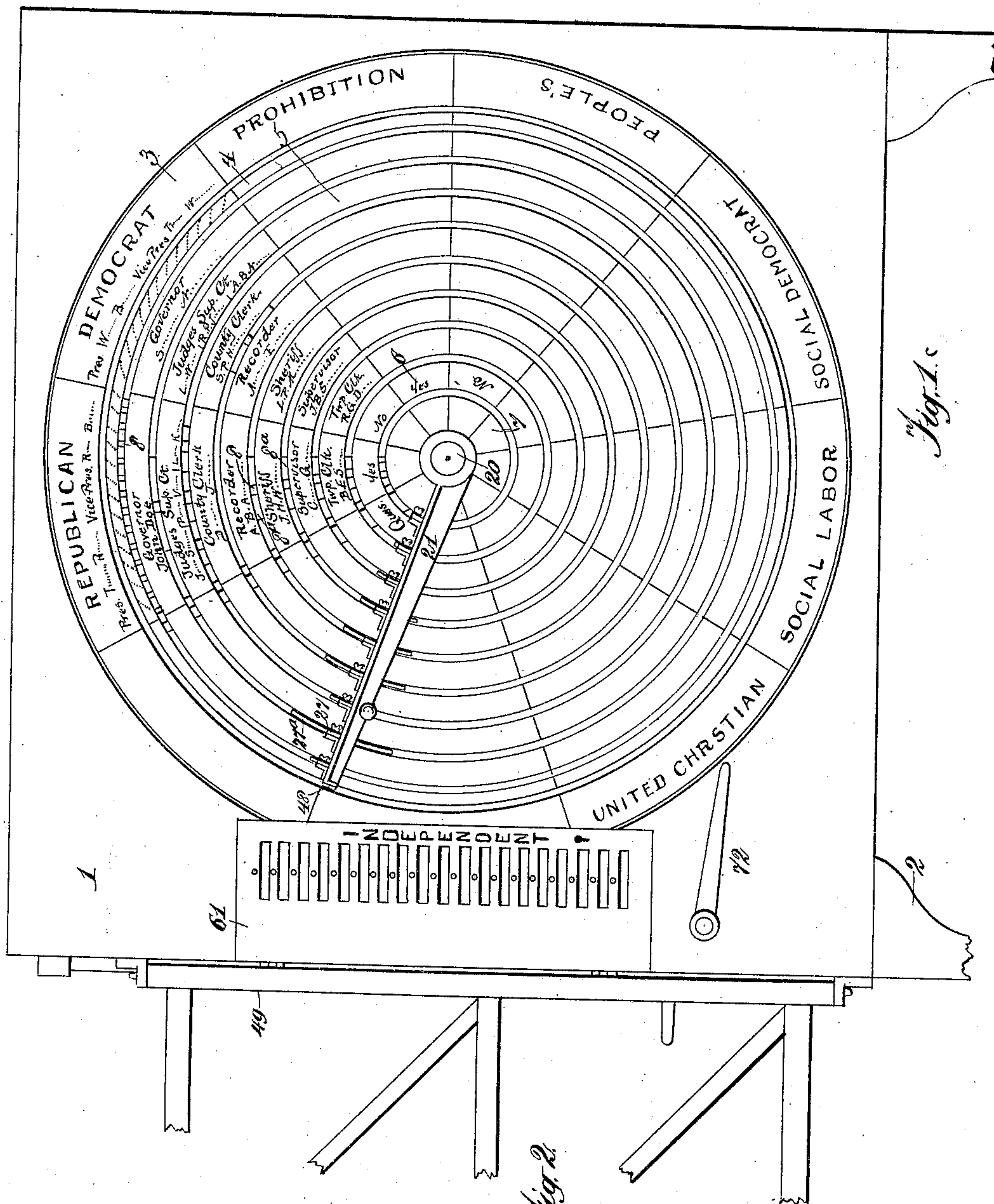


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