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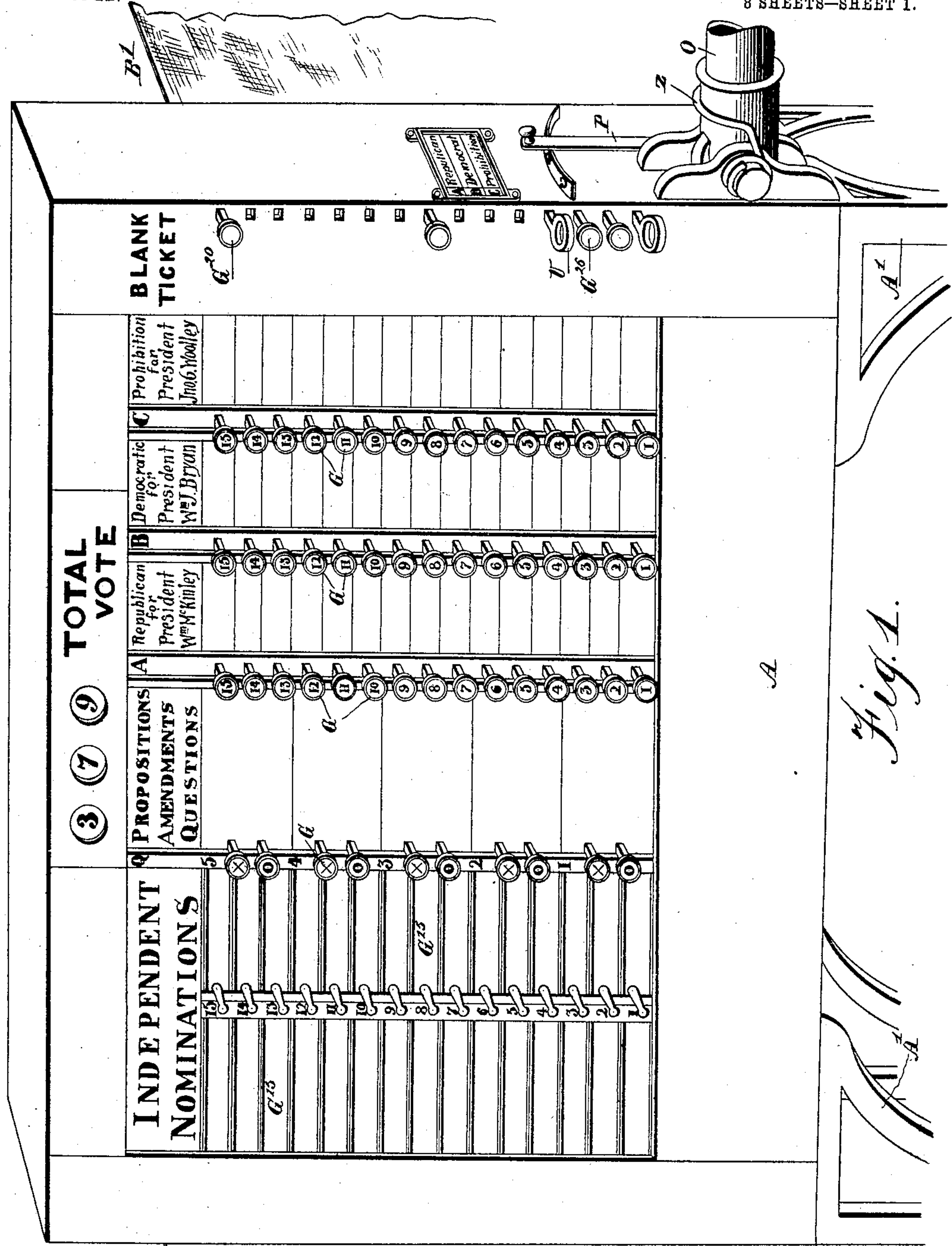
PATENTED OCT. 11, 1904.

W. GLENN.
VOTING MACHINE.

APPLICATION FILED JULY 16, 1902.

NO MODEL.

8 SHEETS—SHEET 1.



Witnesses.
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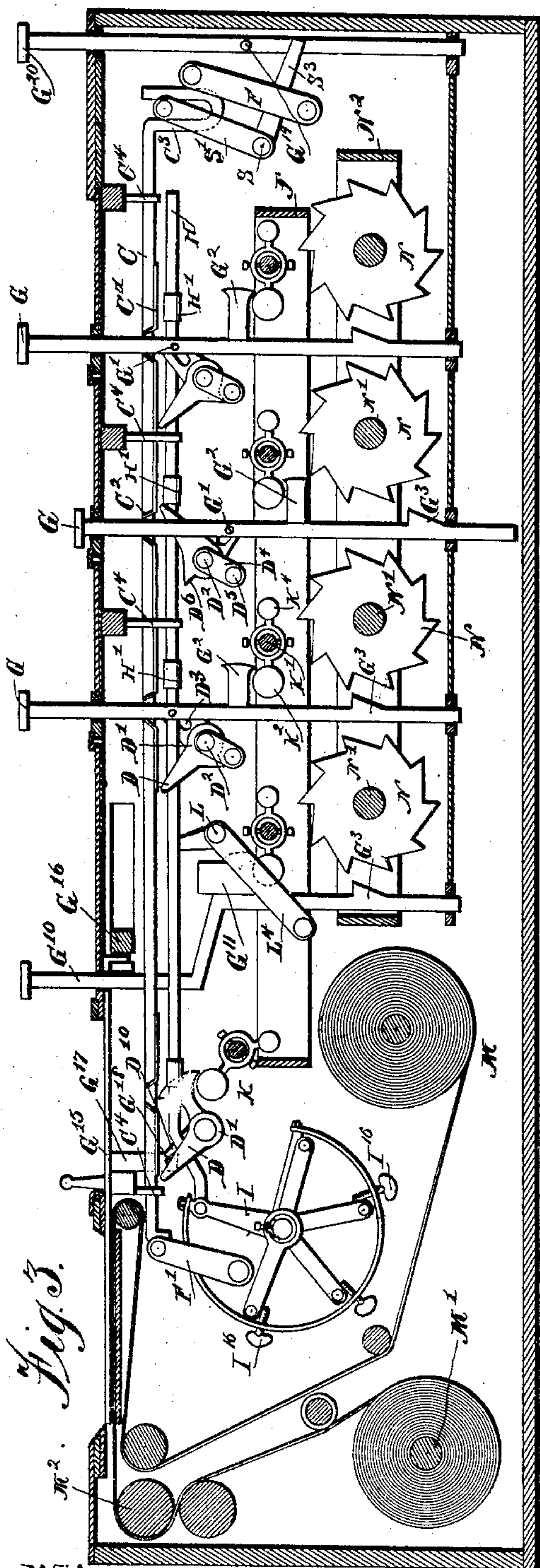
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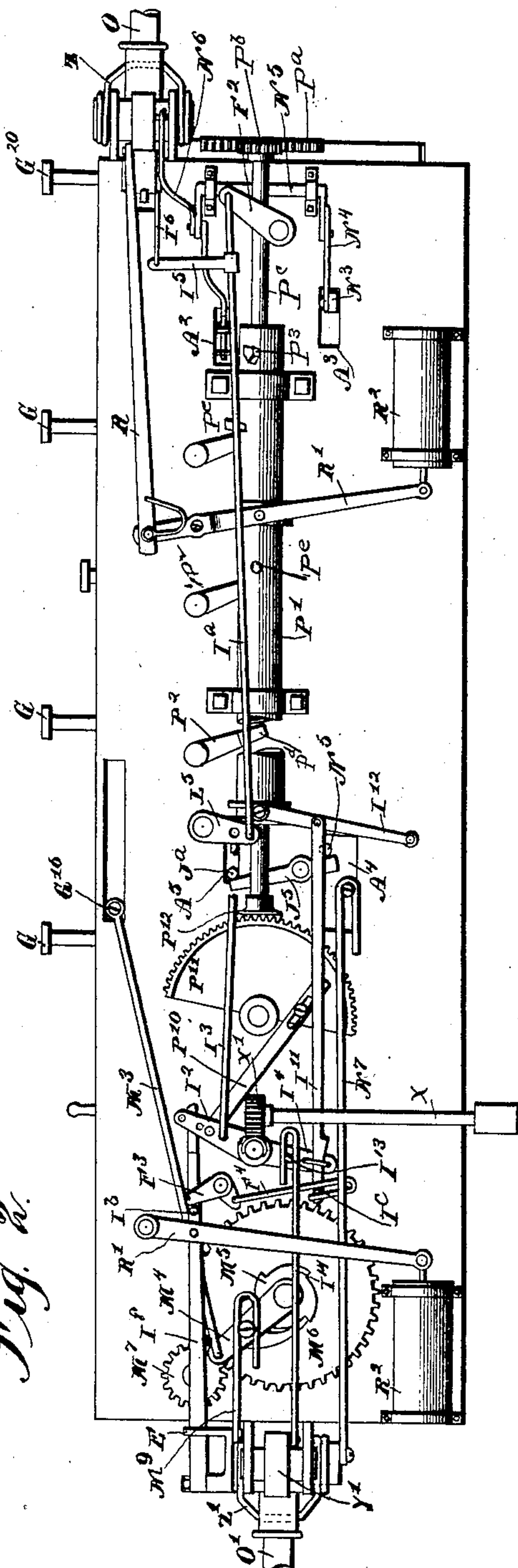
8 SHEETS—SHEET 2.



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Fig. 2.



