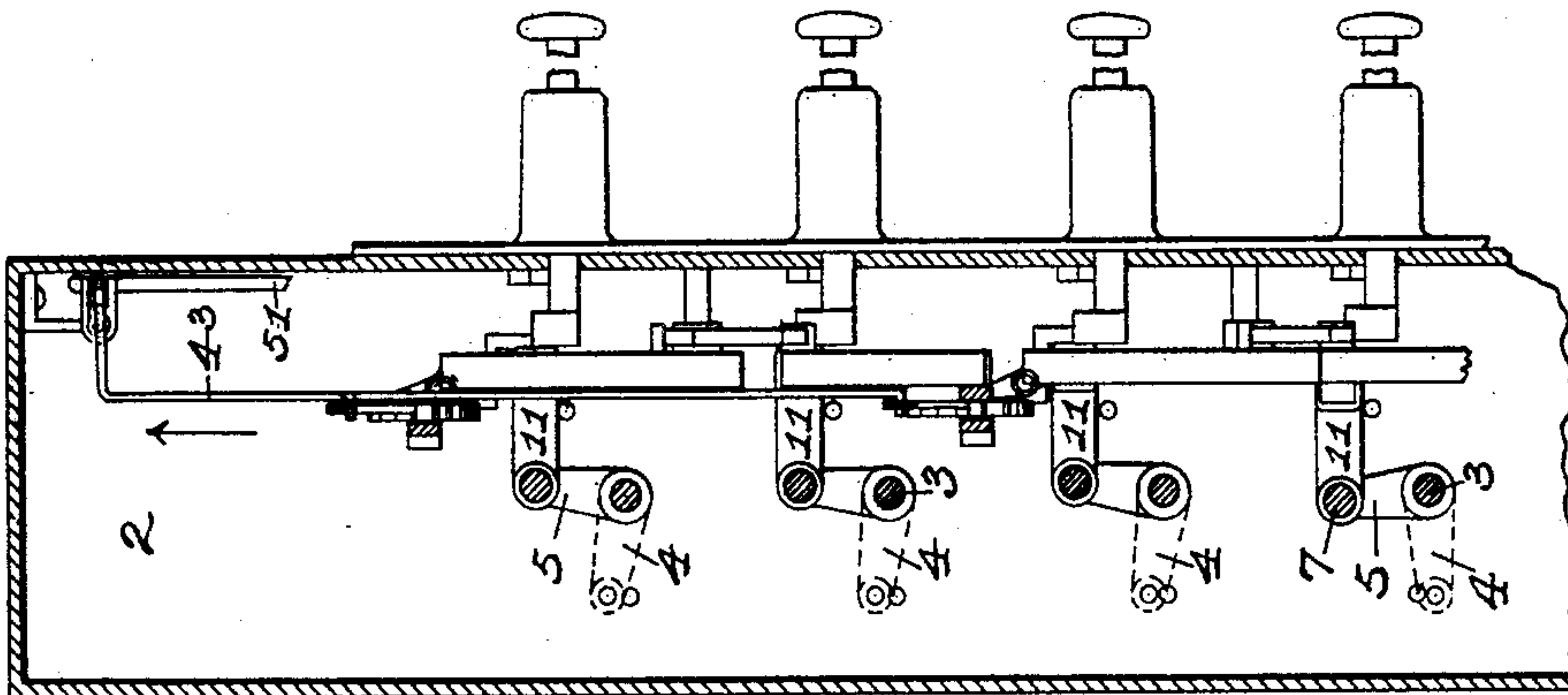


Fig. 5.

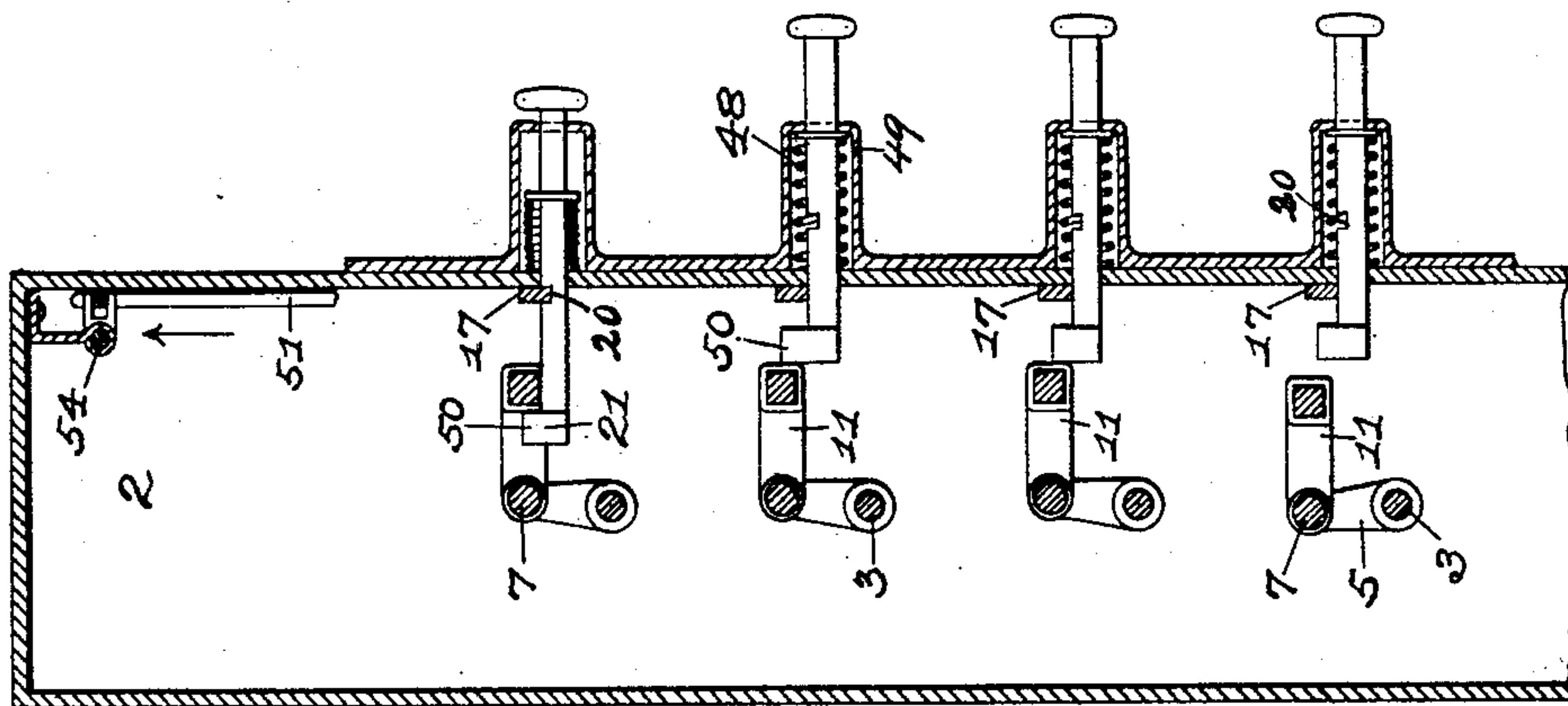
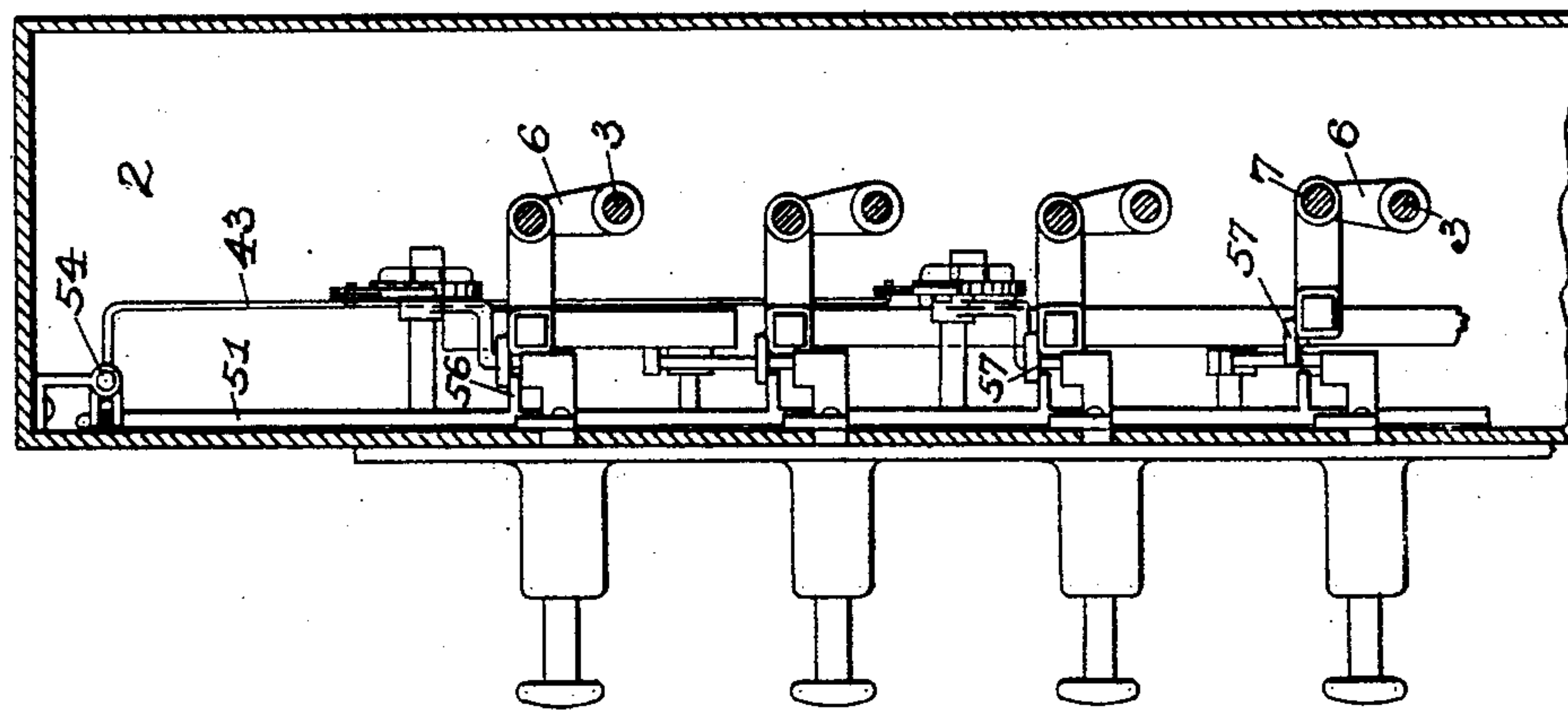


Fig. 4.