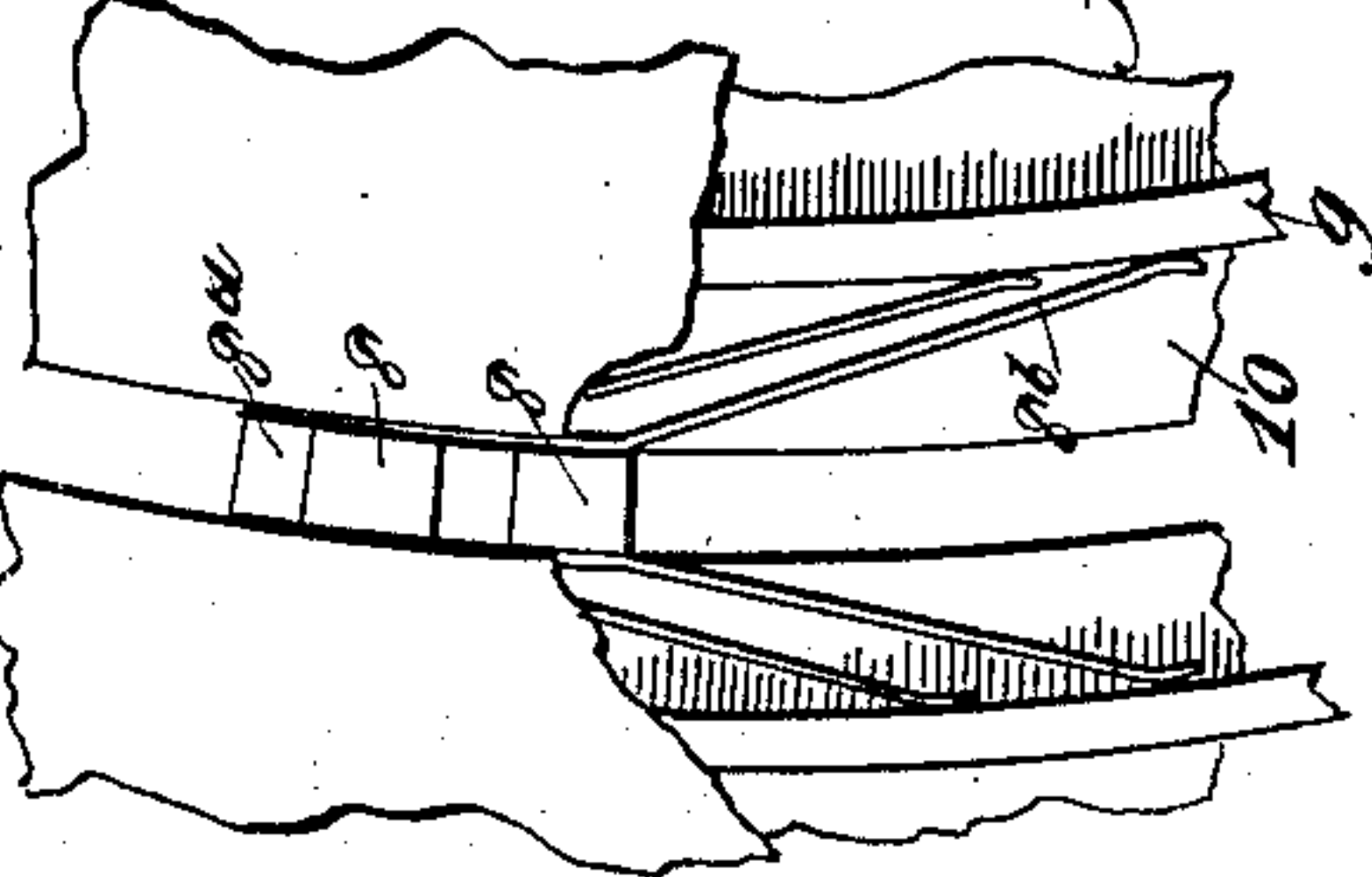
PATENTED AUG. 14, 1906.