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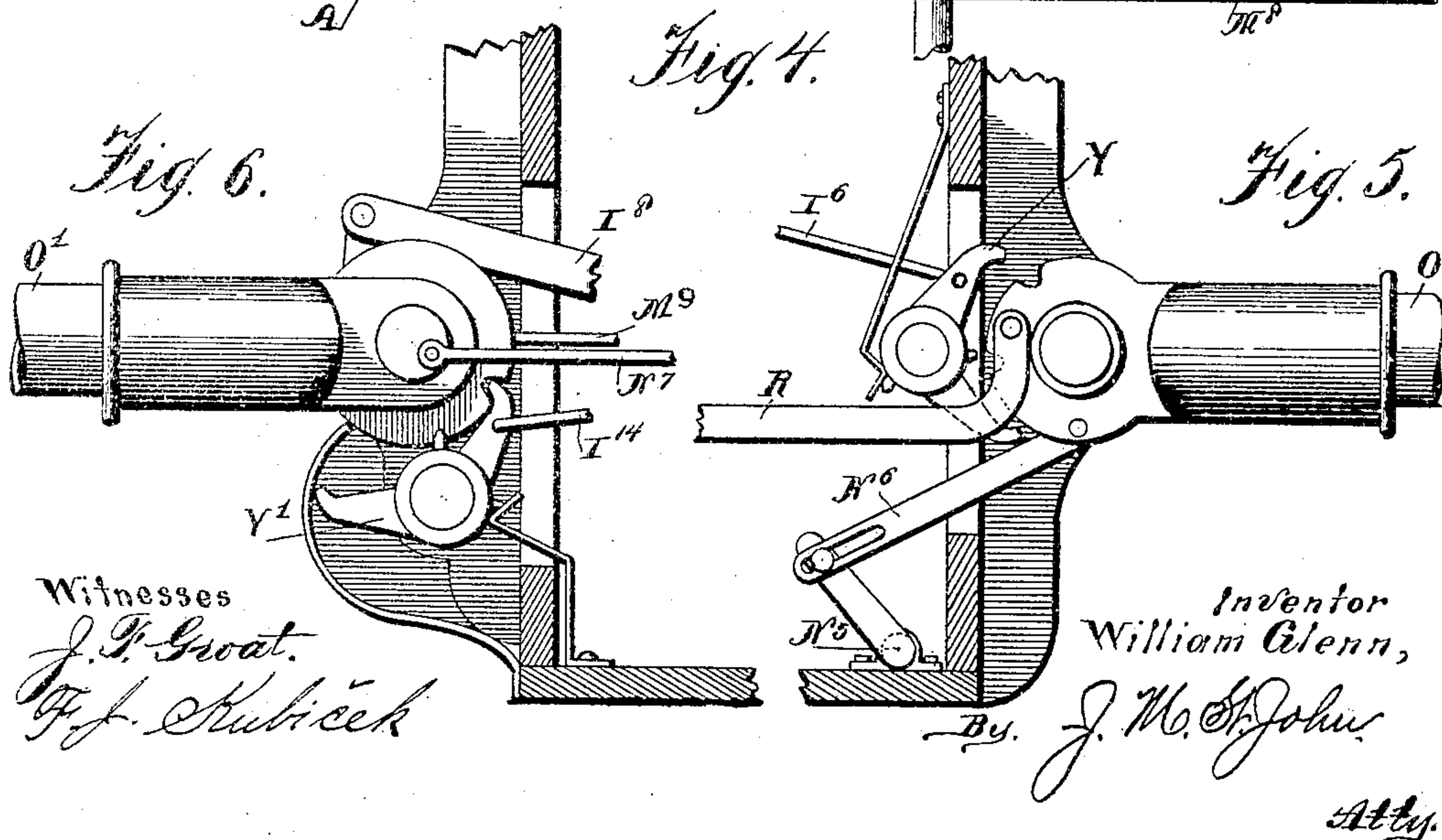
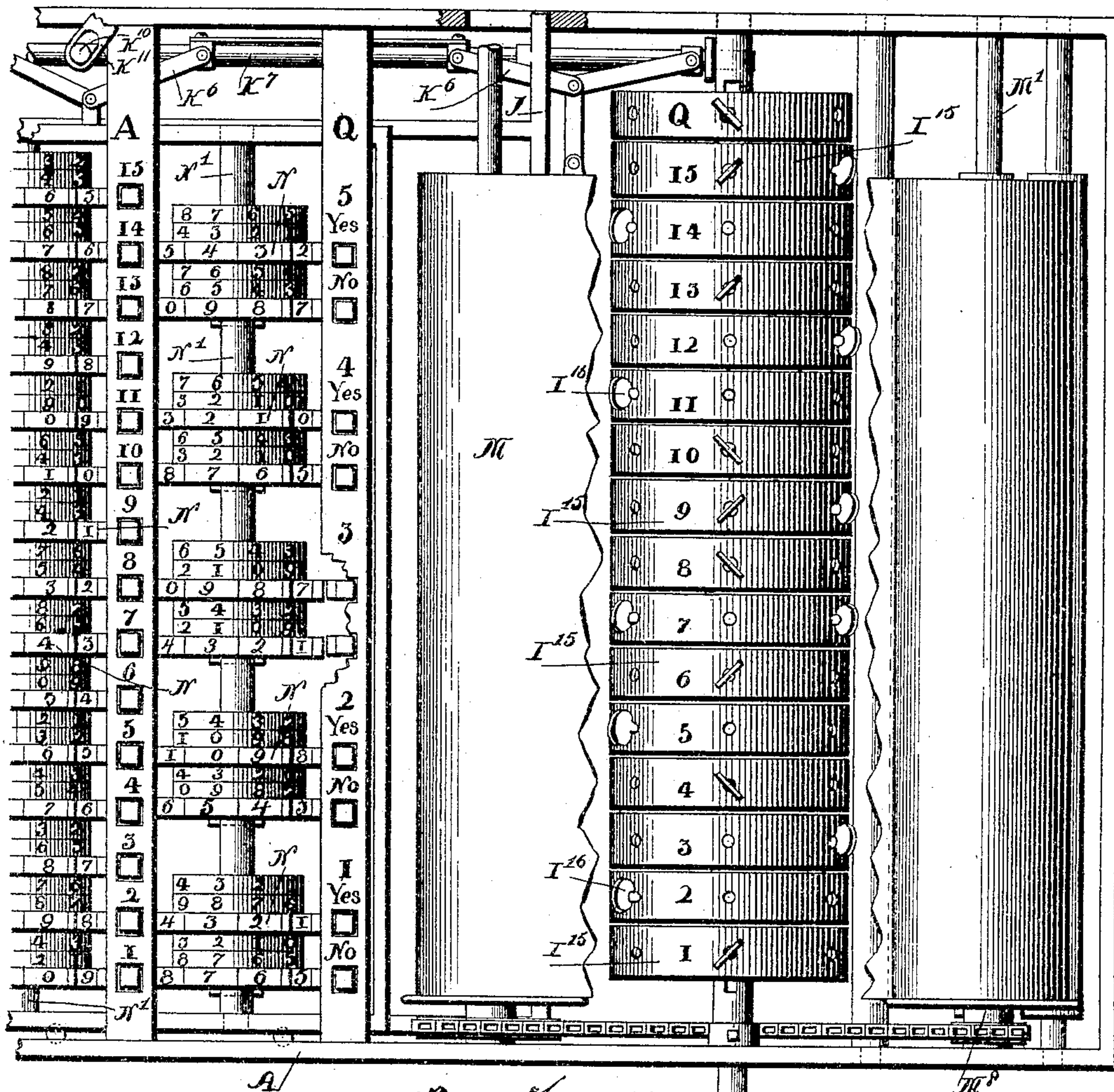
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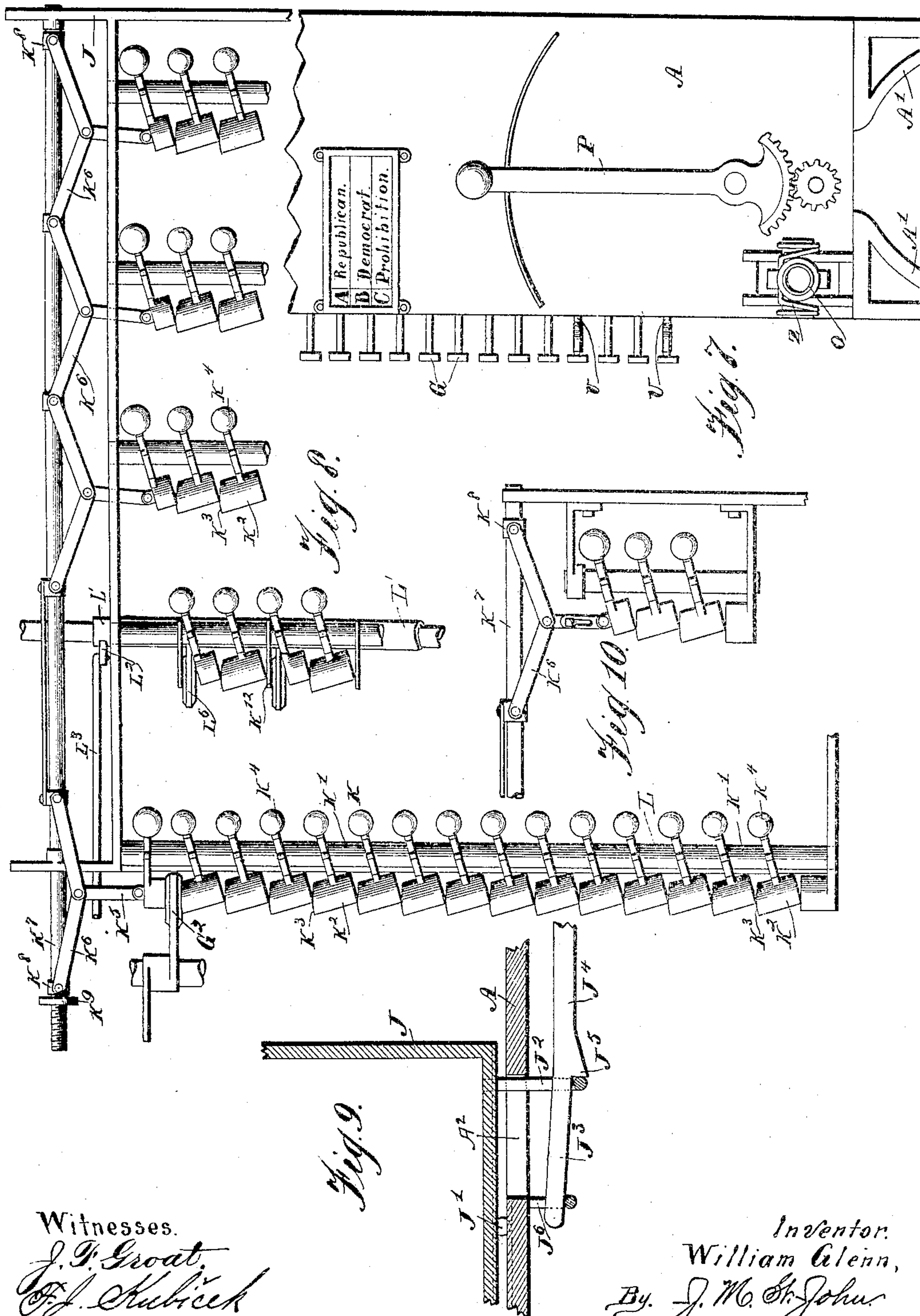
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8 SHEETS—SHEET 4.



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NO MODEL.

8 SHEETS—SHEET 5.

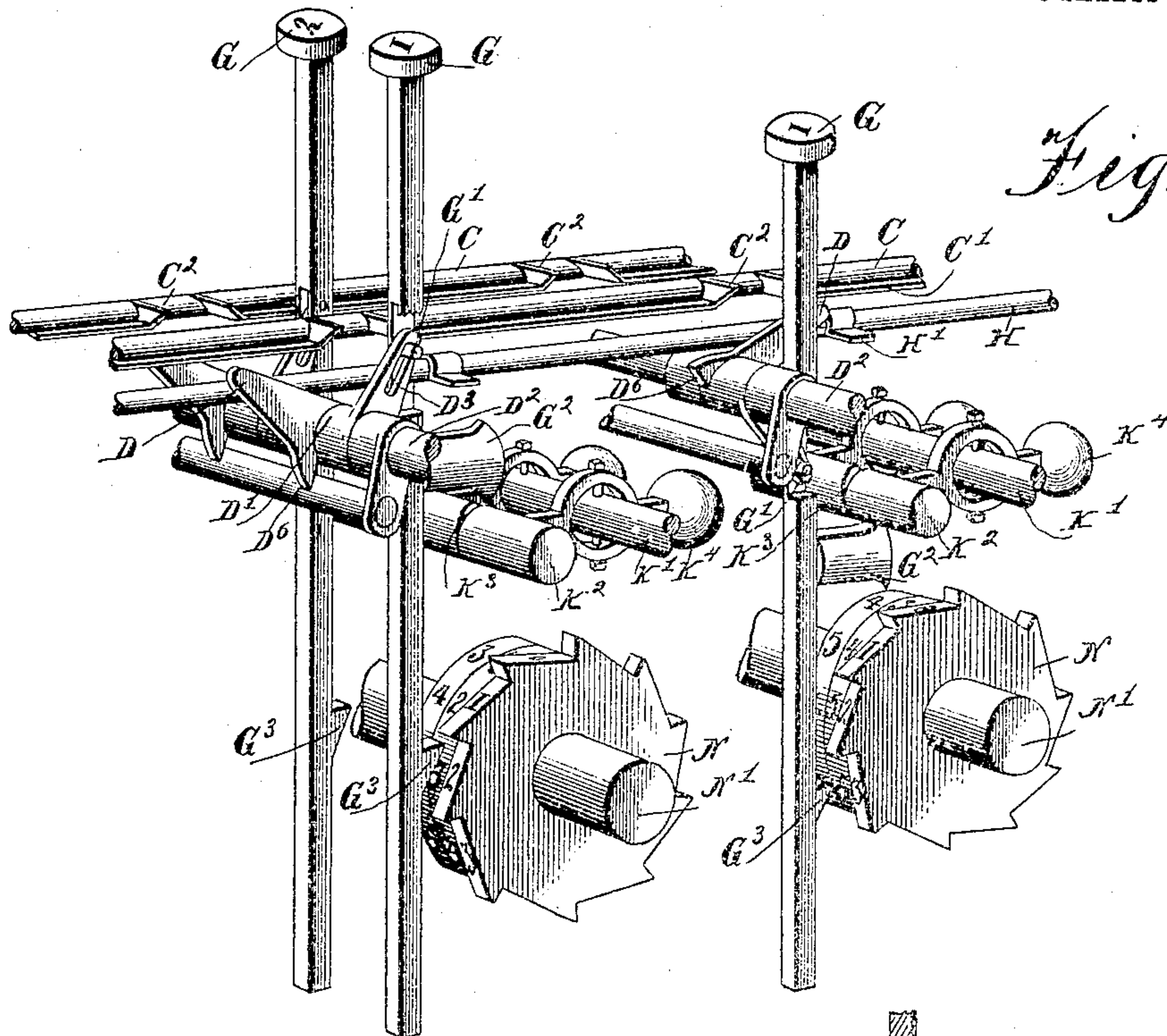


Fig. 11.