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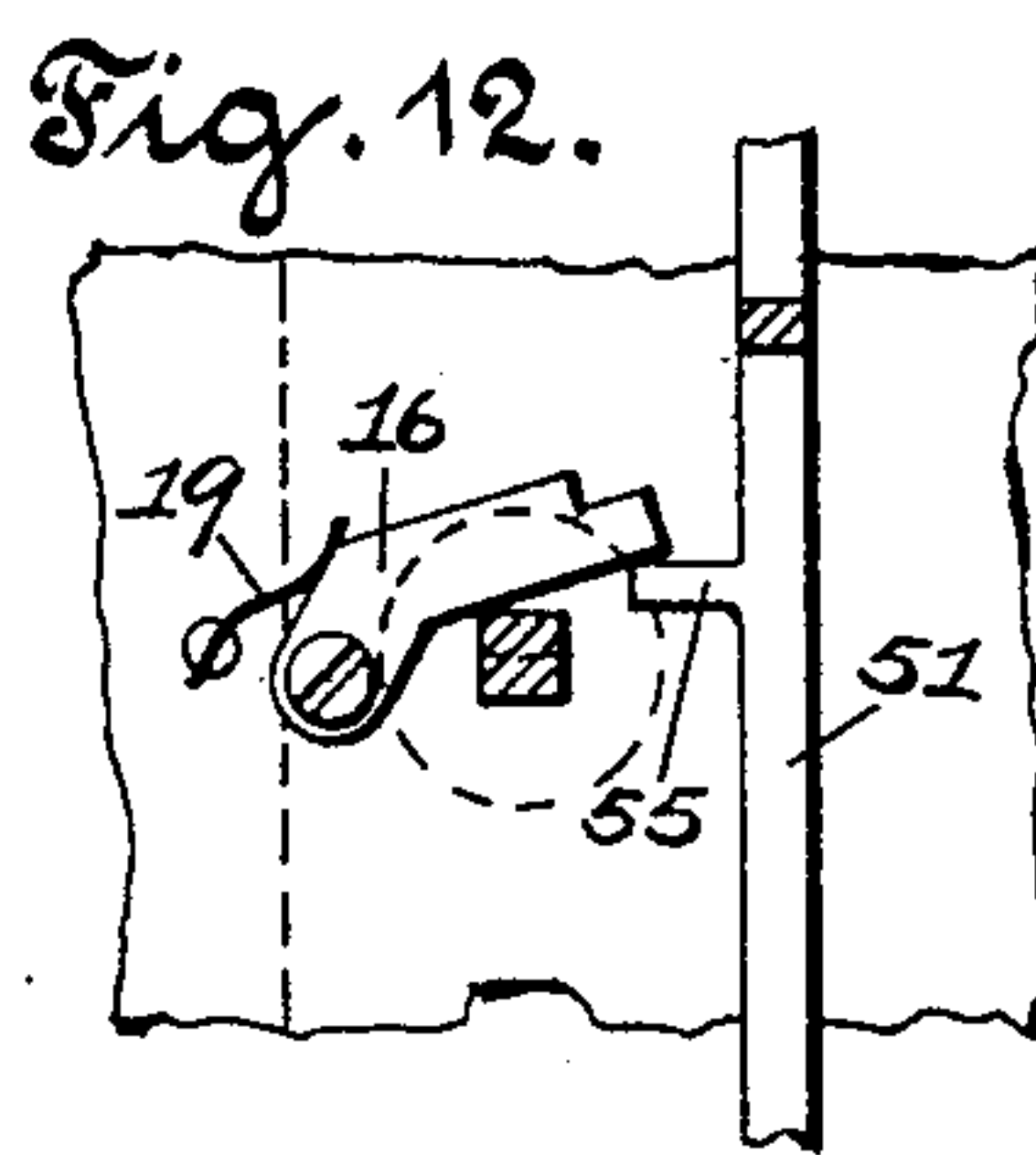
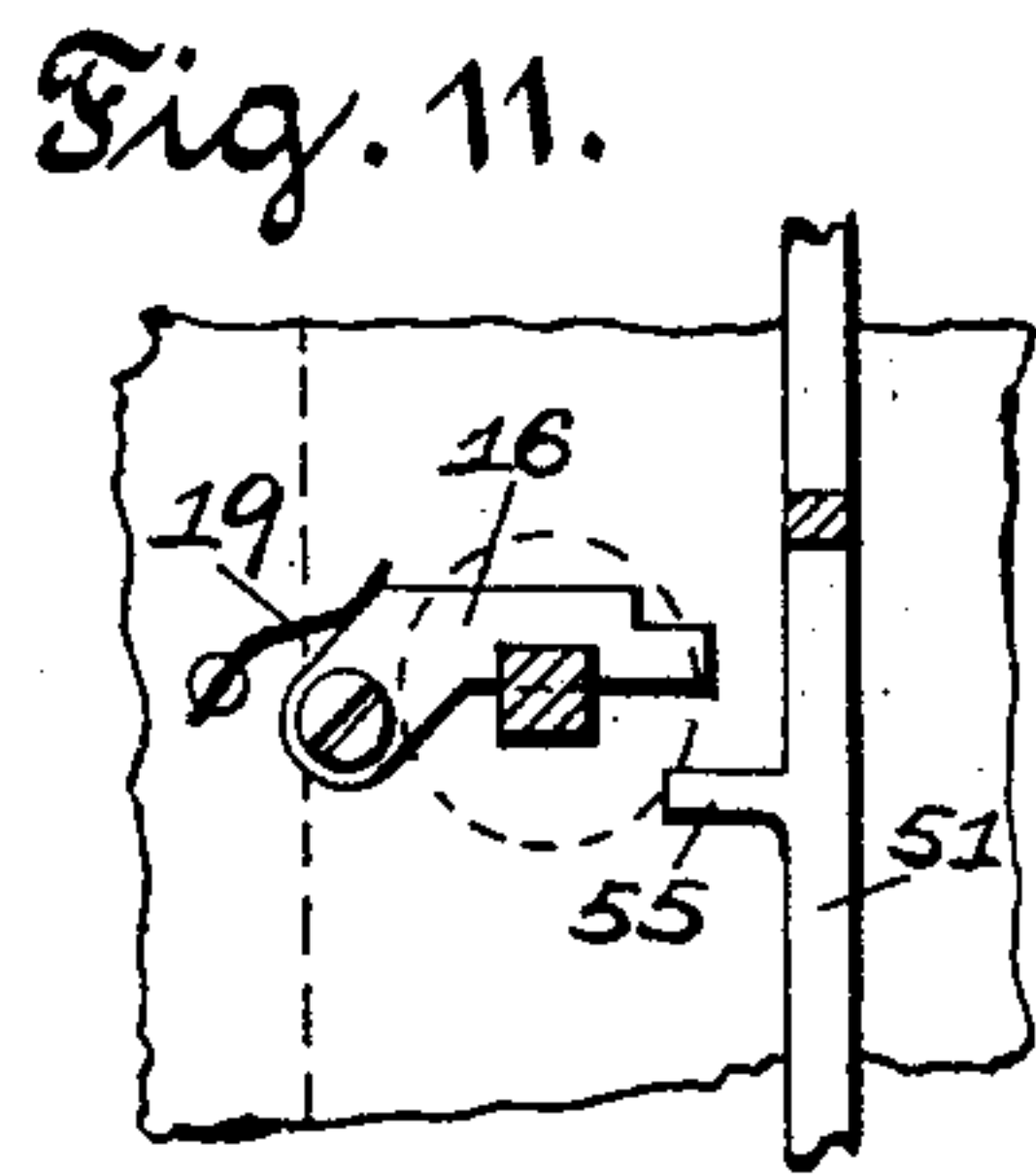
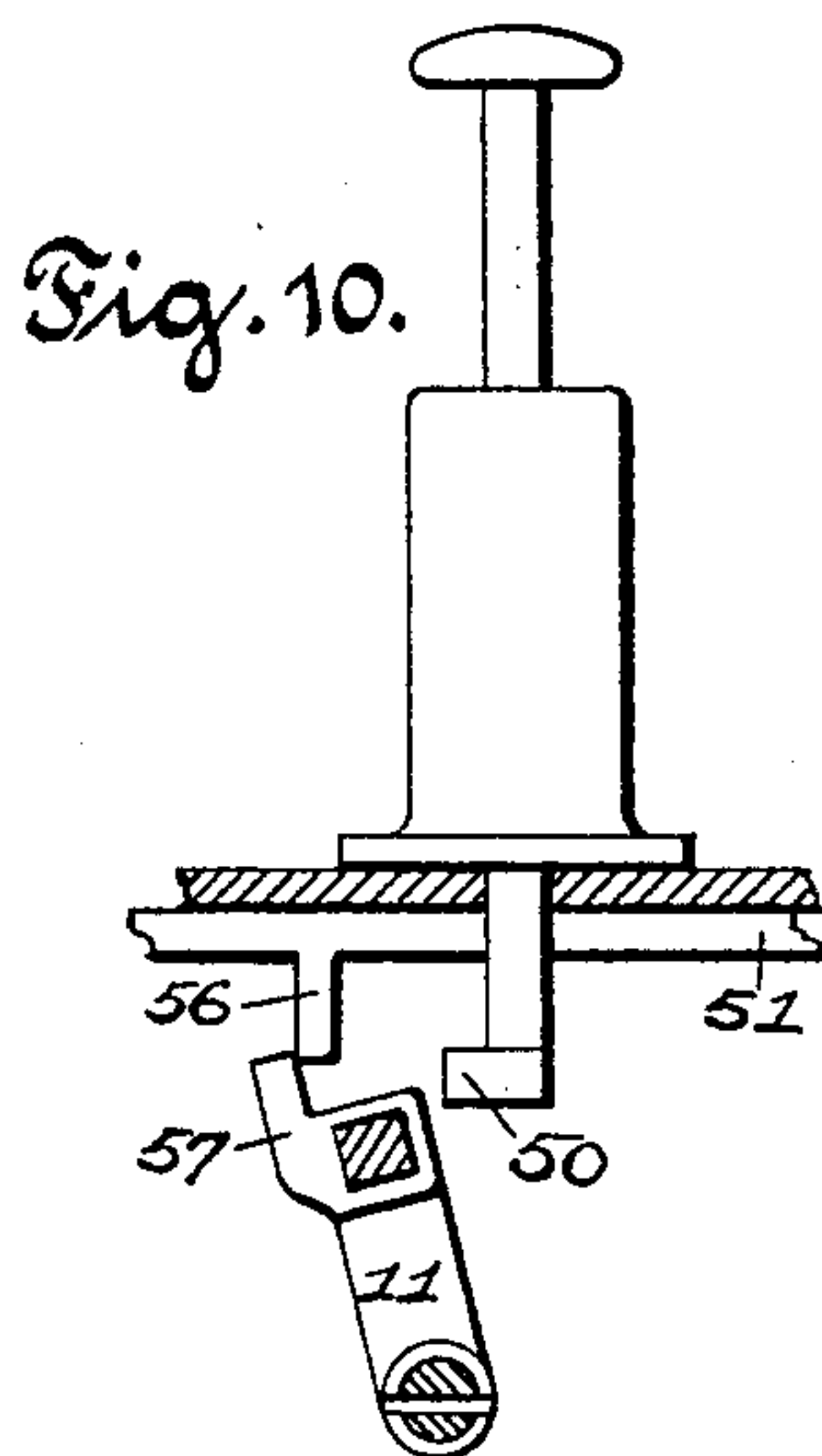
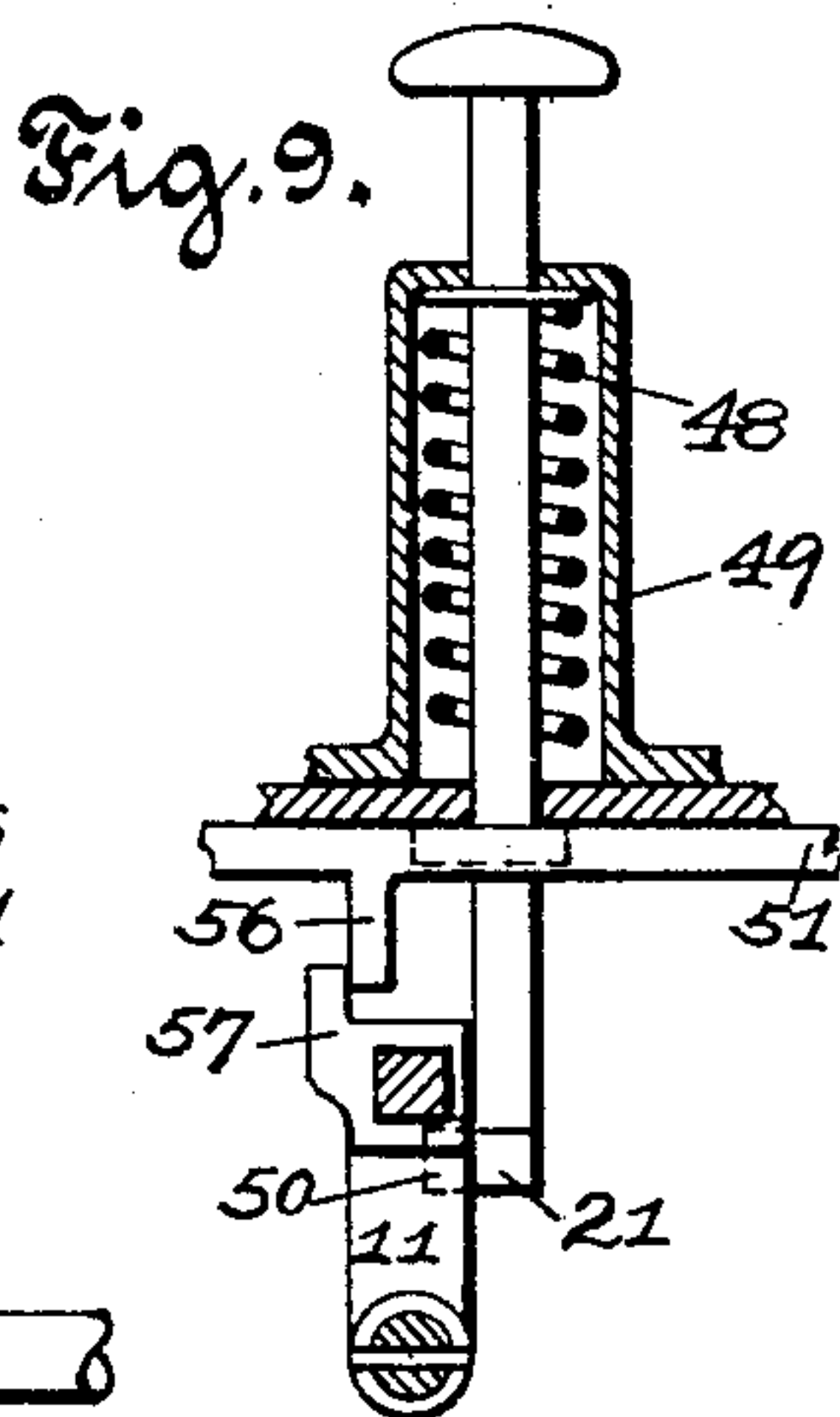