W. GLENN.
VOTING MACHINE.
APPLICATION FILED JULY 10, 1905.

3 SHEETS—SHEET 1.



Witness
G. H. Kubic
Pearl Miner



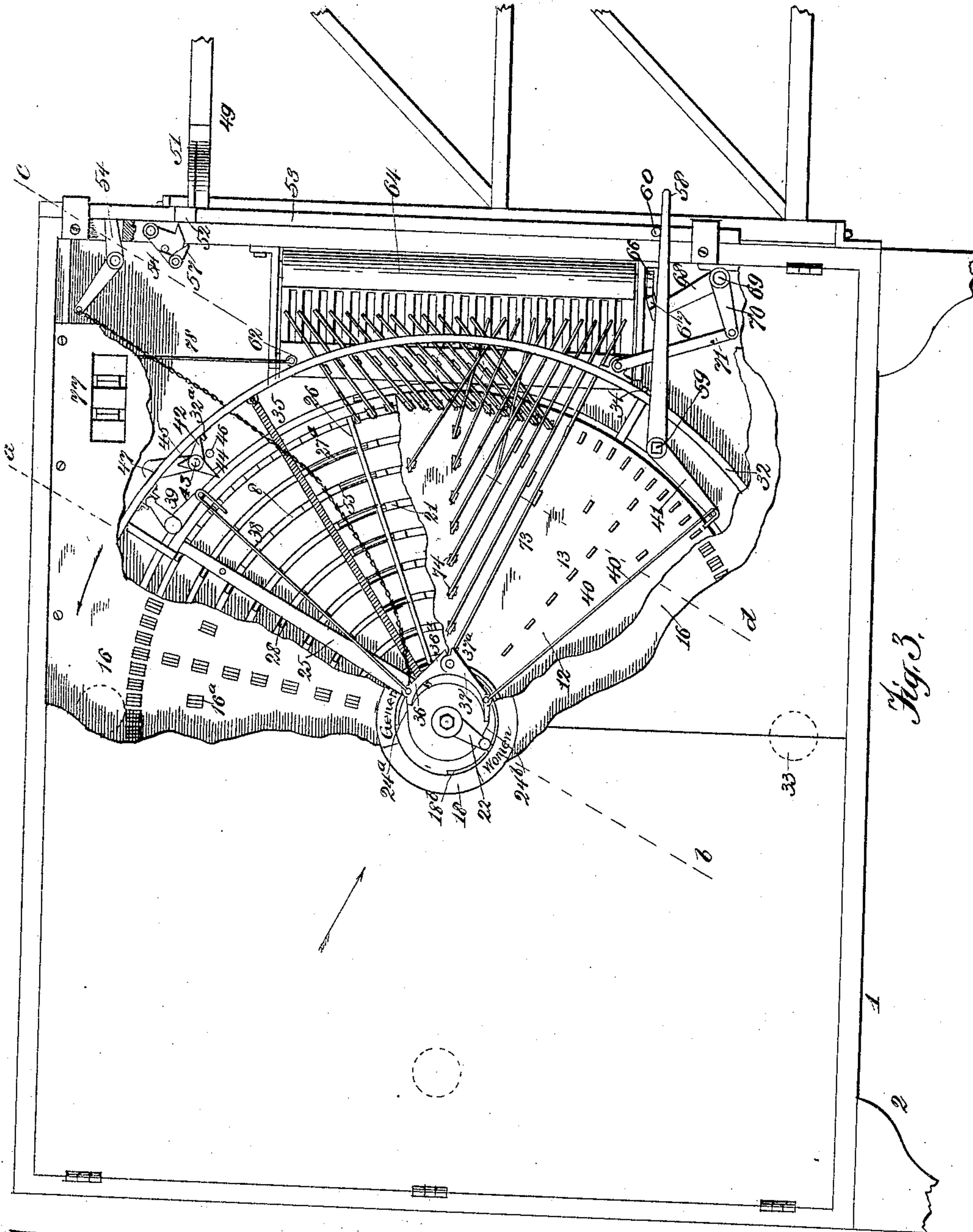
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3 SHEETS—SHEET 2.