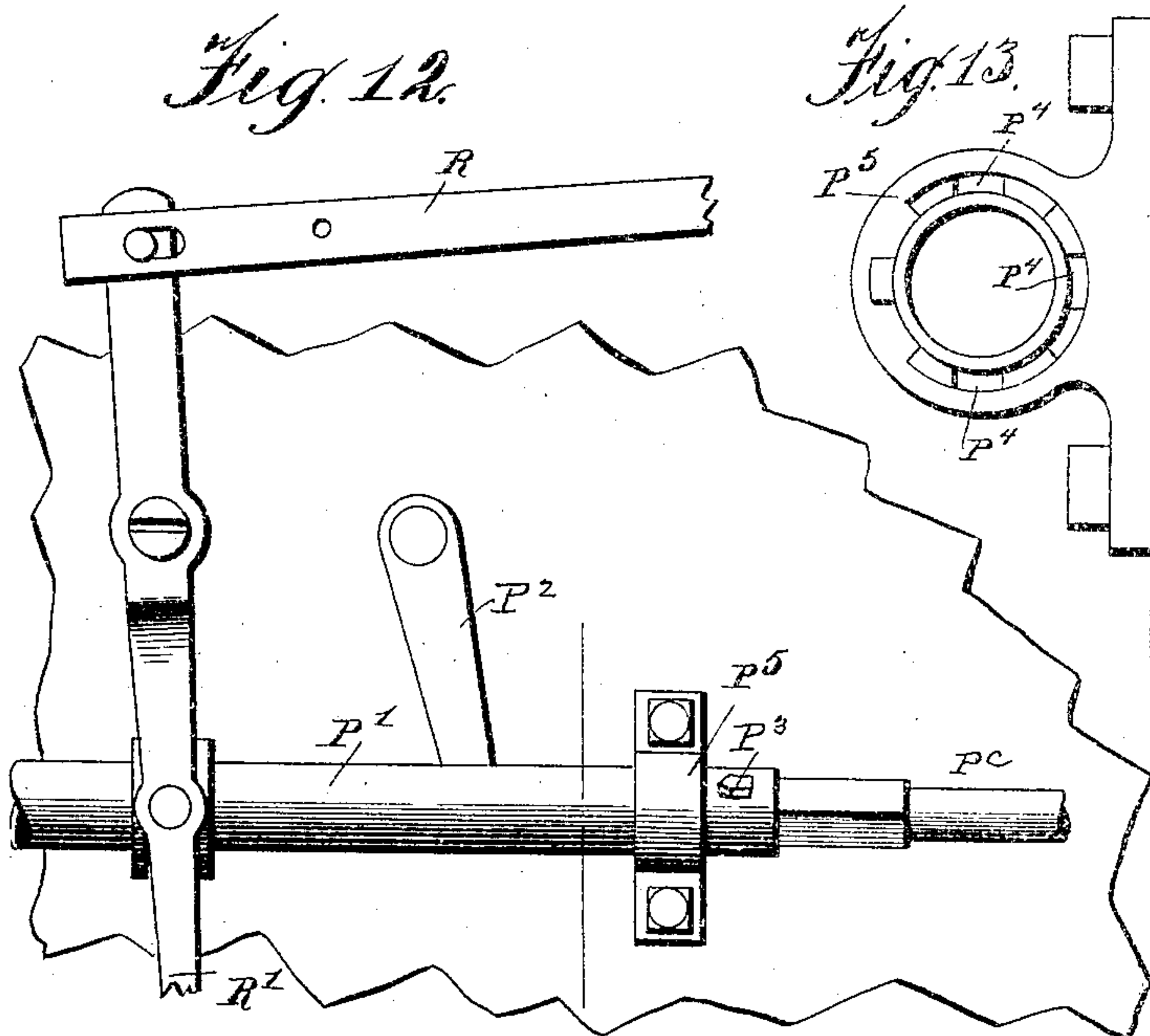


Fig. 12.

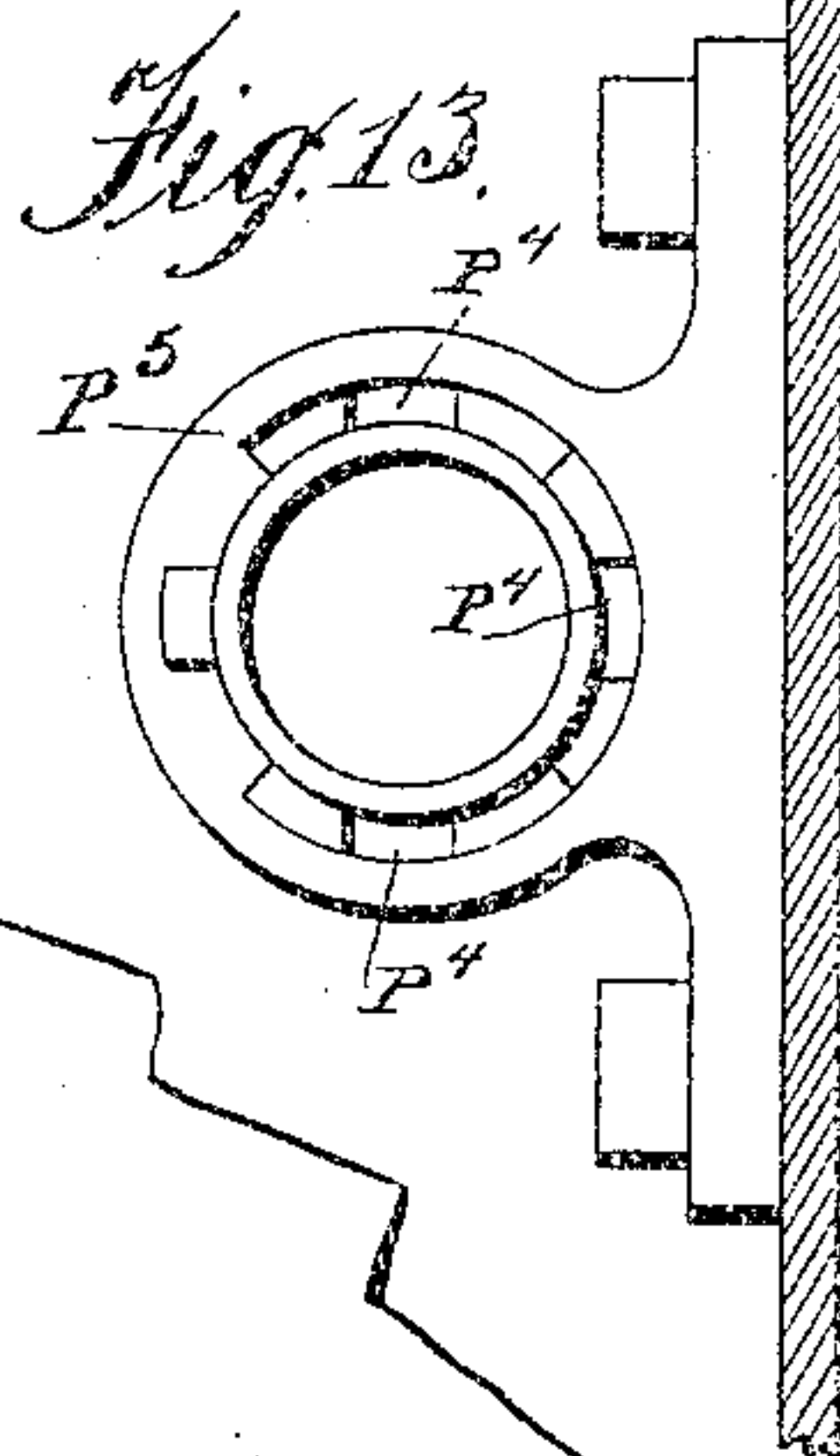


Fig. 13.

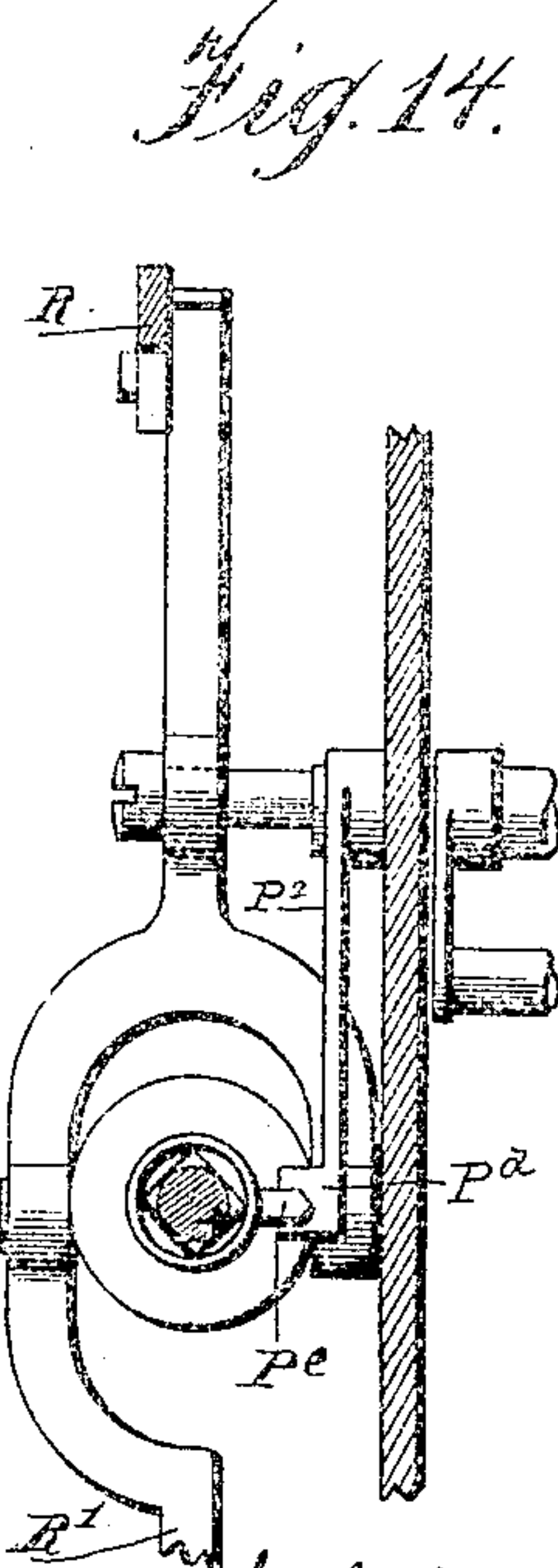


Fig. 14.

Witnesses.