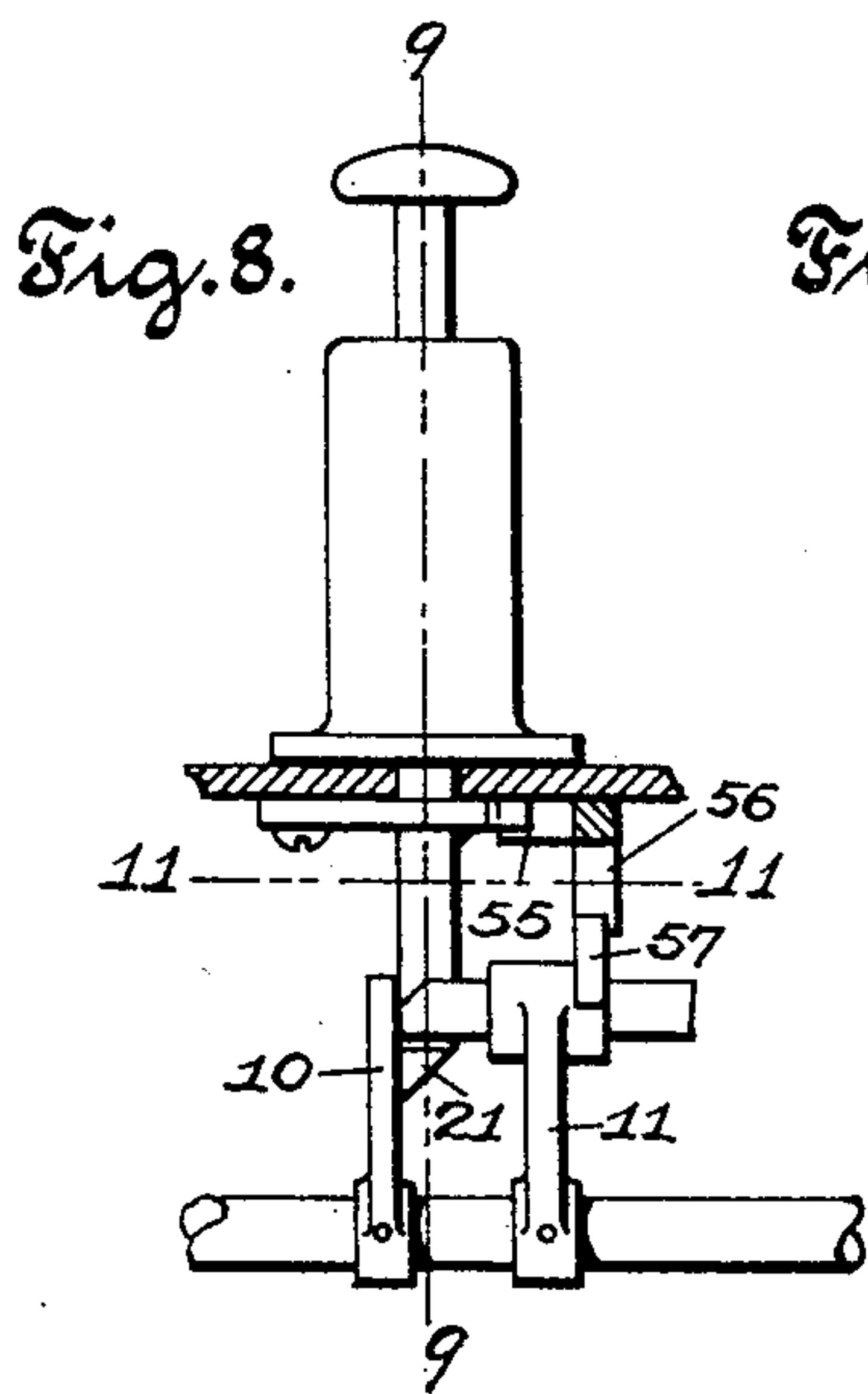
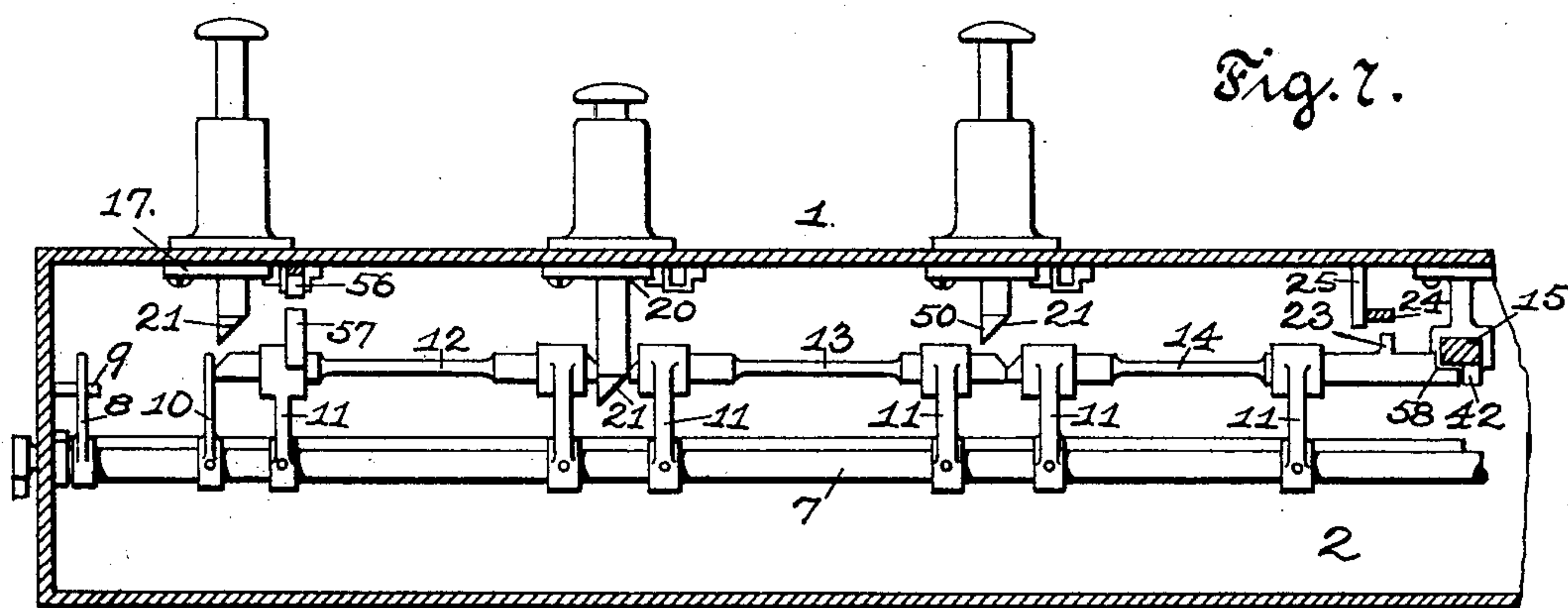
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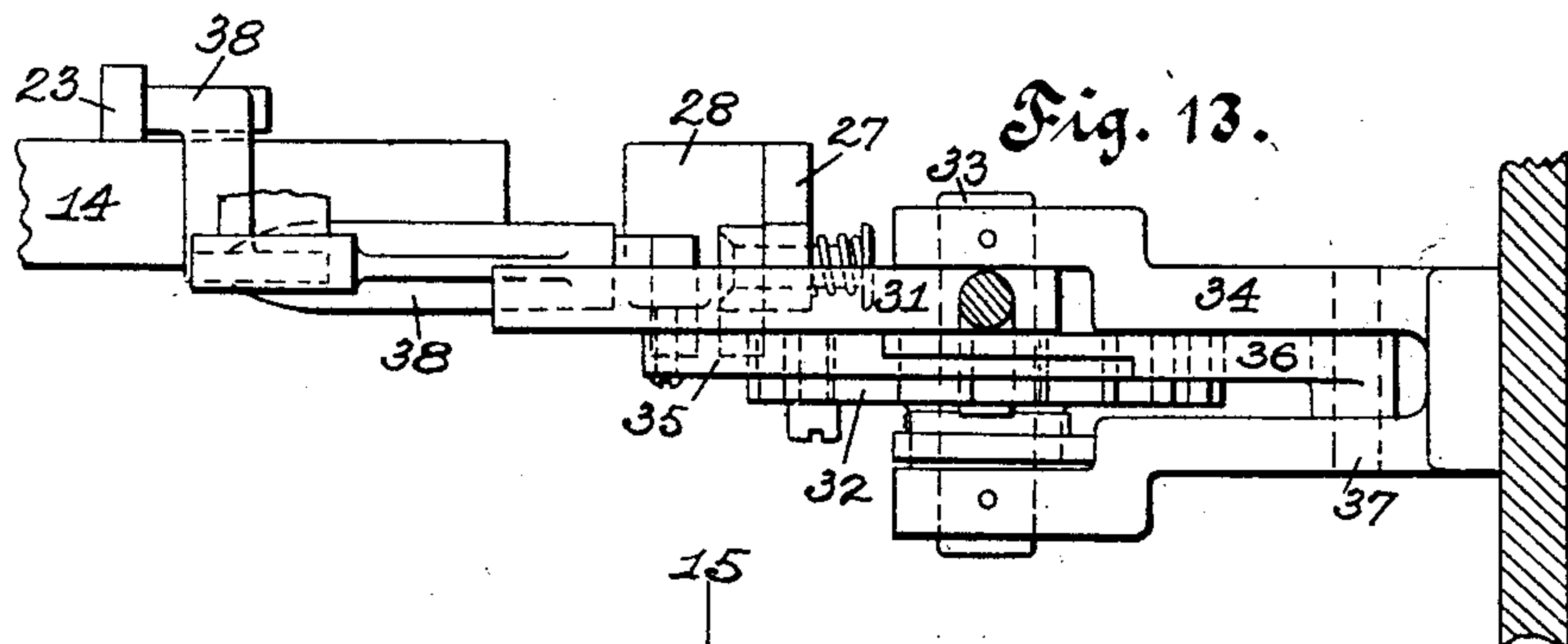