Test
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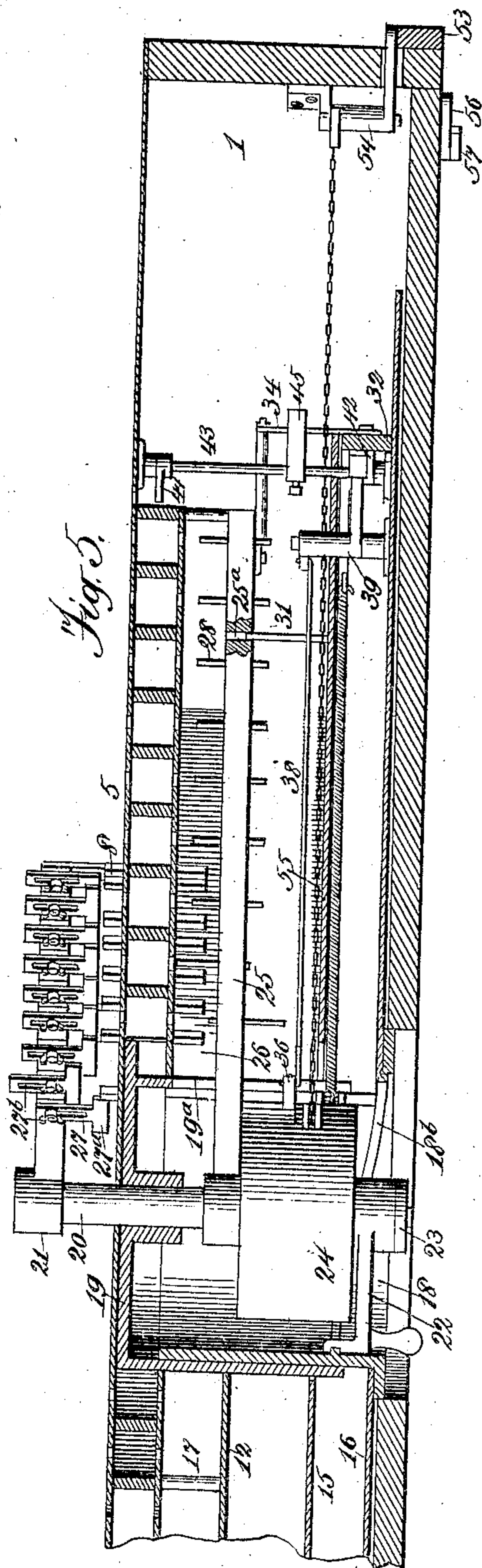
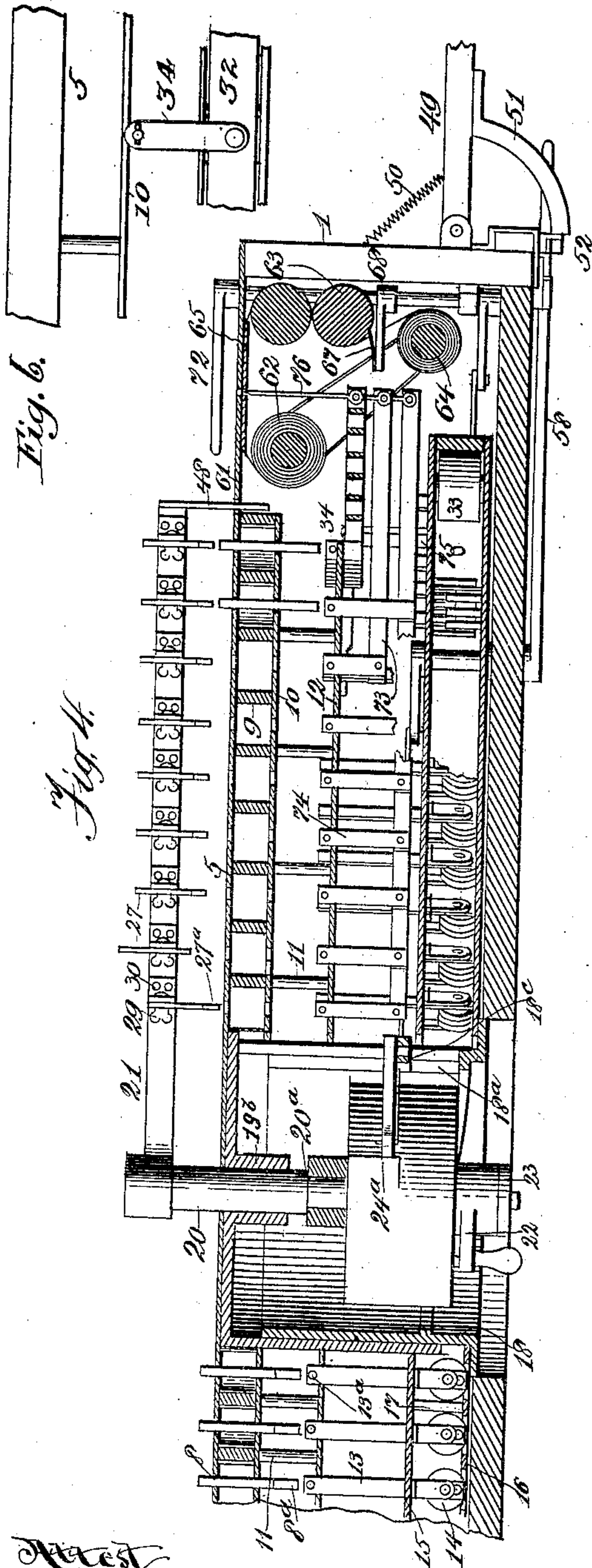
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3 SHEETS—SHEET 3.