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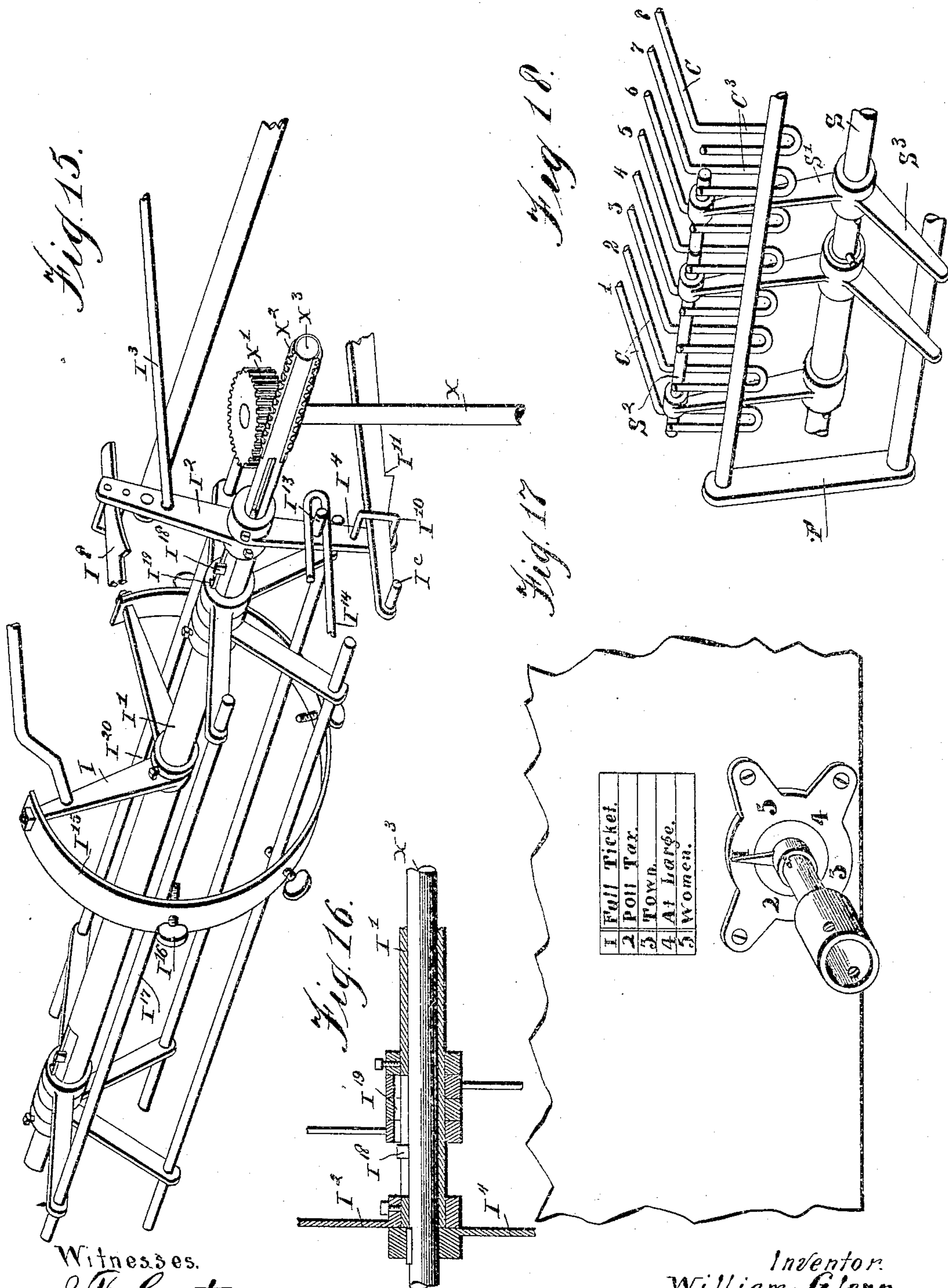
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APPLICATION FILED JULY 16, 1902.

NO MODEL.

8 SHEETS—SHEET 6.



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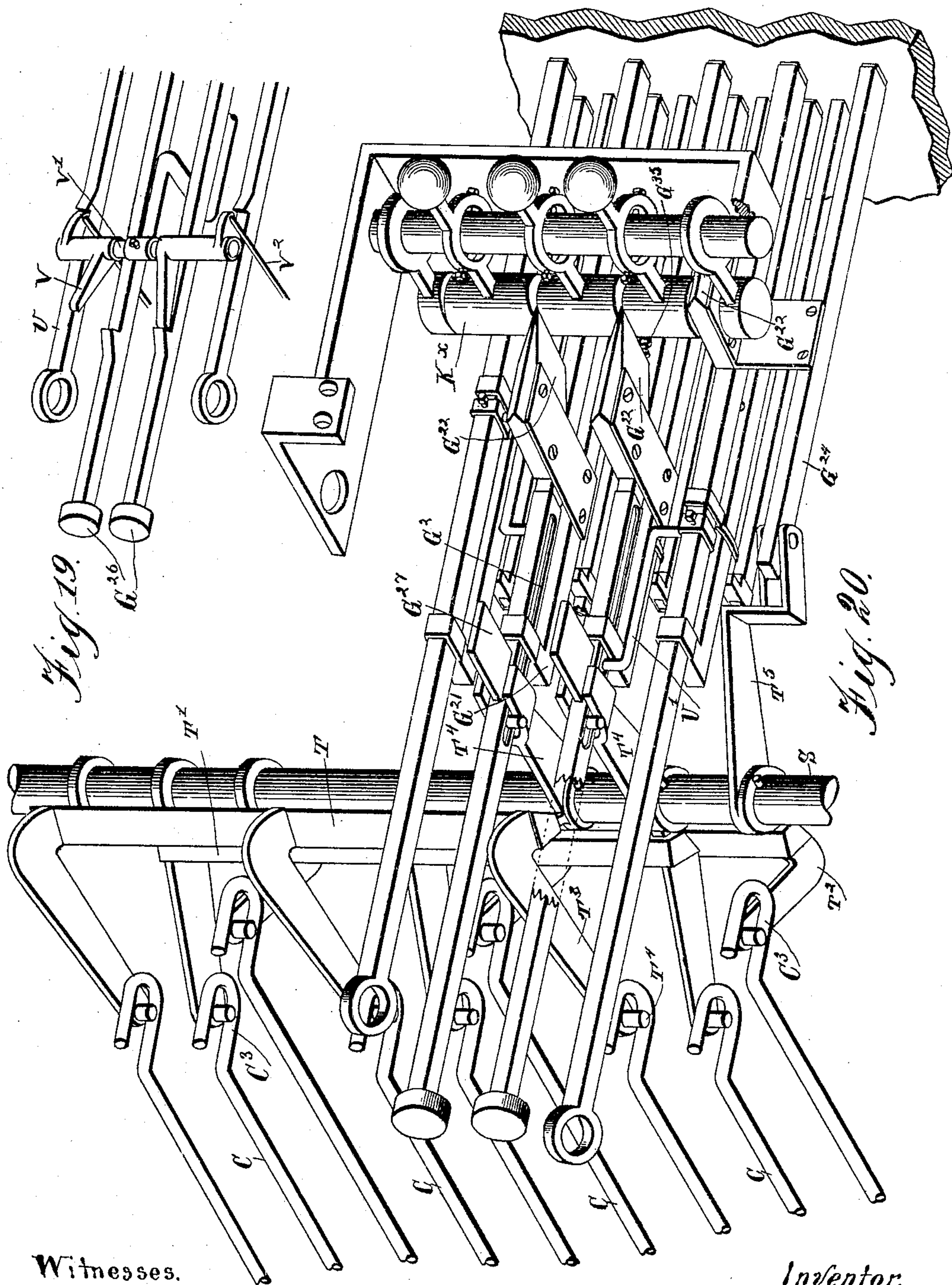
PATENTED OCT. 11, 1904.

W. GLENN.
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APPLICATION FILED JULY 16, 1902.

NO MODEL.

8 SHEETS—SHEET 7.



Witnesses.

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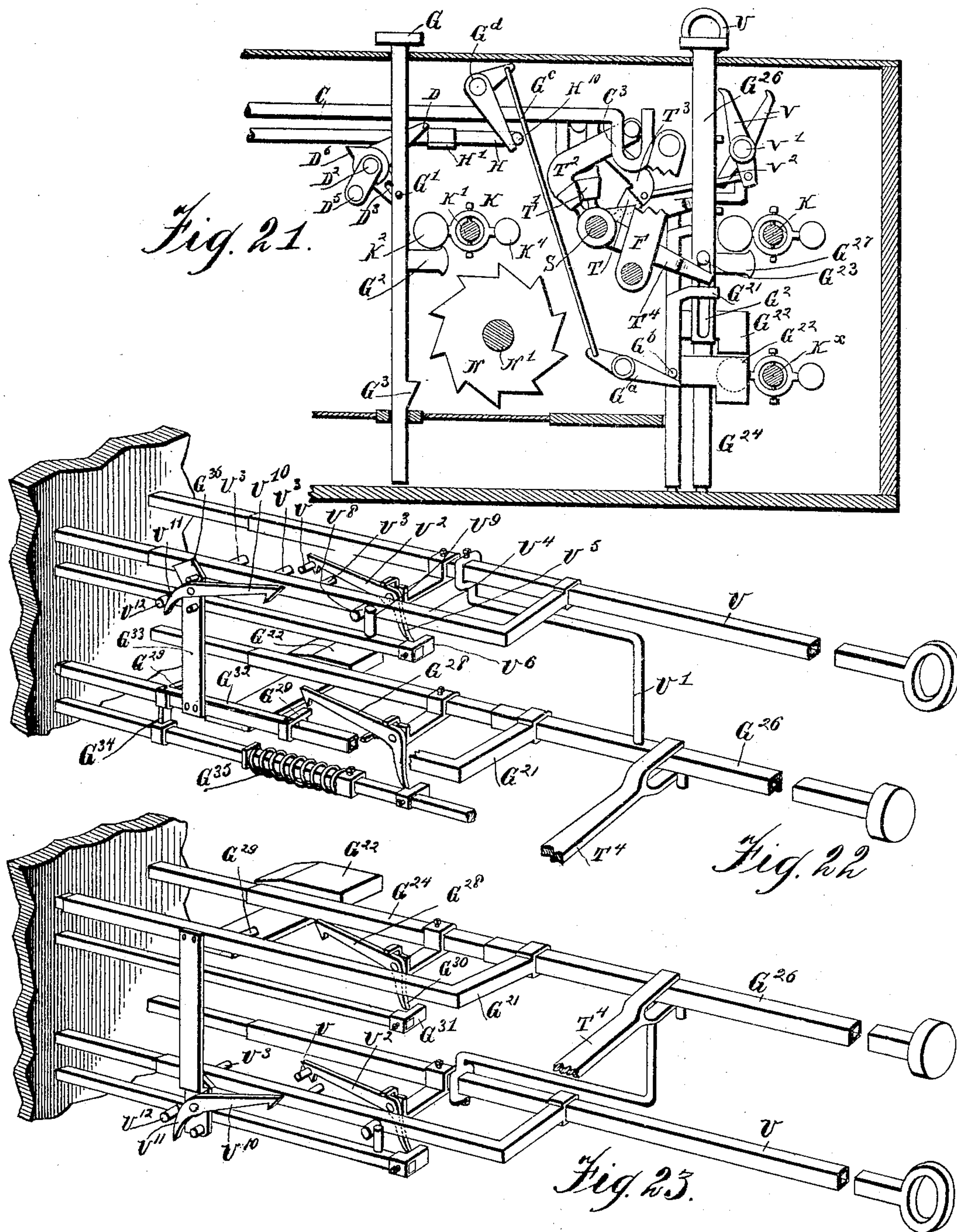
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APPLICATION FILED JULY 16, 1902.

NO MODEL.

8 SHEETS—SHEET 8.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM GLENN, OF MOUNT VERNON, IOWA.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,142, dated October 11, 1904.

Application filed July 16, 1902. Serial No. 115,879. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GLENN, a citizen of the United States, residing at Mount Vernon, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Voting-Machines, of which the following is a specification.

The object of this invention is to produce a voting-machine by which the voter may exercise all his rights of franchise mechanically and in all cases, except in voting for candidates not on any of the party-tickets, without the use of pen or pencil.

The invention also embodies mechanism whereby voters may be separated into classes, according to their qualifications as voters, and the machine so arranged that they are enabled to vote strictly within such limitations and not otherwise.

The machine is also arranged so as to register mechanically the proper vote under peculiar election laws—such, for example, as that of the State of Illinois relating to representatives for the State legislature, in which provision is made for casting a single ballot for each of the three candidates or three ballots for a single candidate or one and one-half ballots for each of two candidates.

These and other novel features of the machine will be fully hereinafter described, reference being had to the accompanying drawings, forming a part of the specification.