Fig. 14.

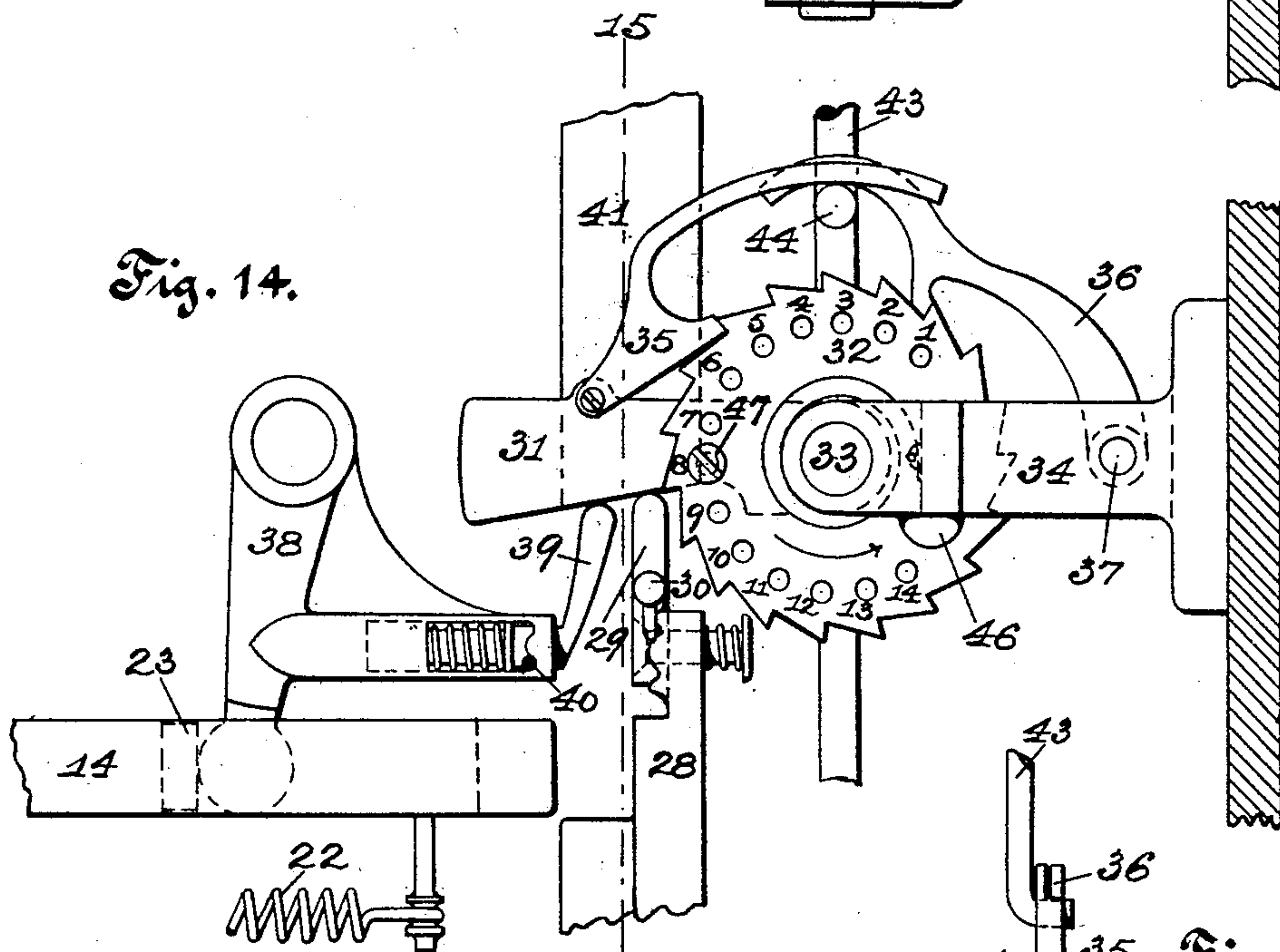
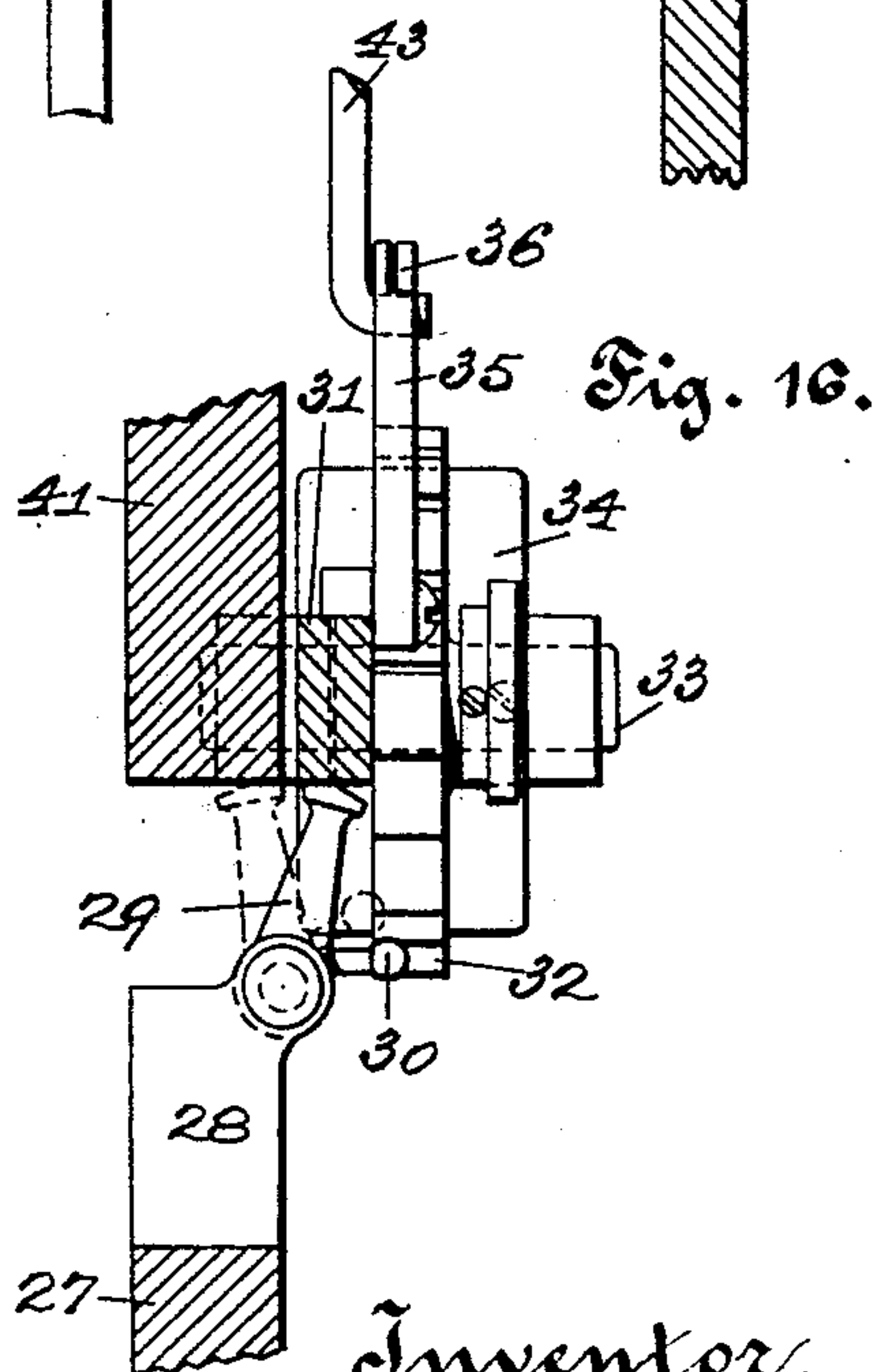
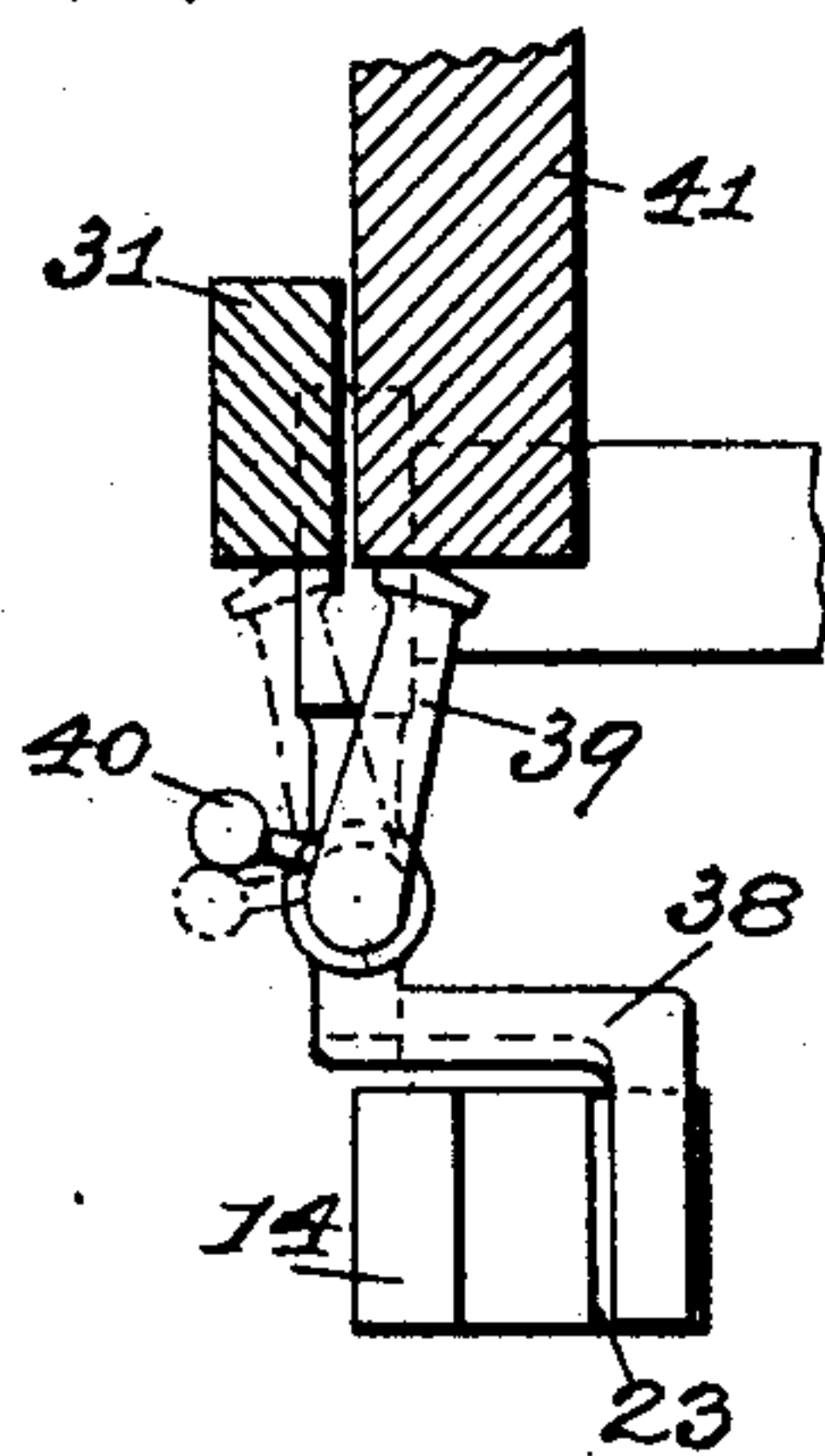