Attest
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UNITED STATES PATENT OFFICE.

WILLIAM GLENN, OF MOUNT VERNON, IOWA.

VOTING-MACHINE.

No. 828,816.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed July 10, 1905. Serial No. 269,091.

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.

This invention relates to voting-machines having a series of movable non-interlocked vote-indicators corresponding in number to the number of persons to be elected and counters or registers to coöperate therewith, the vote-indicators being placed in voting position with relation to the registers by movement of the indicators bodily along the ballot-frame carrying them.

The full nature of the invention will clearly appear from the description and claims following, reference being had to the drawings forming a part of this specification.

In the practical application of the principle stated above the embodiment of it may assume a great diversity of form and type. For the purposes of this application I have shown a circular type as the simplest embodiment of my invention, though in practice I prefer a rectangular form of machine. (Not shown.)

In the drawings which form a part of this specification, Figure 1 is a view of the circular or dial type of machine as seen from the standpoint of the voter in arranging his ballot. Fig. 2 is a detail of one of the vote-indicators. Fig. 3 is a view from the opposite side thereof with successive parts broken away to show the mechanism within. The various planes of breakage will be evident by reference to Fig. 4, which is a cross-section of the machine, or rather a half of it, on the independent-ticket side in the line *ab* of Fig. 3, and further reference to Fig. 5, which is a similar section in the line *cd* of Fig. 3. Fig. 6 is a fragmentary side view showing the linking of the ballot-frame with the ring which moves it in and out by a partial rotation.

Referring now to Fig. 1, the numeral 1 designates a suitable frame on legs 2 and supporting a dial which is divided into radial sections comprising various party-tickets, an independent ticket, and a vacant section into which the indicators are returned after voting and which may for convenience be called the "home section." This dial is formed of a series of concentric rings, the outer one, 3, being used for party-ticket titles and the ring within it, 4, taking the names of the various

electoral tickets. The next series of rings 5 is used for various offices, plural and single. The innermost ring 6 and its companion disk 7 are used for questions. This arrangement is of course conventional and not vital. Between these rings, which are separated therefor, run the various vote-indicators 8. Central to each ring is a separating-ring 9, and on the inner side is another series of rings similar to those on the face of the machine and numbered 10. In the space between these rings is mounted the indicator 8, the body or stem of which may be simply a stud projecting above the face of the machine high enough to be easily manipulated by the voter. The foot of the indicator where space admits of it is preferably extended at 8^a to make contact with the counter-stem hereinafter to be referred to and without any very careful placing of the indicator on the dial. To give the indicator a good long bearing in its raceway and also provide a little tension against accidental slippage, the sides of the indicator are provided with rearwardly-extending springs 8^b, which in the case of closely-assembled indicators, such as those for the electoral ticket, telescope or nest, as shown in Fig. 2. Behind this dial and separated from it by suitable connecting-posts 11 or the like is a plate 12, pierced at suitable points to take the counter-stems 13, which actuate the counters 14 by an endwise motion thereof. These stems have a cross-pin 13^a above the plate, as shown in Fig. 4, by which they are returned to normal position. The counter may be of any approved type and need not be described. It may be noted, however, that for convenience the counters are best arranged for the electoral ticket in a position at right angles to that employed for the other counters, the space for each counter in this office being limited. The counter-frame is composed of two plates 15 and 16, with suitable connecting-posts 17. Though holes in the former pass the counter-stems, and in the back plate 16 are openings 16^a to disclose the counter-readings. To the counter-frame, which is a rigid structure, is secured a central bearing 18, which is in the nature of a drum, with an opening 18^a at one side. It is also provided with an internal spiral rib 18^b to engage a hand-lever hereinafter to be described. Over this drum is mounted another drum 19, to which the ballot-frame is secured, this frame including the dial above described. This drum also has an opening

19^a at one side, within which is a bridge 18^c, forming a part of the other drum. In the center of the ballot-frame drum is a hub 19^b to take a shaft 20 turning freely in said hub.