In the drawings, Figure 1 is a view in perspective, showing the front of the machine embodying my invention, the machine being of the vertical type and the entrance and exit levers being shown only in fragmentary form. Fig. 2 is a view of the bottom of the machine shown in Fig. 1. Fig. 3 is a view of the internal parts of the machine, the bottom being removed and the external frame shown in section. Fig. 4 is a partial view of the back of the machine at the independent-ticket end, it being understood that the back casing of the machine is removed. Fig. 5 shows the pivot end of the entrance-lever and portions of the rods connecting therewith. Fig. 6 is a similar view of the exit-lever. Fig. 7 is a fragmentary view of the machine at the entrance. Fig. 8 is a detail showing the construction and

arrangement of that part of the mechanism which may be designated as the "consecutive lock." Fig. 9 is a fragmentary view, partly in section, showing the arrangement of the frame which supports the counters and means for actuating same. Fig. 10 shows an auxiliary lock forming a part of the mechanism used under the peculiar provisions of an election law such as suggested in the preceding paragraph. Fig. 11 is a view in perspective, showing push-buttons, lock-bars, counting-wheels, and connected mechanism. Fig. 12 is a detail showing the connections between the entrance-lever and the ticket-selecting mechanism. Fig. 13 is an end view of a ticket-selecting sleeve or guide. Fig. 14 is an end view, partly in section, of parts shown in Fig. 12. Fig. 15 is a detail view in perspective, illustrating the classifying mechanism to which reference has been made. Fig. 16 is a sectional view showing the construction of a classifying mechanism adapted to connect with the gearing of the classifying device, whereby the classifier may be set at the proper point by the judges of election. Fig. 17 is a view in perspective of a device whereby the classifier may be conveniently set by the judges of election to any desired class. Fig. 18 shows means for connecting a series of lock-bars in a single group or gang. Fig. 19 shows push-button lock, also shown in Fig. 21. Fig. 20 is a view in perspective and from the under side, illustrating special blank-ticket mechanism as used under a law providing for a minority representation. Fig. 21 is a sectional view as seen from the under side, illustrating the mechanism used in Fig. 20 and its connection with the general machine. Fig. 22 is an expanded view of part shown in Fig. 20 and illustrates mechanism employed in the casting and cancellation of single ballots under the peculiar election law above referred to. Fig. 23 illustrates similar mechanism, but such as is employed in the casting and cancellation of one and one-half votes.

The machine embodies many of the essential features shown and described in my former application for Letters Patent, Serial No. 106,668, filed May 10, 1902. In the case of said former invention provision was made for

balloting by the use of a removable key. In this invention the part actuated by the voter in scratching or rearranging his ticket is made a component part of the machine. The machine also embodies many other novel features and improvements, all of which will be fully described hereinafter.

In most of the drawings the parts are shown as arranged for a vertical machine, such as is illustrated in Fig. 1. An exception is to be noted, however, in the case of Fig. 11, in which the mechanism is arranged as for a horizontal machine, the push-buttons moving vertically instead of horizontally, as they would in the case of a vertical machine. The same is true of Figs. 15, 16, and 18, it being a little more convenient to illustrate them in this position than otherwise. It is to be understood, furthermore, that the machine may be arranged horizontally as well as vertically with but slight changes in the construction and mounting of the mechanism.

Referring now to Fig. 1, A denotes the main frame or case of the machine, preferably rectangular in form and suitably mounted on legs A'. As set for an election the machine is supposed to stand diagonally across one corner of the room, and the front of the machine, as shown in Fig. 1, is supposed to face such corner. From each end of the machine curtains B and B' extend to the wall. (Not shown.) In the case of curtain B the exit-lever is supposed to be outside, whereas in the case of B' the entrance-lever, as indicated, is inside. It will be seen that the face of the machine shows a keyboard and a table, on which are displayed the various party-tickets, three being indicated. It further shows a keyboard for a blank ticket, forming a part of the case of the machine, a space for the voting of propositions, amendments, questions, and the like, and an independent-ticket space, with suitable means for bringing the same into action, as will be hereinafter described. At the right end of the frame is a party-ticket indicator with an instruction-card above it. The total-vote register may also be displayed on this side of the machine at some suitable point, preferably near the top, as well as on the outer face of the machine, though in practice it need not appear on the inner face of the machine. The various printed tickets are suitably applied to the face of the machine. Extending lengthwise of the machine and near the face thereof is a series of rods, bars, or shafts C, which for convenience may be designated hereinafter as "lock-bars." These have lateral wings C', separated by beveled spaces C², within which may enter the finger D of a bell-crank lever D', pivoted on a rod D², extending across the machine transverse to the lock-bars. A series of these levers is arranged for each party-ticket, as indicated in Fig. 3, and the number on each shaft corresponds with the number of such lock-bars. At the right-hand end, as

shown in Fig. 3, the lock-bars form a loop C³, so as to connect with a grouper S, which will be hereinafter more fully described. The lock-bars are mounted in bearings C⁴, so as to slide freely endwise a distance limited by the movement of bails F and F'. Between the lock-bars and sliding transversely to both them and the shafts D² are push-buttons G, which connect with the bell-crank levers in some suitable way, as by a slot D³ in the lever and a pin or stud G' at the side of the push-button stem. Projecting from near the middle of this stem is a blade or wedge G², adapted to separate two bars of the consecutive lock mechanism hereinafter to be described. The push-button stem also has a shoulder at G³, adapted to engage the teeth of an adjacent counter-wheel when the latter is in suitable position. In Fig. 3 the central button is shown depressed, with the bell-crank D thrown to the right. It is to be understood that during its movement the finger of this bell-crank has entered the bevel-space between two wings of the lock-bar and carried it to the extreme right, and in so doing it has passed to a point where the wings lie above the corresponding fingers of the other levers and locked them in the position in which they are shown. It is evident, therefore, that none of the other push-buttons can be operated until the lock-bar has moved back to its initial position, and this can only be done by retracting the push-button which has been pushed in. This action, as is evident, brings all of the bell-crank levers into register with the lock-bars, so that any one of them may be pushed in, actuating the lock-bar in the same manner. Directly below each lock-bar is a rod H, provided with suitable collars or the like H' to engage the fingers D of the bell-crank levers. These rods slide endwise in suitable bearings C⁴ and at one end connect with the classifier I, hereinafter to be more particularly described. As may be seen, the rods H are moved in one direction by the bell-crank levers and are restored to their normal position by the movement of the classifier, which takes place in the final operation of the machine, and in so doing all depressed push-buttons and connected lock-bars are restored to the initial position. On the shafts D² are mounted bails D⁴, the outer cross-rods of which, D⁵, are adapted to engage shoulders D⁶, formed on the bell-crank levers, and thus move a whole series of such bell-crank levers corresponding to a party-ticket simultaneously. These bails are connected by suitable mechanism with the entrance-lever, as will be more fully described hereinafter. Back of these levers is mounted a frame J, adapted to move a limited distance back and forth endwise, being mounted on suitable balls or travelers J', running in grooves formed in the bottom of said frame and in adjacent upper face of the bottom of the main frame A, as shown in Fig.

9. The main frame is slotted at A^2 to take a stirrup J^2 , which receives the incline nose J^3 of a push-rod J^4 , provided with a shoulder J^5 , the push-rod connecting suitably with the entrance-lever. The nose J^3 passes through another stirrup J^6 , and in its movement to the left is gradually raised out of engagement with the stirrup J^2 and released at the predetermined limit of the movement of the frame J . This is made necessary by the fact that the push-rod J^4 remains in its forward position—that is to say, to the left, as shown in Fig. 9—until after the exit-lever has moved the frame J back to the right. The reverse movement of this frame is made by the exit-lever through the medium of a lever J^5 , pivoted to the main frame, and one of its arms engaging the stud J^a , projecting through a slot A^5 in the main frame, the other extremity engaging a stud N^5 , projecting from the frame N^2 , which is hereinafter explained as actuated by the exit-lever. As will be evident, the two frames J and N^2 , as operated by the exit-lever, have reverse movements. In this frame is mounted a series of levers K , pivoted on a suitable standard K' . These levers are provided with heads K^2 , with inclined faces K^3 , and at the opposite extremity have counterweights K^4 tending to balance the levers, so as to reduce to the minimum the weight on a wedge or blade G^2 , forming a part of the push-button mechanism above referred to. It is to be understood that one of these levers is provided for each push-button, and a series of them corresponds to all the names on a party-ticket. It will be evident, therefore, that the insertion of any one of these wedges between a pair of heads K^3 will prevent the insertion of another wedge between any other pair of the same series, inasmuch as the levers are so spaced as to admit of but one wedge at a time. In the case of all party-tickets, however, it is to be understood that the wedge passes through and admits of a similar movement on the part of any other wedge of the series, and the same is true of any other series of the party-tickets or the independent tickets. One of the terminal levers, preferably, of course, the one nearest the face of the machine, is connected by a link K^5 with a toggle K^6 , mounted slidably on a rod K^7 by connection with suitable collars K^8 . The entire series of party-tickets and the independent ticket are coupled together by this series of toggles, as shown in Fig. 8. The rod K^7 is fixed in the main frame A and at one end is provided with an adjustable collar K^9 , threaded on the end of the rod. The slip-collar K^8 , at the other end of the rod, abuts against the machine-frame, and the movement of the entire series of toggles endwise on the rod is of course limited by the adjustable collar K^9 at the other end. By this means the toggles may be accurately set, either in the building of the machine or for the pur-

pose of taking up lost motion later, so that in the whole system space is only allowed for the insertion between the lock-levers K of a single blade or wedge at a time. It is evident, therefore, that the insertion of a wedge at any point in the entire series locks the series against the insertion of another at the same time. The purpose of this is, in part, to prevent the possibility of the voter pushing down more than one button at a time, and thereby arranging his ticket so as to eventually register more votes than he would be entitled to cast. Referring to Fig. 4, it will be seen that the rod K^7 is provided with a lateral stud K^{10} , which in the movement of the consecutive-lock frame actuates suitable mechanism of ordinary construction to register the total vote. A fragmentary lever K^{11} is shown to indicate a connection with the counter, the construction of which forms no essential feature of this invention.

Referring now to Figs. 2, 3, and 8, a modified form of lock will be described adapted especially for use in voting on questions, amendments, and the like. Adjacent to the standard K' is mounted a shaft L , on which turns a sleeve L' , provided with a lever L^2 , connecting by a suitable link L^3 with the question-sector Q . (Shown in Fig. 4.) Connected with this shaft also is a bail L^4 , actuated by a crank L^5 , Fig. 2, which connects by a system of links and levers with the exit-lever shown at the left of Fig. 2, it being understood that the connection is shown broken near the lever L^5 the better to show the parts beyond. The purpose of this bail is to restore to the initial position the question push-buttons G^{10} which have been depressed. Attached to each of these push-buttons is a blade or wedge G^{11} , which performs the same function as the corresponding wedge G^2 of the other buttons referred to, with the difference, however, that they are made longer and do not pass through between the lock-levers K , so that once thrust in they lock the levers until withdrawn. By reference to Fig. 8 it will be seen that the levers for this part of the machine are arranged in pairs, separated by abutments K^{12} . To the sleeve L' is attached a series of blades L^6 , coinciding with the spaces between these abutments and the adjacent lever. By the turning of the sleeve all of these wedges are forced between the abutments and levers, locking the entire series, so that it is possible through the medium of the classifier to lock the machine against voting on questions by any persons not entitled to so vote. In the absence of this lock—that is to say, when it is not used—the voter is entitled to vote on any of the questions in the same way as he votes for a candidate, one of each pair of push-buttons indicating “Yes” and the other “No.”

The paper for the independent ticket is mounted so as to run from the supply-roll M to the reel M' , passing in its course over a

system of idle rolls, under the independent-ticket slides G^{15} , and between the feed-rolls M^2 . The pushing of a covering-slide G^{15} actuates a cross-bar G^{16} , (see Fig. 2,) and this is
 5 connected by a rod M^3 with a ratchet-lever M^4 , which through the medium of a ratchet M^5 and gearing M^6 and M^7 actuates the feed-rolls, carrying forward enough paper for the writing of independent ballots. The surplus
 10 paper is wound up on the reel M' by a sprocket-and-chain connection between the supply-roll and the reel, which is provided with a friction-clutch M^8 , as shown in Fig. 4. A slip-rod connection M^9 with the exit-lever and the
 15 ratchet-arm M^4 serves to restore the parts to their initial position through the operation of the exit-lever.