Fig. 15.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM H. HONISS, OF HARTFORD, CONNECTICUT.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 561,399, dated June 2, 1896.

Application filed September 25, 1895. Serial No. 563,611. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HONISS, of Hartford, Connecticut, have invented certain new and useful Improvements in Voting-Machines, of which the following description and claims constitute the specification, and which is illustrated by the accompanying five sheets of drawings.

This invention is an improvement upon the well-known Myers voting-machine, which is fully described and illustrated in Letters Patent of the United States No. 494,588, granted April 4, 1893, to Jacob H. Myers, of Rochester, New York.

This improvement does not consist in a substitute for the entire Myers machine, but in certain substitutes for certain parts thereof.

In order that this invention may be fully understood, it is expedient to begin with a statement of the necessary characteristics of a generally practical voting-machine, and to follow with a statement of the corresponding characteristics of the Myers voting-machine and with an explanation of the differences of function between my improvements and those parts of the Myers machine for which they are intended to be substituted.

Every generally practical voting-machine must contain means for six different kinds of voting—namely, first, voting for one regularly-nominated candidate for an office to be filled with one officer; second, giving one vote for each of the same number of regularly-nominated candidates for a commission, board, or office to be filled with a number of officers as the number of officers to be elected thereto; third, giving one vote for each of some smaller number of regularly-nominated candidates for a commission, board, or office to be filled with a number of officers than the number of officers to be elected thereto; fourth, giving one vote for each of the same number, or more than one vote, at the option of the elector, for each of some smaller number of regularly-nominated candidates for a commission, board, or office to be filled with a number of officers than the number of officers to be elected thereto; fifth, voting for persons who have not been nominated by any convention or other combination of voters for any office, but who are simply selected by individual voters to receive the compliment of

votes, which are called "scattering;" sixth, voting "yes" or "no" upon any particular proposition submitted to the voters; and every such voting-machine must be so contrived that in the first of these classes of voting no voter can vote more than once for one office, nor in the second, third, or fourth of these classes of voting vote for more candidates for one commission or board or office than he is allowed by law to do or give more votes than he lawfully may for any candidate, nor in the fifth of these classes of voting vote more than once for any office which is to be filled by one officer or give more votes or vote for more candidates than he lawfully may to be members of any board, commission, or office which is to be filled with a number of persons, nor in the sixth of these classes of voting vote more than once on any proposition. The Myers voting-machine contains means for all these six classes of voting; but the mechanism which it contains for the second, third, and fourth classes is very defective, because with it any voter may vote for more candidates than the law allows by simply pushing in a number of push-keys simultaneously instead of pushing in the proper number of keys successively; and the Myers voting-machine is also imperfect in that, according to its principle, the push-keys and counters which are devoted to the first class of voting are not capable of any adjustment to the second, third, or fourth classes of voting, while the push-keys and counters which are devoted to the second, third, and fourth classes of voting are not capable of any desirable adjustment to the first class of voting.

It is the design of this invention to remedy those faults in the Myers voting-machine by the substitution for much of its mechanism of other mechanism by means of which excessive voting of the second, third, and fourth classes is always positively prevented, and by means of which each push-key and counter which the machine contains for a regularly-nominated candidate may be so adjusted as to be used either for the first class of voting or, in combination with others, for the second, third, or fourth class of voting. The second class is called "general ticket voting," and the third is called "minority representation voting," and the fourth is called "cumulative

voting." An example of the second class consists in voting for six electors of President and Vice-President in every voting-district in Connecticut and in voting for whatever number of such electors is allowed to the particular State in nearly or quite every voting-district in the United States. An example of the third class occurs in every town in Connecticut in the election of selectmen, where, if the number to be elected is two, four, or six, no voter can lawfully vote for more than half that number, and where, if the number to be elected is three, five, or seven, no voter can lawfully vote for more than two, three, or four candidates, respectively, and an example of the fourth class is presented by the constitution of Illinois, which provides that each assembly district shall elect three members of the house of representatives and that each voter may, at his option, give one vote for each of three candidates, or one and one-half votes for each of two candidates, or three votes for one candidate for representative.

My present invention, when substituted in the Myers voting-machine for the mechanism which in that machine is devoted to voting of the first class, and for the other mechanism, which in that machine is devoted to voting of the second, third, and fourth classes, will enable that machine to be used entirely for voting of the first, second, third, or fourth class, and will enable it to be so adjusted as to use some of its push-keys for each of those four classes of voting, or to be used in any combination of these ways with entire certainty and freedom from any possibility of any voter voting unlawfully in either class of voting.

Figure 1 of the drawings is a rear view of the partition 1, which, like the partition B of the Myers machine, divides the Myers voting-booth into compartments, the compartment marked C in the Myers patent and marked 2 in these drawings containing the counting and operating mechanism, which is accessible only to the officers of the election. The compartment D of the Myers machine, together with its entrance-door E, and the compartment G, with its entrance-door J and exit-door K, and all the mechanism shown in the Myers patent by means of which the opening and shutting of those doors operate to perform sundry functions described in that patent are unchanged in this invention, and therefore do not require to be redescribed or redelineated in this specification or the accompanying drawings, except that it may be said in that behalf that the shaft marked m^3 in the Myers patent, and which is actuated by the exit-door K of the Myers machine, and which, when thus actuated, raises the rods 23 and the bar 65 of that machine, is marked 54 in these drawings and is employed in this invention to raise the rods 51 and the rod 43 when similarly actuated. Fig. 2 of the drawings is a plan view in section, taken on the line 2 2 of Fig. 1. Fig. 3 is a plan view in section, taken on the line 3 3 of Fig. 1. Fig. 4 is a side

view in vertical section, taken on the line 4 4 of Fig. 1. Fig. 5 is a vertical section taken on the line 5 5 of Fig. 1. Fig. 6 is a vertical section taken on the line 6 6 of Fig. 1. Fig. 7 is a plan view in section, taken on the line 7 7 of Fig. 1. Fig. 8 is a plan view of one of the push-keys and its appurtenant parts, drawn on an enlarged scale, and showing that key pushed into its farthest position. Fig. 9 is a side view in vertical section, taken on the line 9 9 of Fig. 8. Fig. 10 is a side view showing how the push-keys are unlocked when the rods 51 are raised. Fig. 11 is a rear elevation, partly in section, taken on the line 11 11 of Fig. 8, showing the latch by means of which any one of the push-keys is locked as soon as it is voted, and showing also one of the lifting-rods in its downward and idle position. Fig. 12 is a view of the parts shown in Fig. 11 when the lifting-rod is raised, and thus operates to lift the latch and unlock the push-key. Figs. 13, 14, 15, and 16 are views representing, on an enlarged scale, one of the stop devices which are used in this invention to adjustably limit the number of votes which a voter may give in the second, third, or fourth class of voting, Fig. 13 being a plan view, and Fig. 14 a rear elevation, thereof, Fig. 15 being a side view in vertical section, taken on the line 15 16 of Fig. 14, looking toward the left in that figure, and Fig. 16 being a vertical section, also taken on the line 15 16 of Fig. 14, but looking toward the right in that figure.