5 At the outer end of this shaft is mounted and made fast a lever 21, which serves as a sweep to move up indicators in voting a straight ticket and for resetting them in normal position. At the other end of this shaft is a

10 short lever 22 to engage the spiral rib above referred to and turning freely on the shaft. Outside it is a collar 23, and on the other side of it is a cylinder 24, made fast to the shaft. Between this cylinder and the hub of the bal-

15 lot-frame drum is loosely mounted an arm 25, similar in the main to the straight-ticket lever and held from slipping on the shaft endwise by a shoulder 20^a of the shaft on one side and the cylinder on the other. From

20 the foregoing it will be evident that the turning of the lever 22 will move the shaft and all its connections endwise. At the back side of the home section is a barrier 26, which limits the movement of the indicators in either di-

25 rection. Otherwise they are free to slide in their raceways entirely around the dial. The straight-ticket lever and its companion arm 25 are specially constructed so as to serve together as a classifier. Otherwise the arm

30 might be dispensed with and the straight-ticket lever be a simple straight arm to engage the upper ends of the indicators. This special construction will now be described. Along both the straight-ticket lever and the

35 classifier-arm, coinciding with the indicators, are mounted adjustable fingers 27 and 28, respectively. The latter may be simple straight strips adjustable transversely of the bar, as by thumb-screws 29 and angle-plates 30, at-

40 tached to the side of the bar, as clearly shown on the straight-ticket lever in Fig. 5. In the case of the former, however, it is desirable to extend the fingers at their inner ends with feet 27^a, or so many of them as may be neces-

45 sary, in order that their contact with the indicators may be such as to push the indicators to an approximately central position with respect to the dial-sections, or, in other words, to voting position. The fingers, as

50 shown in Fig. 5, are slotted at 27^b to take the thumb-screws above referred to. These fingers may enter the raceways when the straight-ticket lever is drawn inwardly. The classifier-bar 25 lies across but under the

55 front line of the home section of the ballot-frame and is held to this radial line in some simple way, as by a stud 31, fast in the counter-frame and engaging a hole 25^a in the bar. It will be seen that the extreme inner one of

60 the straight-ticket fingers is shown with its foot the lowest, so as to engage the question-indicator. Correspondingly the same finger on the classifier-bar is set the lowest. This permits the straight-ticket lever to move for-

65 wardly only the question-indicator, as might be the sole right of a woman voter, for example. The next pair of fingers is shown most elevated, permitting a vote as to the whole ticket except township clerk, a right reserved for residents of an electorate outside a

70 city corporation but voting in a city precinct. For general voting the straight-ticket lever is completely depressed, carrying with it the classifier stop-bar, the fingers of which are set to intercept at the foot the indicators to

75 be excluded in any case. It is supposed, of course, that the classifier is set at the proper place by one of the judges of election as the voter is about to enter the booth. The counters register only as their stems are pushed

80 inwardly backwardly by contact with the feet of indicators. These are carried toward the counters by movement of the whole ballot-frame, which may move back and forth but not turn on its central bearing.

85 This movement may be effected in various ways, of course, a simple device being a ring 32 mounted to turn a limited distance in the counter-frame, as by mounting on anti-fric-tion-rollers 33, and links 34 connecting the

90 ring with the ballot-frame. The turning of the ring has the effect of moving the ballot-frame in or out, as the case may be. The simplest act of voting will now be to move out from

95 the home section one or more indicators to chosen position, push back the ballot-frame, and then return the frame and the indicators to normal position to preserve the secrecy of the vote, all these operations being manually performed. If the voter wishes to vote a

100 straight ticket, he has simply to move the lever to the proper party-section, register the vote as before, and then restore the ballot-frame to normal position and by a backward sweep of the lever reset the indicators in the

105 home section, so that his vote is secret. It is desirable, however, that as many of these operations as practicable be performed mechanically or automatically, and these further devices will now be described. It is also

110 necessary to prevent his "repeating," and mechanism for this purpose is also involved. A simple device for automatically restoring the straight-ticket lever to initial position is

115 a long coil-spring 35, attached to one side of the cylinder 24 and at the other end to the ring 32. The pull of this spring tends to bring the lever to primary position whichever way the lever may be turned, as will be evi-

120 dent.