Inasmuch as slides are necessary in the independent ticket to cover and uncover the
 20 ballot-paper, provision is made for transmitting the motion of the slide to a modified form of bell-crank lever. To each slide is attached a hanger G^{17} , provided with a lateral stud G^{18} , adapted to engage a finger D^{10} , forming a part
 25 of the bell-crank lever. As the slide is moved to the right, Fig. 3, the bell-crank lever is rocked into engagement with the lock-levers K , this preventing the possibility of moving more than one slide at a time. This also ac-
 30 tuates a lock-bar, and the effect of this is of course to lock the machine, so as to prevent duplication. The voter may move the slide back to the initial position, if so disposed; but this movement accomplishes nothing,
 35 since in its back stroke it does not actuate any mechanism whatever, inasmuch as the stud only engages the finger on one side.

The counters N , (see Figs. 3 and 4,) one of which is provided for each push-button, are
 40 mounted in series on shafts N' in a movable frame N^2 . This frame is mounted so as to slide back and forth a limited distance in the same manner as is the frame J already described. The frame connects, by depending arm N^3 ,
 45 (see Fig. 2,) passing through a slot A^3 , a slip-link N^4 , rock-shaft N^5 , and link N^6 , with the entrance-lever O . It also connects through a slot A^4 with the exit-lever O' by a slip-rod connection N^7 . The raising of the entrance-
 50 lever by this means moves all the counters out of register with the push-button, and the connection being a slip connection the entrance-lever may be depressed without disturbing this position. As the voter passes
 55 out, however, the raising of the exit-lever moves the whole series of counters into register with the push-buttons, which are finally restored to the initial position by the dropping of the exit-lever, the effect of which does
 60 not, however, disturb the position of the counter-frame.

The mechanism for selecting some particular party-ticket comprises an indicator P , by the setting of which to any desired point the

voter actuates a sleeve P' , provided with a series of studs P^0 , adapted to engage selectively
 65 each with some one general-ticket bail-lever P^2 . The particular means by which this is effected is described as follows: The indicator P is attached to a gear P^a , meshing with a
 70 pinion P^b on a shaft P^c , which has a square part adapted to slide in the sleeve P' and to turn the sleeve as said shaft is revolved. The studs P^2 are arranged in staggered position
 75 about the sleeve, and when the sleeve is set to proper position one of them engages with a lug P^d on the bail-lever P^e . Now as the entrance-lever is elevated the sleeve is slid
 80 endwise, thus actuating the proper party-ticket bail. Attention is called to the fact that the sleeve has a stud at P^3 , which passes through the selected groove P^4 of the guide-
 85 block P^5 , but locks the entrance-lever except when in register with such selected groove.

The construction of the classifier I is fully
 85 described hereinafter. In addition thereto is a sector Q , having a separate connection with the mechanism described, by means of which the voter votes on questions, amendments,
 90 and the like. To the sleeve of the classifier (see Figs. 2, 15, and 16) is secured a lever I^2 , coupled by a connecting-rod I^3 with the lever L^5 of the restoring-bail I^a . This lever
 95 has a similar connection by a rod I^4 with a lever F^2 , connected with the general restoring-bail F . To this connecting-rod I^a is attached a lateral arm I^5 , connecting by a link I^6 with the trip-pawl I^7 , which serves as an inter-
 100 mediate lock for the entrance-lever. This part of the classifier is actuated by the exit-lever through the medium of a hook I^8 in a manner so simple as to require no particular descrip-
 105 tion. To the shaft of the classifier is splined a lever I^4 , provided with a stirrup I^{10} , through which passes another hook, I^{11} , connecting with a fork I^{12} , actuated by the sleeve P' . As the entrance-lever is raised the hook is moved
 110 to a point of engagement with the stirrup, and when depressed the hook is retracted, throwing forward as many sectors and connected bars H as pertain to the particular
 115 class to which the voter belongs, as previously determined by the judges. The lever I^4 also connects by a stud I^{13} and a slip-rod connection I^{14} with the trip-pawl of the exit-lever.
 120 A bail F' (see Figs. 2 and 3) is provided for the purpose of pushing all lock-bars into register with the finger D of such bell-cranks D' as have been moved to voting position. This
 125 bail is provided with a bell-crank lever F^3 , one arm of which lies in the path of a stud I^b on the hook I^8 . The other arm of the bell-crank connects by a slip-link F^4 with a stud I^c on the hook I^{11} . This link serves when the bail is thrown forward to disengage the hook I^{11} from the lever I^4 . To cushion the entrance and exit levers on their downstroke, they are connected by links R and levers R' with a

dash-pot R^3 , which absorbs the shock in case either lever is carelessly dropped by the voter passing in or out.

Referring to Fig. 18, the detail in the construction of a grouping mechanism for the levers will be seen. On a shaft S is mounted a series of levers S' , adapted to be provided with a transverse rod S^2 to project laterally from a single arm or to connect a pair. The purpose of this device is to connect two or more of the lock-bars in a single group or gang, so that they act collectively, the moving of one rod moving the whole gang, and by this means it becomes possible for the voter to split or "scratch" his ticket to any desired extent. It is to be noted that the restoring-bail F is mounted to act on the outer face of these levers. The construction of this machine is such that the lock-bars are initially in register with the unvoted push-buttons. An additional feature is shown in the blank-ticket construction illustrated in Figs. 1 to 3, and 18, the levers S' being provided with lateral extensions S^3 , extending in the path of a stud G^{19} on a stem of a blank-ticket push-button G^{20} . The purpose of this blank ticket is to enable the voter to cancel any number of votes thrown by the straight-ticket bail as he enters the booth, it being understood that the operation of the entrance-lever throws to voting position an entire party-ticket selected by the voter on entering the booth. If now the voter wishes to cancel one or more of these votes, he must proceed as follows: He may first cancel one by pulling back any one of the depressed push-buttons; but in so doing the machine is locked against his doing the same with any other button for the same office. He may wish, however, to cancel more than one in such office without voting for corresponding candidates of any other ticket—in short, to vote blank as to certain candidates. In order to do this, it becomes necessary for the voter to return the lock-bars as to this office to their former position, and this is done by depressing a blank-ticket push-button arranged to operate this group of lock-bars. In this way the voter may proceed to cancel indefinitely. It is to be noted that in case the voter cancels a vote in this manner it cannot thereafter be restored by any change of purpose on his part, since the action of both push-buttons serves to throw that particular lock-bar out of register with the whole series of push-buttons. It is of course different when the voter wishes to substitute one candidate for another, since in this case the push-buttons act upon the lock-bars alternately.

In order to a correct understanding of the operation of the machine in all its parts, the classifier will be understood to be composed, essentially, of a series of sectors I^{15} , mounted on the sleeve I' , each sector being connected with a rod H , as previously explained. At intervals the arms of these sectors are pro-

vided with removable screws or studs I^{16} , which when inserted lie in the paths of certain bails I^{17} , mounted to turn freely on the sleeve. Projecting through slots in the sleeve are studs I^{18} , adapted to engage notches I^{19} in the hubs of these bails, so that when the shaft is set to register with any desired bail the turning of the shaft will swing the bail into engagement with any screws I^{16} that may lie in its path.

In the State of Illinois and possibly in some other geographical divisions a peculiar law applies to the election of representatives to the State legislature. By the provisions of this law three representatives are elected from each district, and the law also provides that the voter shall have his election to cast one vote for each of three candidates, three votes for one candidate, or one and one-half votes for each of two candidates. Provision has accordingly been made in this machine for the mechanical casting of ballots under this peculiar law, and the mechanism by which this is effected will now be described. The machine is provided with six additional lock-bars, thus giving nine lock-bars to the three legislative candidates. These lock-bars are connected in gangs of three by a special grouping mechanism. (Shown in Fig. 20.) It comprises three bails T , T' , and T^2 , pivoted on a shaft S . These bails are provided with arms T^3 and the arms with studs T^4 to engage the looped lock-bars. It is desirable that the three different operations—that is to say, the single, threefold, and one and one-half votes—may be in a single group against the name of each candidate. It therefore becomes necessary to arrange the arms of these bails in the dodging or alternative form shown in Fig. 20, each bail connecting every third lock-bar and bridging the others. It is evident now that the moving of any one of these bails will move three of the lock-bars, and thus prevent duplication.

In Illinois elections the practice is for each party to name but two candidates for the legislature for each district, and in this case any straight-ticket vote for a candidate counts one and one-half. Assuming this to be the custom, then the machine would be arranged so as to throw up the one and one-half vote for each of these candidates. In arranging the machine to do this the lugs D^6 of the bell-crank levers D' are removed from all of the bell-cranks relating to the single or the threefold vote. The effect of this is to throw up only the pair of predetermined one and one-half votes. An extension of the bail T^4 engages a slide G^{21} , provided with a wedge or blade G^{22} , adapted to coact with an auxiliary lock K^x , which is essentially the same as the lock K already described. This prevents the manipulation of any buttons as to the other classes until all votes in this section are

cleared by cancellation. This is effected in the following manner: In the path of the arm T^4 is a stud G^{23} , projecting from a slide G^{24} and through a slot G^{25} in another slide G^{26} , forming a part of the auxiliary push-button. To the slide G^{26} is attached a wedge or blade G^{27} , which coacts with one of the locks K in the manner already described. To the slide G^{24} is pivoted a pawl G^{28} , adapted to engage a stud G^{29} . The pawl is provided with a tail G^{30} to engage a stop G^{31} as it is withdrawn, and thus disengage it from the stud. If the voter wishes to cancel any regular party candidate in the one-and-one-half-vote class and substitute a candidate of any other party in the same class, he may do so in the way already described by the manipulation of the general keyboard; but in case he wishes to cast a single vote or three votes for a single candidate he must first cancel all of the one and one-half votes, and this can only be done by withdrawing one of the one-and-one-half push-buttons and then restoring the lock-bars to register by the use of the auxiliary push-button G^{26} in the same manner as the blank-ticket push-buttons are used, as already described. In so doing the pushing in of the button G^{26} brings the pawl G^{28} into engagement with the stud G^{29} . The push-button has a slip connection, however, with the part G^{24} , so that when he withdraws this button the position of the part G^{24} is not disturbed. He may then withdraw the other one-and-one-half push-button, and in so doing through the connected mechanism the wedge G^{22} is withdrawn from the lock K^x , thus unlocking the machine, so that the push-buttons of the other class may be operated. At the limit of the stroke the pawl is automatically disengaged by contact with the stop G^{31} . The device for performing the same operation in the case of single votes is shown in Fig. 22. In this case the slide G^{24} is provided with an auxiliary slide G^{32} , adapted to slip a limited distance thereon. This is provided with suitable studs G^{29} , with which the pawl G^{28} may be engaged. In the first movement of the push-button G^{26} the pawl simply engages the stud nearest it and pulls it out a short distance. At a second movement of the push-button it engages the inner stud, which has been brought by the first movement against the plate G^{33} , attached to the part G^{24} , and the blade G^{22} is then withdrawn in the same manner as above described. As the button moves to the extreme outer position a fork G^{34} engages a spring G^{35} , compressing it slightly, and on the release of the pawl G^{28} the spring forces it back far enough so that the pawl at the next movement cannot reach the inner stud. The voter having now cleared the machine as to these candidates, he is entitled to vote for one of each of three of them, we may suppose. To do so, he first pushes in one of the regular push-buttons corresponding to

such candidate and answering to a single vote. This action again drives in the lock-blade G^{22} , which prevents further action in either of the other classes, as before explained. It also locks against the manipulation of another button in the same class until a suitable lock-bar shall have been restored to register with another push-button. This is effected by mechanism, shown in Fig. 22, which for the purpose of greater distinction will be designated by a new reference-letter. U is a pull having a sliding stem provided with a hook U' , which takes under the bail-arm T^4 and when the pull is withdrawn lifts said bail-arm, and thereby forces back such lock-bars as have been drawn forward by the initial movement of the regular push-button above mentioned. He immediately pushes in the pull to its initial position, whereupon a pawl U^2 engages the second of a series of studs U^3 on a slide U^4 . The machine is now in register, and the voter may push another of the regular buttons, again locking the machine until he shall have repeated the operation just described with the pull U . In this final operation of the pull the pawl U^2 engages the last of the studs U^3 . When he again pushes in a voting push-button, the machine is locked, inasmuch as the pull U has by the previous action been locked by the engagement of a stud U^8 with a stop U^9 and the hooking of the pawl on the last stud U^3 , as just described. It is to be understood that this locking is only against additions to the total number of ballots he is entitled to cast for candidates in this class, and within the general keyboard he may still vote alternately for candidates in the same class by simply pushing in one of the regular push-buttons and withdrawing it in case he wishes to vote for another. It will be seen that the pawl U^2 is disengaged from the stud U^3 at the extreme outer movement of the pull by the engagement of its tail U^5 with a stop U^6 . The only difference between this mechanism and that shown in Fig. 23 is that the latter is provided with two studs U^3 instead of three, the device in Fig. 22 being adapted for single votes and that in Fig. 23 for one and one-half votes. The preceding action has left the pull U in locked position, as will be evident. This must of course be released to admit of another similar cycle of operations. It may be explained that the operation of push-button G^{26} must necessarily precede the operation of the pull U . This being the case, a trip is provided for the pawl U^2 , comprising an inclined face G^{36} of the plate G^{33} , adapted to engage a stud U^7 of the said pawl. As before explained, this plate connects with the push-button G^{26} with intermediate mechanism, and in the last pull of this button in clearing the machine, as heretofore described, the lock K^x is released, and so, also, is the pull mechanism above described, by the lift-

ing of the pawl as the plate G^{33} moves outwardly. Attached to the same plate is a pawl U^{10} , adapted to hook on the stud U^8 at the extreme outward movement of the push-button G^{26} and which restores the slide U^4 to final position. When the first voting push-button is depressed, the same movement of the push-button carries back the pawl U^{10} to its initial position, where it is disengaged from the stud U^8 by the contact of its tail U^{11} with a stud U^{12} .