Fig. 1 shows an arrangement for twelve push-keys and counters in four horizontal rows of three keys each, the horizontal rows being designated by the letters A, B, C, and D, and the vertical rows by the letters X, Y, and Z, and any particular key may be identified by its combination of one of the first four letters with one of the last three letters. Each push-key is to be connected with a mechanical counter, which may be substantially like the counters shown in the Myers patent, No. 494,588, or may be of any other suitable sort, which like that will register the number of times a key is pushed in and thus register the number of votes cast thereby. The mechanism of the horizontal row D is shown in adjustment for voting of the first class, while the mechanisms of the horizontal rows A, B, and C are shown in adjustment for voting of the third class—that is to say, the horizontal row D is adjusted for voting for any one of three regularly-nominated candidates for an office to be filled by one officer, while the horizontal rows A, B, and C are adjusted to voting for any three of nine regularly-nominated candidates for a board to be filled with five officers. Thus the vertical row X may be devoted to Republican candidates, and the vertical row Y to Democratic candidates, and the vertical row Z to Populist candidates.

As the mechanism is arranged any voter by pushing in the key DX, DY, or DZ may vote for the Republican, the Democratic, or

the Populist candidate for the office to be filled by one officer and cannot push in any other key in that horizontal row, because pushing in any one of the keys in that row locks out the other two, and the same voter, though he cannot simultaneously push in more than one key in the three upper horizontal rows, can successively push in any three of those nine keys, and thus vote for the three Republican candidates, or the three Democratic candidates, or the three Populist candidates for the board which is to be filled with five officers, or he can vote for any three of those nine candidates by pushing in any three of the nine keys of those horizontal rows; but he can push in no more than three keys, because the pushing in of any three locks out the remaining six.

The mechanism by which the above-mentioned result as to the lower horizontal row of keys is accomplished may first be explained.

The numeral 3 indicates a shaft which rocks in bearings in the opposite end walls of the compartment 2, and is made to thus rock by the crank 4, fixed to one of its ends outside or inside of one of those walls. The upright arms 5 and 6 have their lower ends fixed to the shaft 3 near its opposite ends on the inner sides of the opposite end walls of the compartment 2, and those arms carry the shaft 7, which shaft rocks in bearings in the upper ends of those arms and carries the horizontal arm 8, which is fixed thereto near the arm 5 and which rests upon the projection 9, which extends into the compartment 2 from the adjacent end wall thereof. The shaft 7 also carries the horizontal arm 10 and the row of six horizontal brackets 11, and that arm and those brackets are fixed to the shaft 7, so as to have a substantially horizontal movement from and toward the partition 1 whenever the shaft 7 is carried from or toward that partition by means of the arms 5 and 6 and the rock-shaft 3, worked by the crank 4. The brackets 11 carry a train of locking-blocks 12, 13, and 14. That train of locking-blocks is capable of longitudinal movement in their recesses in the heads of the brackets 11; but that longitudinal movement is limited in one direction by the arm 10 and in the other direction by the projection 42, which extends upward, and also toward the eye, looking at Fig. 1, from the post 15, which post is fixed to the floor or to any convenient wall of the compartment 2, or may be a movable upright interlocking block, like the block 41, where another horizontal row of voting-keys is put under the row D. The latches 16, 17, and 18 are pivoted to the partition 1, adjacent to the push-keys DX, DY, and DZ, respectively, and those latches are forced by their springs 19, respectively, down into notches 20, cut in the upper sides of those keys, whenever those keys are respectively pushed in to their innermost positions, so as to lock them in those positions. The working end of each push-key has the vertical diagonal surface 21 on the side toward the post

15, by means of which diagonal surface the locking block or blocks between it and that post may be forced toward the post 15 far enough to admit the push-key between the ends of the adjacent locking-blocks or between the adjacent end of the locking-block 12 and the side of the arm 10, as the case may be. The spring 22 forces the train of locking-blocks back toward the arm 10 whenever there is no push-key pushed inward.

The mode of adjustment of the above-mentioned devices, in the horizontal row D of Fig. 1, consists in fixing the crank 4 in its lower position, (shown in Fig. 6,) and in thus fixing the shaft 7 in its farthest position from the partition 1, as shown in Fig. 7. In that position of the shaft 7 the train of locking-blocks 12, 13, and 14 also occupies its farthest position from the partition 1. Thereupon when either of the push-keys DX, DY, or DZ is pushed in, as shown in Fig. 7, the locking block or blocks between it and the projection 42 of the post 15 are forced lengthwise toward and to that projection, while the locking block or blocks between it and the arm 10 are forced or held lengthwise between it and that arm, so that no other push-key in the horizontal row D can be pushed in until the key already pushed in has returned to its original place; but that key having been latched by the latch 16, 17, or 18, as the case may be, cannot return to its original place until that latch is lifted, and that latch cannot be lifted until the voter who pushed in the key has left the voting-booth by passing through the said exit-door K, and until that door has been fastened after him, so that he cannot return, which operation of that door works, as in the Myers machine, to lift the latch and unlock the push-key.

The mechanism by means of which any predetermined number, and no more—for example, three—of the push-keys in the horizontal rows A, B, and C may be successively pushed in, and by means of which not more than one of those keys can be pushed in simultaneously, will now be indicated. That mechanism includes for each of the horizontal rows A, B, and C a duplicate of the above mechanism, described as appurtenant to the horizontal row D. The difference of adjustment between each of those duplicates and the corresponding mechanism of the horizontal row D resides in the fact that the crank 4 of each of the horizontal rows A, B, and C is turned upward to the higher position, (shown in that behalf in Fig. 6,) and in the fact that that turning carries the shaft 7 and the train of locking-blocks 12, 13, and 14 from their positions farthest from the partition 1, as shown in Fig. 7, to their positions nearest the partition 1, as shown in Figs. 2 and 3. That change of adjustment carries the projection 23 of the locking-block 14 to a position back of the lower arm of the bell-crank 24, as shown in Fig. 3, that bell-crank having been kept from turning downward and to the left

during the absence of the projection 23 from behind it by means of a pin 25, fixed to the partition 1, as best seen in Fig. 7.

The upright interlocking mechanism and the stop devices which are disconnected with the horizontal row D because of the want of engagement between the projection 23 and the bell-crank 24 of that horizontal row are in engagement with the horizontal rows A, B, and C by reason of the engagement of the projections 23 with the bell-cranks of those horizontal rows, respectively, and that mechanism may now be described in connection with the parts which will be connected with the horizontal row D whenever the crank 4 of that row is turned to its upper position.

The horizontal arm of the bell-crank 24 of the horizontal row D is under the projection 26 of the interlocking block 27, and the upper end of that block is provided with the projection 28 and the rocking arm 29, which is movable by the handle 30 from its full-line position (shown in Fig. 16) to its broken-line position. (Shown in the same figure.) When that arm is in that full-line position, it is under the arm 31 of the stop device, which includes it and the ratchet 32, and which ratchet turns on the pivot 33, which is fixed in the bracket 34. The arm 31 also turns loosely on the pivot 33 and carries the pawl 35, while the detent 36 is attached by the pivot 37 to the bracket 34. The bell-crank 38 of the horizontal row C differs from the bell-crank of the horizontal row D, in that its horizontal part is lower than its pivot and is provided with the rocking arm 39, which may be turned by the handle 40 from the full-line position to the broken-line position shown in Fig. 15. When the arm 39 is in the latter position, it is under the arm 31, but when it is in the former position it is under the interlocking block 41, and that is the proper position in the present adjustment. The interlocking block 41 is provided at its upper end with the projection 42 for the stoppage of the adjacent end of the locking-block 14 of the horizontal row B.

The bell-crank 24 of the horizontal row B is identical with the bell-crank 24 of the horizontal row D, and the upper interlocking block 27 is a duplicate of the lower interlocking block of that number, and like the latter has a projection 26 over the horizontal arm of the adjacent bell-crank 24, and also has a projection 28, and also an arm 29, worked by a handle 30 at its upper end. The bell-crank 38 of the horizontal row A is a duplicate of the bell-crank 38 of the horizontal row C, and like the latter has a rocking arm 39, worked by a handle 40. The arm 29 of the upper interlocking block 27 and also the arm 39 of the upper bell-crank 38 may be turned under or not under the arm 31 of the upper stop device, which stop device is a duplicate of the lower stop device, and like it also has a ratchet 32, turning on a pivot 33 in a bracket 34, and also has a pawl 35, pivoted

to its arm 31, and a detent 36, attached by a pivot 37 to a bracket 34. In the drawings no interlocking block 41 is shown above the upper arms 29 and 39 to be lifted by them or either of them; but such a block will exist where a horizontal row like the horizontal row B is put above the horizontal row A. The lifting-rod 43 is provided with the projection 44 under the lower pawl 35 and detent 36 and will be provided with a similar projection under every pair of pawl and detent which may be included in any particular voting-machine. Every such pair, together with an arm 31 and ratchet 32, constitute one of the stop devices which adjustably limit the number of keys that can be successively pushed in, and the ratchet of each of those stop devices is provided with a back-stop 46 and with a circular series of holes, which are marked from 1 to 14 in Fig. 14, for the reception of the forward stop 47, and is provided also with a coil-spring which tends to make it turn in the direction of the arrow. (Shown in Fig. 14.)

The voting-keys in all the horizontal rows are alike, and each of them is surrounded by a helical spring 48, inclosed in a housing 49, as shown in Figs. 3 and 5, and the inner end of the push-key, which is formed with the vertical inclined plane 21 for the purpose of pushing longitudinally one or more of the train of locking-blocks 12, 13, and 14, is also provided with the upward projection 50, one side of which constitutes a part of that inclined plane—that is to say, the inner end of each push-key is presented in plan view in Figs. 2, 3, 7, and 8 and is presented in side view in Figs. 4, 5, 6, 9, and 10—the rearward limit of the vertical inclined plane 21 being substantially coincident with the rear side of the projection 50.

The rods 51 are suspended from the ends of the arms 52, respectively, and those arms, like the arm 53, which carries the rod 43, are fixed to the shaft 54. The rods 51 are provided, respectively, with the series of projections 55, for lifting the latches 16, 17, and 18, respectively, of each horizontal row of push-keys, and one of the rods 51 is also provided with the series of projections 56 for lifting the trains of locking-blocks by means of the projections 57 from the corresponding series of brackets 11.

In the present adjustment the arms 29 and 39 of the upper interlocking block 27 and the upper bell-crank 38, respectively, are turned under the arm 31 of the upper stop device; but the arms 29 and 39 of the lower interlocking block 27 and bell-crank 38, respectively, are turned under the interlocking block 41.