The voter may be allowed to manipulate the indicators at will, and the construction is such as to allow him to do this freely. He must, however, be restricted to but one im-

125 pulse of the ballot-frame for counting. Mechanism for this purpose will now be described. It is to be said, however, that it is not necessary to my invention that the counting be done by a simultaneous movement of the in-

130 dicators moved to voting position, as the in-

vention contemplates as well the method of voting by direct action of the separate indicators to actuate the counters as moved to voting position, in which type of machine the recalling of the indicator would turn back the counter and cancel the vote.

Referring now to Figs. 3, 4, and 5, it will be seen that on the bridge 18^c is pivoted a pair of pawls 36 and 37, engaging corresponding shoulders 24^a and 24^b of the cylinder 24. These pawls have mutually-engaging shoulders 36^a and 37^a, normally separated a little distance, but adapted to return either to normal position by a contrary movement of the other. The pawl 36 connects by a slip-joint rod 38 with a bell-crank 39, engaging the ring 32. The movement of this ring in the direction indicated by the arrow will of course disengage the pawl, permitting the backward or resetting movement of the straight-ticket lever. The other pawl connects by a similar rod 40 with a similar lever 41. This lever is actuated by one of the judges of election from the side of the machine opposite the voter while in the booth, (for convenience the latter is called the "front" side,) but before he enters the booth. This unlocks the straight-ticket lever for forward movement and at the same time unlocks the entrance gate or barrier, as will be described presently. Normally the ballot-frame shifter is locked by a gravity-pawl 42 engaging a stud 32^a in the ring 32. For convenience in construction this pawl is secured to a rock-shaft 43, which also has another similar pawl 44, serving as a trip-lever for the former pawl. Another one, projecting at another angle 45, performs the same function, but by engagement with the stud 32^a. A stop 46 limits the movement of the pawls, and a gravity-arm 47 holds the pawls in either position as it swings past its center of gravity. To the outer end of the straight-ticket lever is attached a finger 48, passing down through the outer groove of the dial and adapted to engage the pawl 44 as the lever moves forward to voting position and swing it so that it passes out of the finger's path by gravity. This disengages the pawl locking the ring 32, so that it may be actuated to shift the ballot-frame. When now the ring 32 is moved forwardly, the stud 32^a throws the gravity-pawl back and at the same time brings the pawl 37 into engagement, locking the straight-ticket lever against forward movement, and thus prevents repeating. The voter can now move the resetting-lever only (the straight-ticket lever with the backward sweep) and must do so before he can get out of the booth, as the gate is locked behind him. The gate-lock and its connections will now be described. At one side of the machine is pivoted a gate or barrier 49, provided with a spring 50 or the like to close it automatically. The gate has a sector 51, adapted to engage a stop-block 52

on a gravity-bar 53. This bar connects with one arm of a bell-crank 54, to the other arm of which is connected a loose chain 55, attached at its other end to the cylinder 24. Adjacent to the stop-block is a hook 56 to engage the stop-block when the gravity-bar or "trip-bar," as it may be more briefly called, is elevated. On this hook is a pawl 57 in the path of the sector. The action of this part of the mechanism will now be seen. When the voter presents himself, the judge opens the gate for him, or rather unlocks the gate, by raising a lever 58, engaging a shaft 59, to which is attached the lever 41. The raising of lever 58 lifts the trip-bar by engagement with a stud 60 to a point when the hook 56 may fall into engagement with the stop-block 52. The gate is now unlocked for the voter to pass in. As he opens it the sector 51 engages the pawl 57 and the trip-bar falls a little way, the stop-block resting on the sector. When the gate closes behind him, the trip-bar falls still farther and again locks it. The advantage of the pawl 57 instead of a mere tailpiece on the hook is to allow the sector to swing back without catching the hook. The gate being locked, the voter is compelled to unlock it, which can only be done by turning back the resetting-lever. This winds the chain on the cylinder and near the end of the lever's movement takes up the slack in the chain, which again lifts the trip-bar 18, and it is again caught by the hook.