Referring to Fig. 20, it will be seen that the bail-arm T^5 (which is a part of the three-vote bail) connects directly with a slide G^{24} , to which is attached the wedge G^{22} , since the voter is only entitled to push one button in this case.

In Fig. 19 is shown a device for locking the pulls U and push-buttons G^{26} against manipulation except when working effectively, and the device comprises a double pawl V , mounted on a rod or shaft V' and adapted to engage alternately with shoulders on the stems of the said pull and push button, respectively. The pawls are engaged by a suitable link V^2 with the bails T . The object of this device is to prevent the manipulation of these pulls or push-buttons G^{26} except alternately with the voting push-buttons; otherwise the voter might carelessly cheat himself of a vote by simply working the pulls U or push-buttons G^{26} . In the event that the voter should leave the part G^{22} in locked position it is released by the exit-lever, which, as explained, has a connection with the rod H through the classifier. At the end of this rod is a stud H^{10} to engage one arm of a bell-crank lever G^d , the other arm of which connects by a rod G^c with a lever G^a , and this engages a stud G^b on the slide G^{21} . It is evident that when the rod H is drawn to the left the part G^{21} will be lifted, disengaging the lock.

In the foregoing description the vote-arranging member—that is to say, the lever, key, push-button, slide, or the like—manipulated by the fingers of the voter in rearranging (splitting or “scratching”) his ballot has usually been referred to as a “push-button” except in the case of the independent ticket, where it is naturally referred to as a “slide.” As the device is susceptible of great variation in form, I prefer generally in the claims to use the generic term “vote-arranging” member.

The term “unitary value,” used for convenience in the claims, is to be understood as referring to a voting-key, or, more exactly, a single impulse thereof, as found in the mechanism for voting for representative under the Illinois law, above mentioned. The key or a single impulse thereof is regarded as a unit in the machine, while the value of the unit as expressed in votes would in one case be one, in another one and one-half, and in another case three votes.

Having specified and described the constituent parts of my invention, I now proceed to follow a voter through a complete exercise of his right of suffrage, thus bringing every part of the machine into effective operation. We will suppose that each party has nominated nine presidential electors, one governor, one congressman, one judge, and three candidates for representative in the legislature; also there is an amendment to be submitted to the people. Before the time set for the election the proper officers have, first, spread this printed ballot in its ballot-frame on the face of the machine; second, have adjusted grouping-bails, coupling lock-bars 1 to 3, inclusive, and 7 to 15, inclusive; third, have adjusted the screw-pins in the classifying device; fourth, have adjusted the paper roll and threaded the paper in the independent ticket; fifth, have set back the counters to zero; sixth, have set the machine in a corner of the room in such manner that the machine, its two curtains B and B' , and the two walls of the room form a voting-booth having the face of the machine and the entrance-lever within the booth and the exit-lever and the back of the machine outside of the booth; seventh, have raised and lowered the exit-lever once to adjust all parts to initial position; eighth, have closed and locked all doors of the machine, and all is now ready for the voter. The voter enters the polling-place and gives his name to the judges of election in the usual way. If he is entitled to vote, his name is recorded, he is permitted to raise the curtain B' and enter the voting-booth, dropping the curtain behind him, and the judges turn the indicator of the classifying device until the finger points to the number indicating the class to which the voter belongs. The turning of the finger aforesaid turns shaft X and gear X' , which is in engagement with the bail X^2 of shaft X^3 , thereby drawing forward said shaft through sleeve I' until the stud is in engagement with the key-seat of the selected classification-bail. A light turning-shaft may be run from the judges' table and inserted and keyed in handhold X of the classifying device, if the judges so elect. The voter having entered the booth finds the entrance-lever locked and forming a barrier to his further progress and having a notice conspicuously printed thereon to set the straight-ticket indicator. He now turns the finger of the straight-ticket indicator to the letter indicating the party of his choice. This turns the straight-ticket sleeve to a point which brings one of the studs into juxtaposition with the crank of the straight ticket selected and allows the stud P^3 to pass through one of the grooves in the guide-block, thus releasing the entrance-lever. The voter now raises the entrance-lever and proceeds to the face of the machine. The entrance-lever is prevented from returning to initial position by a finger of the trip-pawl V until it has made its full upward stroke,

when the position of the pawl is automatically reversed, as explained in said former application. The entrance-lever is now returned to initial position by the spring Z and remains locked in that position by a finger of the trip-pawl X until after the exit-lever is raised, as hereinafter specified. The dash-pot prevents shock in the return of the entrance-lever. The raising of the entrance-lever as described retires the counter-frame N² through slotted connecting-rod N⁴, rock-shaft N⁵, and connecting-rod N⁶; thus carrying all counters out of engagement with lugs G³ of push-buttons, where they remain until returned by exit-lever, as hereinafter described. The raising of the entrance-lever also draws back the push-rod J⁴ into engagement with the stirrup J² of the consecutive-lock frame. Timed to follow a little later than the preceding movements, the raising of the entrance-lever depresses to voting position all the push-buttons pertaining to the party-ticket selected by the voter through bell-cranks B', straight-ticket bail D⁴, bail crank-arm P², sliding sleeve and stud P', fork-lever R', and connecting-rod R, where they remain until they are returned by the voter in scratching or by the exit-lever, as hereinafter explained. The actuation of the bell-crank B' also carries with it the lock-bar C and the returning-bar H. The forward movement of the slide-sleeve P' carries forward hook I¹¹ into engagement with the stirrup I¹⁰ of crank-arm I⁴ of the classification device. The return of the entrance-lever to initial position carries back with it slide-sleeve P', which returns hook I¹¹, which being in engagement with the crank of shaft X³ of the classification device drives stud against the bail-arm with which it was placed in engagement by the judges, as aforesaid, and forces this selected bail against all sector-pins in its line of travel, returning the selected sectors back to initial position, each of which retires its connected return-bars, bringing its lug into engagement with projecting finger D of the bell-crank D', which engages with wings of lock-bar and actuates slotted arm B³, and as a result lock-bar, return-bar, bell-crank, straight-ticket bail, and push-button are all returned to initial position and there remain locked until the hook I¹¹ is lifted out of engagement with classifier, as hereinafter described. If the voter is not entitled to vote on amendments, arc Q draws with it connecting-rod L³, which draws with it crank-arm L², which actuates sleeve L', which drives blade L⁶ between the levers of the amendment-lock K, preventing blade G¹¹ of push-button G¹⁰ from entering, thus locking against voting, and the candidates to which the push-button so returns and amendments so cut out pertain are eliminated from the ticket and cannot be voted for by this voter. This swing of crank-arm I⁴ also draws with it slip-rod I¹⁴, attached to trip-pawl Y', and reverses said trip-pawl,

thereby unlocking exit-lever, so that it may be raised. On the same downward stroke of the entrance-lever, but timed to follow after the movements above described, the push-rod J⁴ is forced against stirrup, driving forward consecutive-lock frame, thus bringing the levers of the consecutive lock within the line of travel of all blades G² of push-buttons, where they remain until retired by the exit-lever, as hereinafter described. At the end of its thrust the push-rod J⁴ is forced out of engagement with stirrup by riding up on stirrup J⁶. The voter now finds himself before the machine with the ballot spread out before him and all the push-buttons of his party-ticket pertaining to candidates for which he is entitled to vote depressed into voting position. If he desires to vote a straight ticket and does not desire to register a vote on the amendment, he passes out of the booth, as hereinafter described; but if he desires to "scratch" or "split" his ticket he will proceed as follows: The voting of the straight ticket, as aforesaid, has thrown the wings of all lock-bars out of register with the bell-cranks of the push-buttons pertaining to all candidates not on the party-ticket voted and prevents further voting before and until one of the voted push-buttons is pulled out to initial position, carrying with it by action of its bell-crank the lock-bar with which it engages, thus bringing the wings of such lock-bar into register with the bell-crank of every unvoted push-button pertaining to the same office. This cancels the vote for such candidate. One of such unvoted push-buttons pertaining to a candidate selected in lieu of the candidate "scratched," as aforesaid, may now be pushed into voting position, returning, by means of its bell-crank, the lock-bar with which it comes into engagement. This operation may be continued indefinitely, pulling out and pushing in push-buttons alternately until the voter is satisfied with the arrangement of his ballot. In the case of the three representatives and nine electors mentioned above the push-buttons pertaining to said offices spread over and engage with 9 and 6 of the lock-bars, respectively, and these sets of lock-bars are each coupled by a grouping-bail E, forming of each set a group or gang which reciprocate together with the same effect as a single lock-bar, and the retiring and advancing of push-buttons within such offices are done alternately and in the same manner as above set out. The consecutive lock is so adjusted as to admit but one blade of the push-button between its lock-levers, and thus prevents the voter in scratching from actuating more than one button simultaneously. The entrance of the blade between the lock-levers raises the link K⁵ against the toggles K⁶, preventing all other toggles, links, and lock-levers in every column of the consecutive lock from moving. When the blade has passed through the lock-levers, the lock is suspended,

and the operation can be continued indefinitely. If the voter wishes to vote for any candidate not named on the official ballot, he may do so as follows: He will cancel the vote
 5 for some voted candidate in the same manner and with the same effect as above set out. Then he will open one of the slides G^{15} pertaining to the same office as the candidate whose vote was canceled, exposing paper upon which
 10 he may write the name of any person eligible to the office and whose name does not appear on the official ballot. This will constitute one vote for such person. This operation of canceling the vote of a candidate on the official
 15 ballot and writing in the name of candidates not named may be repeated at will until one or all of the candidates on the official ballot are canceled and other names written in lieu thereof. The opening of the slide G^{15} pushes forward the cross-bar G^{16} , which draws with it
 20 the connecting-rod M^3 , which draws with it the crank-arm M^4 , returning the connected pawl one notch on the ratchet-wheel M^5 , where it remains until actuated by the exit-lever.
 25 The opening of the slide also carries with it the hanger G^{17} , having a stud G^{18} , which comes into engagement with the short arm D^{10} of the bell-crank and passes its blade G^2 through the lock-levers of lock K and also advances
 30 its projecting finger D into engagement with the wings of lock-bar, throwing it into register with voted push-buttons and out of register with unvoted push-buttons. As the short arm G^{18} moves over out of the path of the
 35 hanger-stud, the stud does not engage with it upon a closing of the slide, and therefore the lock-bar can be actuated in but one direction by the operation of such slide, and as a consequence one vote is permanently eliminated
 40 from the official ballot for each slide opened by the voter. If the voter wishes to cancel a vote for more than one candidate in a multi-candidate office without voting for other candidates in lieu thereof, he proceeds as follows:
 45 He cancels the vote as above described. He then depresses push-button G^{20} of blank ticket, forcing its stud G^{19} against projecting arm S^3 of group-bail, thereby returning lock-bars pertaining to such office again into register
 50 with the bell-cranks of the remaining voted push-buttons, when another vote may be canceled. This operation may be continued at will until all such votes are canceled. Having scratched his ticket and arranged his ballot to his satisfaction, the voter may desire to
 55 vote on the amendment submitted to the people. He does so by pushing in the push-button G^{10} marked "Yes" or "No." When he pushes in the push-button he forces its blade between the lock-levers of the lock K. The
 60 blade fills the space, and the other push-button pertaining to the same question cannot be pushed into voting position before and until the first push-button is withdrawn. The voter