The mode of operation of the mechanism of the horizontal rows A, B, and C, when that mechanism is adjusted, as above described, is as follows: When a voter pushes in one push-key—as, for example, the key BY—the inclined plane 21 at the inner end of that key pushes the locking-block 13 and the locking-

block 14 of the horizontal row B toward the right, as shown in Fig. 3. While that key is being thus pushed in, no other key in the same horizontal row can be pushed in, because the locking-block or locking-blocks to the left of the key being pushed in are then locked by that key against any longitudinal movement, as shown, of the locking-blocks 12 in Fig. 3, while the locking block or blocks to the right of the key being pushed in then have the inclined recess or recesses between them out of alinement with the key or keys to the right of the key being pushed in, as shown in respect of the locking-blocks 13 and 14 of Fig. 3, and no key in the horizontal row A can be pushed in simultaneously with any key in the horizontal row B, because the pushing in of any key in the horizontal row B raises the upper interlocking block 27 by means of the projection 23, the bell-crank 24, and the projection 26, so that the upper end of the body of the block 27 locks the blocks 12, 13, and 14 in the horizontal row A against any longitudinal movement, as shown in Fig. 1, and no key in the horizontal row C can be pushed in simultaneously with any key in the horizontal row B, because the pushing in of any key in the latter row forces the right-hand end of the locking-block 14 of that row above the top of the body of the interlocking block 41, and thus locks that block against upward movement, and the latter, operating through the arm 39 and the bell-crank 38, locks the train of locking-blocks 12, 13, and 14 in the horizontal row C against any longitudinal movement; but when the key BY is pushed entirely in its upper projection 50 passes beyond the train of locking-blocks, like that of the key AY, as shown in Fig. 2, and thereupon the spring 22 carries the train of locking-blocks back to its former position, and thus unlocks the interlocking block 41 and also allows the upper interlocking block 27 to fall from its position in Fig. 1, so that it no longer locks the train of locking-blocks in the horizontal row A. The temporary movement of the locking-blocks 13 and 14 in the horizontal row B toward the right operated, however, through the bell-crank 24 and the upper interlocking block 27 and the arm 29 of the latter, to raise the arm 31 of the upper stop device in Fig. 1, and that raising worked the pawl 35, and thus carried the ratchet another notch forward to a position where it was locked by the detent 36. The subsequent pushing in of any other key in the horizontal row B operates exactly the same as above described and carries forward the ratchet of the upper stop device another notch; but if the voter, instead of pushing in more than one key in the horizontal row B, next pushes in a key in the horizontal row C that pushing in operates to prevent the simultaneous pushing in of any other key in the same row in the same way above described in respect of the horizontal row B, and that pushing in operates to prevent the simultaneous

pushing in of any other key in the horizontal row B, by means of the projection 23 in the horizontal row C lifting the bell-crank 38 and its arm 39 in that row, and thereby lifting the interlocking block 41, so as to prevent any longitudinal movement of any locking-block in that row, and the same lifting of the interlocking block 41 lifts the upper interlocking block 27 to the position which it occupies in Fig. 1, and thus locks the locking-blocks in the horizontal row A against any longitudinal movement, the forward stop 47 of the upper stop device having been placed in the hole 3 of the ratchet 32 as a part of the adjustment of the machine for the purpose of limiting the number of keys in the horizontal rows A, B, and C that can be pushed in. When any three of those keys have been pushed in, as above described, the forward stop 47 collides with the upper side of the bracket 34, and thus prevents any further turning of the ratchet in that direction, and that stoppage of the ratchet prevents, by means of the pawl 35, the arm 31 from being lifted again from its horizontal position, and the keeping of that arm in its horizontal position prevents, by means of the upper bell-crank 38 and its arm 39, another longitudinal movement of the locking-blocks 12, 13, or 14 in the horizontal row A, and also prevents, by means of the upper interlocking block 27, its arm 29, and the upper bell-crank 24, another longitudinal movement of the locking-blocks 12, 13, or 14 in the horizontal row B, and also prevents, by means of the upper interlocking block 27 and its arm 29 and the interlocking block 41 and its projection 42 and the lower bell-crank 38 and its arm 39, another longitudinal movement of the locking-blocks 12, 13, or 14 of the horizontal row C.

In the above-described adjustment and operation of the horizontal rows A, B, C, and D and of the interlocking blocks and stop devices, which are shown to the right of those rows in Fig. 1, the lower stop device is idle and all the keys in the three upper horizontal rows are grouped together with the upper stop device, as above described, while the horizontal row D is entirely out of connection with either of the stop devices, because the projection 23 of the lower locking-block 14 is out of connection with the lower bell-crank 24, and the lower interlocking block 27 and its arm 29 are also idle.

The horizontal row used for voting of the first class may be one of the intermediate ones instead of the lower one, and in that case the other three may be grouped together as if they were all adjacent. For example, the horizontal row C of locking-blocks may be moved to its position farthest from the partition 1 and the other three rows of locking-blocks be moved to the position nearest that partition and the arm 29 of the lower interlocking block 27 be turned under the interlocking block 41. Then when the locking-blocks of the row C are moved and held to

the right by one of the push-keys of that row the rectangular notch 58 in the right-hand end of the locking-block 14, which is best seen in Fig. 7, enables the lower interlocking block 27 to be raised and not be locked against vertical movement by the locking-block 14.

The mechanisms of the horizontal rows A and B may be grouped together and adjusted to voting for any two of six regularly-nominated candidates for a board to be filled with three officers, while the mechanisms of the horizontal rows C and D may be grouped together and adjusted to voting for any three of six regularly-nominated candidates for another board to be filled with five officers, and in this case also the vertical row X may be devoted to Republican candidates, and the vertical row Y to Democratic candidates, and the vertical row Z to Populist candidates. This grouping and adjustment consist of turning the crank 4 of the horizontal row D from its lower to its upper position, and consist in turning the arm 29 of the lower interlocking block 27 and the arm 39 of the lower bell-crank 38 from their positions under the interlocking block 41 to positions under the arm 31 of the lower stop device, and consist in putting the forward stop 47 of the upper and lower ratchets 32, respectively, in the holes 2 and 3 of those ratchets, respectively. This turning of the crank 4 of the horizontal row D carries all the mechanisms of that row to their positions nearest the partition 1, as shown in respect of other horizontal rows in Figs. 2 and 3, and carries the projection 23 of the lower locking-block 14 to a position to the left of the lower end of the lower bell-crank 24, as shown in respect of the horizontal row B in Fig. 3, and this turning of the arm operates, through the lower interlocking block 27 and the lower bell-crank 24, to put the horizontal row D into connection with the lower stop device, and this turning of the lower arm 39 takes the horizontal row C out of connection with the upper stop device and puts it into connection with the lower stop device; and the putting of the forward stop 47 of the ratchets 32 in the holes 2 and 3 of those ratchets, respectively, operates to limit the number of keys which can be successively pushed in of those which are grouped with the stop device, of which those ratchets respectively constitute parts, and that limitation is accomplished, in respect of the two horizontal rows which are now grouped with each stop device, on the same principle that the number of keys which can be successively pushed in is limited to three when the upper three horizontal rows are grouped with the upper stop device, as previously described.

The mechanisms of the horizontal rows A, B, C, and D may be respectively and independently adjusted to voting for any one of three regularly-nominated candidates for an office to be filled by one officer, and that adjustment consists in turning the crank 4 of each row from its upper to its lower position,

so as to carry the mechanisms of each horizontal row to its position farthest from the partition 1. In that adjustment the projection 23 of each locking-block 14 is out of connection with the adjacent bell-crank, and therefore the mechanism of each horizontal row is out of connection with the interlocking mechanisms and stop devices shown to the right of those rows in Fig. 1, and the mechanism of each horizontal row operates independently of all the others in the same way that the mechanism of the horizontal row D was first above described as operating; or such an independent operation of the mechanism of each horizontal row may be accomplished by making and employing a stop device consisting of an arm 31, ratchet 32, pawl 35, and detent 36 for each horizontal row and in connecting that stop device with its horizontal row in the same way that the lower stop device is connected with the horizontal row C. In this case, where a horizontal row is to be adjusted for voting for any one of three regularly-nominated candidates for an office to be filled with one officer, the forward stop 47 will be placed in hole 1 of the ratchet, so that the stop device will lock out all the voting-keys but one in that horizontal row, although the train of locking-blocks of that row is in its position nearest the partition 1', so that the other voting-keys are not locked out by the first one pushed in.

Where a stop device is made and employed for each horizontal row, the train of locking-blocks may therefore be permanently fixed in the position nearest the partition 1, and the described mechanism for moving them from that position to the position farthest from the partition 1 may be omitted from the machine. It is desirable to make and employ one such stop device for each horizontal row instead of one for each two horizontal rows, as shown in Fig. 1, because the use of one stop device for each horizontal row not only enables the push-keys in that row to be adjusted for voting independently of all other push-keys, but also enables the push-keys of each horizontal row to be grouped with the push-keys of any horizontal row or rows above or below it, whereas if the number of stop devices is only half of the number of horizontal rows, as is the case in Fig. 1, each of half of those horizontal rows cannot be grouped with any horizontal row above it unless it is grouped with a horizontal row below it. For this reason, in order to enable each push-key in the machine to be used in the largest variety of combinations with other push-keys, there must be a stop device for every horizontal row; but where it is not necessary to so extensively vary the combinations of push-keys to which the machine is to be adjusted fewer stop devices are sufficient for practical purposes, the rule of the machine in that case being that all the push-keys in any horizontal row may be grouped with the push-keys of any horizontal row or

rows above it by means of the stop device opposite the highest of the horizontal rows thus grouped.