is now ready to retire from the booth. Push- 65
 ing aside the curtain B, the voter passes out of the voting-booth and finds the exit-lever as a barrier to his further progress. He raises the exit-lever and passes out of the voting-
 place. The exit-lever is prevented from re- 70
 turning to initial position by a trip-pawl like that of the entrance-lever until it has made its full upward stroke, when the position of the trip-pawl is reversed in the same manner.
 The exit-lever is now returned to initial posi- 75
 tion by the spring S' and remains locked in that position by trip-pawl until released by the entrance-lever, as hereinbefore described, its descent being cushioned by the dash-pot R^2 . The raising of the exit-lever as described 80
 advances the counter-frame through slotted connecting-rod N^7 , thus carrying all counters into engagement with lugs of push-buttons, where they remain until retired by entrance-lever, as hereinbefore described. The ad- 85
 vancing of the counter-frame, as before described, forces the stud N^5 against the lever J^5 and drives it against stud J^6 , retiring the consecutive lock-frame, thus carrying the lock-levers of the consecutive lock out of the 90
 path of all blades of push-buttons, where they remain until advanced by the entrance-lever, as hereinbefore described. The retiring of the consecutive lock-frame drives the stud K^{10} against an arm K^7 of total-vote counter and 95
 registers the vote in addition. The raising of the exit-lever also actuates the slip connecting rod M^7 . If the crank-arm M^4 has been advanced by the voter as described, the slip-rod causes it to return. The return of the crank- 100
 arm forces its pawl against ratchet-wheel, which is keyed fast to gear M^6 , which drives gear M^7 , keyed to the shaft of feed-roll M^2 , which revolves once and feeds about three
 inches of the paper web from roll M to roll 105
 M' , thus concealing the vote and advancing paper for the next voter. Roll M' is driven by friction-clutch and sprocket-chain from roll M. The return of crank-arm M^4 draws
 bar G^{16} back to initial position through con- 110
 necting-rods M^3 , drawing with it all open slides. The raising of the exit-lever as described throws hook I^8 forward into engagement with stirrup of crank-arm I^2 . Stud I^{15}
 of hook I^8 in advancing actuates bell-crank F^3 , 115
 which is keyed to the shaft of bail F' and drives said bail against the ends of lock-bars, returning said lock-bars into register with the bell-cranks of all push-buttons left by the voter in voting position. The forward move- 120
 ment of bell-crank F^3 draws back slip connecting rod F^4 , forcing hook I^{11} out of engagement with the stirrup, leaving crank-arm I^4 free to drop back. The downward stroke of exit-lever draws back hook I^8 , drawing with it 125
 crank-arm I^2 , keyed to the sleeve I' , which is keyed to bail I^{20} , which it drives against all sector-arms not previously returned by the en-

trance-lever, as hereinbefore described, thus returning all sectors back to initial position, each of which retires its connected return-bar, bringing its lug into engagement with projecting fingers of the bell-crank, which engages with wings of lock-bars and actuates slotted arms thereof, and as a result all lock-bars, return-bars, bell-cranks, straight-ticket bail, and push-buttons left in voted position by the voter in his previous actuation of the machine are returned to initial position and there remain until actuated by the next voter, as above described. The push-button in being forced back to initial position carries its lug against a tooth of the counter and advances the counter one space, thus registering one additional vote for the candidate to which it pertains. The drawing back of crank-arms I^2 draws with it crank-arm L^5 and crank-arm F^2 by means of the connecting-rods I^3 and I^4 . Crank-arm L^5 is keyed to the shaft of bail L^4 , which forces push-button G^{10} back to initial position and registers the vote on amendments in the same manner as above described. The crank-arm F^2 is keyed to the shaft of bail F and assists in throwing all lock-bars to initial position. This bail is not often necessary, but is used to set lock-bars back snug and takes strain off push-button bell-cranks. At the end of its backward pull the hook I^8 is thrown out of engagement by stud E and crank-arm I^2 is left free to swing forward. The drawing back of crank-arm I^2 draws with it slotted connecting-rod P^{10} , which brings gears P^{11} and P^{12} , slide-sleeve P' , and straight-ticket indicator back to initial position. All parts of the machine are now in their initial position. All evidence of the ballot is erased. The vote is registered and counted as cast by the voter. The machine is cleared and ready for the next voter. The election being over, the judges unlock the door on bottom of machine, draw back crank-arm I^2 and lock it, thus locking machine against further actuation of the mechanism or changing of counters, then close and lock doors, then unlock and open the doors at the back of the machine and expose the counters and roll of the independent ticket. The counters show the total vote for every candidate and amendment to which they pertain and a photograph or other copy thereof is taken. The paper-roll is counted for the non-official candidates, the doors are again closed and locked, and the machine stored in some safe place for the period and in the manner required by law.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a voting-machine, a series of reciprocating members corresponding to a plural-candidate office, means for connecting them in a single simultaneously-moving gang, vote-ar-

ranging mechanism for each candidate, and a connection thereof with said reciprocating members.

2. In a voting-machine, two or more reciprocating members equal in number to the officers to be elected for any office, means for connecting them in a single, simultaneously-moving gang, vote-arranging mechanism adapted to move the gang back and forth in arranging and canceling, and independent means for returning the gang in canceling, whereby one or more votes may be eliminated, as specified.

3. In a voting-machine, a series of reciprocating members, corresponding to a plural-candidate office, means for connecting them in a single, simultaneously-moving gang, vote-arranging mechanism adapted to reciprocate said gang, and independent means for moving the gang in but one direction and into register with the vote-arranging mechanism, whereby one or more votes may be canceled at will.

4. In a voting-machine, the combination of a consecutive key-lock, a supporting-frame therefor, an adjacent counter-frame, and means for simultaneously shifting both frames.

5. In a voting-machine, the combination of a consecutive lock, a system of vote-keys adapted to engage therewith, a shifting frame for said lock, a shifting counter-frame, and a lever adapted to shift the lock out of the path of the keys, and counters into the path thereof.

6. In a voting-machine, the combination of a united gang of reciprocating lock-bars adapted for alternative movement in canceling and voting, a series of oscillating key-levers adapted for intermittent engagement therewith, and a series of independent-ticket slides adapted to oscillate said levers when moved to opening position only.

7. In a voting-machine, the combination of a series of reciprocating lock-bars corresponding to offices, and moved alternatively in canceling and voting, a system of key-actuated levers corresponding to candidates, adapted to move said lock-bars intermittently and only when in register therewith, a set of independent-ticket slides, and a set of lock-bars engaging levers adapted to be actuated by the slides when moving in one direction only, whereby the independent voter is prevented from "repeating."

8. The combination in a voting-machine, having a system of lock-bars and key-actuated levers to engage intermittently therewith, substantially as described, of a set of independent-ticket slides adapted to cover paper when closed, a set of lock-bar levers actuated by said slides in the uncovering movement only, and a lock adapted to permit single and consecutive movement of the slides, but prevent duplicate movement thereof.

9. In a voting-machine, the combination of voting-keys arranged in order corresponding to party-tickets, shifting mechanism adapted to advance all the keys of any party-ticket to voting position, and classifying mechanism adapted to group the voting-keys into two or more predetermined classes, and restore any one of said classes of voted keys to initial position and lock them against subsequent manipulation.

10. In a voting-machine having vote-keys arranged as to party-tickets, and mechanism to simultaneously operate any set of party-keys, a classifier adapted to restore to initial position certain predetermined keys so placed in voting position by the party-ticket mechanism, means for retaining the cut-out mechanism of the classifier in such locked position while the voter arranges his ballot, and a releasing device therefor connecting with the exit-lever, and an exit-lever actuated by the voter in the final act of voting.

11. In a voting-machine, the combination of vote-arranging members differing in unitary value, adapted to be moved at will into or out of voting position, and means for excluding from actuation by the voter all members differing in value from those predetermined to be voted.

12. In a voting-machine, the combination of vote-arranging members differing in unitary value, adapted to be moved at will into or out of voting position, means for excluding from actuation by the voter all members of another value until all of a certain selected value arranged by him shall have been canceled, and mechanism whereby he may recall votes of one value and substitute those of another.

13. In a voting-machine, a series of vote-arranging members of differing unitary value, adapted to be voted up or recalled at will, and means adapted to prevent the mixing of votes differing in value.

14. In a voting-machine, a system of vote-arranging members of differing denominations or unitary value grouped with respect to an office, and adapted to be voted up or recalled at will, a lock for said members, and a connection thereof with said lock whereby the arranging of an initial member of any denomination by the voter in rearranging or "splitting" his ticket locks all members of other denominations.

15. In a voting-machine, a plurality of vote-keys of differing denominations or unitary value for the candidates for some office, an entrance-lever, and a connection of certain predetermined keys with said entrance-lever.

16. In a voting-machine, a plurality of vote-keys of differing unitary value for candidates for one or more offices, an actuating-lever therefor operated by the voter on entering the booth, a connection of said lever with certain predetermined keys of one denomination, and

a lock for all those of other denominations, actuated by the same movement.

17. In a voting-machine, a plurality of vote-keys for each candidate for some office or offices, said keys having different values, a connection of certain predetermined keys with an entrance-lever, a lever adapted to operate said keys, a lock adapted at the same time to lock the keys differing therefrom in value, and a consecutive unlocking connection of two or more similar keys, whereby all must be actuated to release said lock.

18. In a voting-machine, a plurality of vote-arranging keys differing in unitary value for the candidates for certain offices, a locking device therefor adapted to lock all keys differing in value from those being actuated, and a consecutive unlocking connection of a plurality of similar keys, whereby all must be actuated to release said lock.

19. In a voting-machine having vote-arranging keys for candidates for certain offices, which keys differ in unitary value, a consecutive lock therefor adapted to permit successive but not simultaneous actuation of more than one key, and an auxiliary lock adapted to set all keys differing in value from those in use until all such active keys shall have been recalled.

20. In a voting-machine having vote-arranging keys of differing unitary values for candidates for certain offices, and adapted to be voted up or recalled at will, a lock therefor adapted to set all keys differing in value from those actuated until any such actuated key shall have been recalled, an exit-lever, and a releasing connection of the lock with the exit-lever.

21. In a voting-machine having vote-arranging keys differing in unitary value for candidates for certain offices, a lock therefor adapted to set all keys except the denomination, a consecutive release for said lock, and a connection of the final key of any denomination with said release.

22. In a voting-machine having vote-arranging keys differing in unitary value for candidates for certain offices, a lock therefor adapted to set all keys except those of the denomination in use, a setting connection of the initial key of each denomination with said lock, and a releasing connection of the final key of each denomination therewith.

23. In a voting-machine having vote-arranging keys differing in unitary value for candidates for certain offices, means for arranging in voting position the full complement of votes of a predetermined denomination, a lock to prevent cancellation thereof except singly and successively, and a canceling device adapted for the single and successive release of said lock.

24. In a voting-machine having vote-arranging keys differing in unitary value for candi-

dates for certain offices, a lock adapted to be
set against all other keys by the actuation of
one such key, a releasing device adapted to lib-
erate successive keys singly, and a stop en-
5 gaging said releasing device when the full
complement of votes of the desired denomina-
tion has been cast.

In testimony whereof I affix my signature
in presence of two witnesses.

WILLIAM GLENN.

Witnesses:

J. M. ST. JOHN,

J. F. GROAT.