The plan above described, upon which a horizontal row of voting-keys may be used for voting of the first class, and which plan consists in the use of a train of locking-blocks in the position farthest from the partition 1 and out of connection with the stop mechanism (shown to the right of the train of locking-blocks in Fig. 1) in the manner indicated in Fig. 7 of the drawings, did not originate with me, but it is shown in Letters Patent of the United States No. 248,130, granted to Anthony C. Beranek October 11, 1881; and a plan of permanently placing a train of locking-blocks in such a position relative to the partition 1, as that when a voting-key is moved to the voted position a projection of that key having an inclined plane pushes the locking block or blocks on one side of it toward the right and prevents the simultaneous movement of any other key in the same horizontal row, and, as that when such voting-key has been moved to the voted position, its projection passes beyond the train of locking-blocks and thus permits those blocks to be returned by a spring to their former position, is shown in Letters Patent of the United Kingdom, No. 12,188, granted to William Chamberlin June 13, 1848; but my combination of the two plans enables any horizontal row of push-keys to be used for voting of the first class or to be adjusted into combination with one or more other rows of horizontal push-keys for voting of the second, third, or fourth class, and this double adjustability is one of the characteristics of my machine, which makes it economically adaptable to the great variety of elections which are conducted in the United States; and my machine may also be used in still another way to accomplish the same result of double capacity by fixing all the trains of locking-blocks in their positions nearest the partition 1 and by providing one of the stop devices shown in Fig. 14 of the drawings for each horizontal row of push-keys and locking-blocks. In that construction of the machine any horizontal row of push-keys may be independently adjusted for the first class of voting by turning the arm 39 of the bell-crank 38 apurtenant to that horizontal row under the arm 31 of the adjacent stop device and by putting the forward stop 47 of the adjacent stop device in hole 1 of the ratchet 32. If this adjustment is made for each of the horizontal rows, each horizontal row can be used for voting of the first class independently of any other horizontal row, and if this adjustment is made for two or more fewer horizontal rows than the whole number in the machine the horizontal rows not thus adjusted may be adjusted for one or more groups for voting of the second, third, or fourth class by connecting them in one or more groups with one or more stop devices other than the stop device or stop devices which are connected

with the horizontal row or rows which are independently adjusted to voting of the first class, and non-adjacent horizontal rows may be grouped together in the mode above described for grouping adjacent horizontal rows, except that the arm 39 of the bell-crank 38 adjacent to the train of locking-blocks of the intermediate horizontal row, which may be adjusted for voting of the first class, is turned under the arm 31 of the adjacent stop device, while the arm 29 of the adjacent interlocking block is turned under the interlocking block next above it instead of under the arm 31.

Thus far the adjustability of this machine to voting of the first class and to minority representation voting, which is voting of the third class, has been explained. The same adjustment which fits the machine to minority representation voting also fits it for voting of the second class, which is general ticket voting, the only difference between those two classes of voting residing in the fact that in general ticket voting the law provides that the number of persons to be elected is the same as the number of persons for whom each voter may vote, whereas in the minority representation voting the law provides that the number of persons to be elected is larger than the number of persons for whom each voter can vote, and that the persons elected are those persons of that larger number each of whom received more votes than any other candidate for the same board or office to be filled with more than one officer.

The mode of adjusting the machine to cumulative voting, which is voting of the fourth class, is somewhat different from any other mode of adjustment, and may be explained by the following examples:

In Illinois, where three representatives are elected in each assembly district, and where each voter may at his option give one vote for each of three candidates, or one and one-half votes for each of two candidates, or three votes for one candidate for representative, the number of nominations made by each party depends upon the comparative strength of the parties in the assembly district. If, for example, the Republicans in that district number about four-sevenths of the voters and the Democrats about two-sevenths and the Populists about one-seventh, the Republicans will nominate two candidates, and each Republican will give one and one-half votes to each, while the Democrats and the Populists will each nominate one candidate and each Democratic or Populist voter will give three votes to the candidate of his party. Under these circumstances an election of this kind can be conducted by the use of six horizontal rows of push-keys grouped together with one stop device, so that any six of those push-keys, and no more, can be pushed in by each voter, and by making each pushing in of a key to represent half a vote instead of one vote, and by devoting three of the keys in the Republican vertical row to each of the

two Republican candidates, and by devoting all six of the keys in the Democratic vertical row to the Democratic candidate, and by devoting all six of the keys in the Populist vertical row to the Populist candidate. In such a case the name of the candidate adjacent to each key would be accompanied by the words "Half a vote," so as to inform the voter that in order to cast his three votes he must push in six keys; or, if in a particular district the Republicans and Democrats are about equal in number, each of those parties may nominate two candidates for representative, and the six keys in the Democratic vertical row, instead of all being devoted to one Democratic candidate, will be equally divided between two Democratic candidates; but otherwise the plan above described in this paragraph will be unchanged.

This machine does not contain any provision for the fifth class of voting, which is voting for persons who have not been nominated by any convention or other combination of voters, but who are simply selected by individual voters to receive the compliment of votes which are called "scattering," and I relegate that part of a voting-machine to another application for another patent.

The sixth class of voting, which is voting "yes" or "no" upon any particular proposition submitted to the voters, can be conducted by one horizontal row of push-keys and locking-blocks, containing two keys and two blocks. That horizontal row may be connected with the stop mechanism at the right of Fig. 1, and operate upon the plan above described for the operation of the horizontal row D, when it is used for voting for any one of three candidates for an office to be filled with one officer, or the horizontal row thus used may be connected with such a stop device as that shown in Fig. 14, with its forward stop 47 in hole 1 of the ratchet, so that, as in the other case, when the voter has pushed in the "no" key he cannot push in the "yes" key, or when he has pushed in the "yes" key he cannot push in the "no" key.

The number of horizontal rows of push-keys and locking-blocks in a particular machine, constructed according to my invention, will vary with the aggregate number of candidates nominated by the party nominating the largest number to be voted for at a particular election, and the number of vertical rows of push-keys in a particular machine will vary with the number of parties or other combinations of voters which make nominations of candidates for some or all of the offices to be filled.

Where the number of officers to be elected to a particular office is very large and is to be elected by general ticket voting, as in the case of electors of President and Vice-President in the State of New York, the law may prescribe that one push-key shall be devoted to all the candidates of a particular party for that office, and that one pushing in

of that key shall be counted as a vote for each of those candidates.

When a voter has pushed in all the voting-keys which he can or does and then passes through the door K, (shown in the Myers patent,) the shaft 54 of this machine is rocked by the same mechanism that rocks the shaft m^3 of that patent, and that rocking lifts the rods 51 and 43. The lifting of the rods 51 operates, through the projections 56 and 57, to raise the trains of locking-blocks away from all contact with the rows of push-keys, as shown in Figs. 8, 9, and 10, and also operates, through the projections 55, to raise the latches 16, 17, and 18 out of their notches in the push-keys, which have been pushed in by the voter, as shown in Figs. 11 and 12, whereupon those push-keys are carried back by their springs 48 to their unvoted positions, and the lifting of the rod 43 raises the pawl 35 and the detent 36 of each stop device and thus allows the ratchet of that device to turn back till its back-stop 46 strikes the bracket 34. The closing of the door K rocks the shaft 54 in the opposite direction from that caused by the opening of the door, and that rocking lowers the rods 51 and the rod 43 to their former positions, and thus allows the trains of locking-blocks and the pawls and detents to return to their operation places.

A voting-machine all parts of which are capable of adjustment to either of so many classes of voting as this machine cannot be very simple; but it is imperative that its methods of adjustment shall be easy to understand, for its adjustments must be made by election officers, who are seldom expert machinists; and it is highly desirable that the parts which are handled in making any desired adjustment shall not be removable from the machine, for if they were so they would be likely to be lost or stolen, and elections would be thus liable to be prevented or hindered. Accordingly the only parts which are handled in adjusting this machine are the cranks 4, the arms 29 and 39, and the forward stops 47. Each of those cranks and each of those arms is capable of being rocked into only two positions and is firmly fixed in the machine. The forward stops 47 must be indeed capable of being shifted from hole to hole in their respective ratchets; but they can and should be fastened, by chains or otherwise, to the brackets 34 or some part of the machine, so as to avoid all danger of their being lost, stolen, or mislaid; and all the mechanism shown in the drawings, including the crank 4, must be so inclosed and secured that it cannot be changed in adjustment except jointly by those election officers who are charged by law with its management.

The mechanism for actuating the ratchet in each stop device may be different from that shown in the drawings. For example, the arms 29 and 39 may be constructed and adapted to directly lift the ratchet-teeth in-

stead of operating through the arm 31 and the pawl 35, and the ratchet, when advanced, may be held otherwise than by the detent 36; and other parts of this machine may be varied in form, arrangement, and appearance without departing from the primary scope of the invention.

I claim as my invention—

1. The combination of a row of two or more voting-keys; a train of two or more locking-blocks; mechanism by means of which the train of locking-blocks can be alternatively carried to two positions, relative to the voting-keys; and a spring; where, when the train of locking-blocks is in one position, its members prevent both simultaneous and successive movement of any two or more keys to the voted position; and where, when the train of locking-blocks is in the other position, its members prevent simultaneous, but not successive, movement of any two or more keys to the voted position; and where the spring returns any locking block or blocks, which may have been moved by a voting-key, when that key no longer prevents that return; all substantially as described.

2. The combination of a row of two or more voting-keys; a train of two or more locking-blocks; a spring; or their respective equivalents; and mechanism by means of which the train of locking-blocks can be alternately carried to two positions relative to the voting-keys; where the locking-blocks, when in one of those positions, prevent any movement of more than one voting-key to the voted position, and when in the other of those positions, prevent simultaneous movement of any two or more keys to the voted position; and where the spring, in the latter case, returns any locking block or blocks which may have been moved by a voting-key, and thus provides for the successive movement of another key to the voted position; all substantially as described.

3. The combination of two rows, of two or more voting-keys, each; two trains, of two or more locking-blocks, like 12, 13 and 14, each; an interlocking block, like 27; and a bell-crank, like 24; where the locking-blocks in each train, prevent simultaneous movement of any two or more keys in their respective adjacent rows to the voted position; and where the interlocking block and bell-crank, prevent simultaneous movement of the two trains of locking-blocks, and thus prevent simultaneous movement of any two keys, in the two

rows, respectively, to the voted position; all substantially as described.

4. The combination of two or more rows, of two or more voting-keys each; two or more trains of two or more locking-blocks, like 12, 13 and 14 each; an interlocking block, like 27, and a bell-crank, substantially as described, between each two adjacent trains of locking-blocks; and a stop device; where the locking-blocks in each train prevent simultaneous movement of any two or more keys in their respective adjacent rows to the voted position; and where the interlocking block and bell-crank, or interlocking blocks and bell-cranks, prevent simultaneous movement of any two or more trains of locking-blocks; and where the stop device limits the number of times any interlocking block can be moved; and thus limits the number of times any locking-block can be moved by a voting-key; and thus limits the number of voting-keys which can be successively moved into the voting position; all substantially as described.

5. The combination of an interlocking block 27, provided with an arm 29; a stop device adjacent to that arm; another interlocking block adjacent to both; and another stop device directly or indirectly connected with the latter, where the arm 29 may be turned into connection with the first stop device, and thus cause the number of the movements of the interlocking block 27, to be limited by that stop device, or may be turned into connection with the second interlocking block, and thus cause the aggregate number of movements of the two interlocking blocks to be limited by the second stop device; all substantially as described.

6. The combination of the arm 31; the ratchet 32; the pawl 35; the detent 36; the back-stop 46; the forward stop 47; and the rod 43; so constructed and combined, that the arm 31 may be moved a limited distance, a limited number of times, after which it can be moved no more, until the pawl and detent are removed from the ratchet, and the ratchet is returned to its original position, and that the pawl and detent may be removed from the ratchet by the lifting of the rod; all substantially as described.

In witness whereof I now execute this specification September 24, 1895.

WILLIAM H. HONISS.

Witnesses:

ALBERT H. WALKER,
MABEL WARREN.