My device for recording the vote for independent candidates is herein considered only as applied to this embodiment of the invention. It is more particularly shown and claimed in a separate application for patent to be filed hereafter.

The independent-ticket mechanism embodies a new type, in that a continuous web of paper may be used, the movement may be regular with each impulse of the machine, and covers to mask the writing-spaces are not required. Instead thereof, regardless of the number of names that may be written, the proper votes are checked mechanically by virtue of the action of a non-interlocked vote-indicator. Adjacent to the independent-ticket section of the machine is a perforated plate 61, which may be a door or panel in the front of the machine, for convenience in mounting the paper-roll 62, threading it between the feed-rolls 63, and connecting with the take-up roll 64. Back of this plate is the tablet-plate 65, across the front face of which the paper runs. A regular motion forward with each voting impulse of the machine is effected by a ratchet 66 and a spring-pawl 67 on an oscillating arm 68, secured to a rock-shaft 69. Another arm or lever on this shaft 70 connects with the ring 32 by a link 71. At the front end of this shaft is a lever 72, which is used by the voter in shifting the ballot-frame to register his vote.

Leading out from points in the independent-ticket section corresponding to the counters in the party-ticket sections are levers 73, which by reason of the peculiar arrangement of the counters are most conveniently set in banks at different levels. The inner ends of these levers are provided with stems answering to the counter-stems and numbered 74 for reference. The fulcrums of these levers 75 rest on the counter-frame. To the other end of each lever is attached a puncturing-spur 76 or the like to serve as a marker in checking the legal vote. It will be seen that these markers only operate when indicators are brought into the independent-ticket section in the same manner as in the other sections. Under this system only the checked names are counted in making up the returns. At some suitable point the machine is provided with a total-vote counter 77; connecting with the counter-actuating ring by a link or trip-rod 78.

The term "indicator" as herein employed will be understood to refer to the movable part—slide, button, key, or the like—manipulated by the voter in arranging his ballot. The term "non-interlocked" is used as a convenient generic term to express the fact that the indicators have complete freedom of movement within their respective compartments and that as there is a single indicator for each person to be elected, as distinguished from each candidate nominated, and as all indicators must be used in a full vote there need be no mechanism to lock out some indicators to prevent unlawful voting.

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

1. In a voting-machine having offices arranged in plural-candidate rows, a series of registers spaced according to candidates in said rows, and correspondingly-spaced indicators adapted for movement to voting position lengthwise of said rows each independently shiftable to different positions for different parties or candidates.

2. In a voting-machine arranged in office-rows, the combination of a plurality of vote-indicators in each multicandidate office-row corresponding to the number of persons to be elected to such office each independently shiftable to different positions for different parties or candidates, and a frame therefor confining the shifting of said indicators except longitudinally of said rows.

3. In a voting-machine arranged in office-rows, the combination of a series of registers corresponding to the candidates in said office-rows, a plurality of vote-indicators corresponding to the number of persons to be elected to such office each independently shiftable to different positions for different parties or candidates, spaced apart corresponding to the location of corresponding

registers, and a frame confining the shifting of said indicators except longitudinally of said rows to any desired selection of registers.

4. In a voting-machine adapted for plural-candidate voting, and grouping the candidates in party candidates in office-rows, a series of registers spaced according to said arrangement of candidates, rows of indicators spaced to correspond with the registers, and means for moving the indicators lengthwise of said rows.

5. In a voting-machine arranged in office-rows, the combination of a plurality of vote-indicators in each multicandidate office-row corresponding to the number of persons to be elected to such office each independently shiftable to different positions for different parties or candidates; a frame therefor confining the shifting of the indicators except longitudinally of said rows, and means for shifting said indicators simultaneously.

6. In a voting-machine adapted for plural-candidate voting, and having registers arranged in party-columns and office-rows, the combination of a plurality of vote-indicators in each plural-candidate row, and so spaced as to be in operative relation with all the registers in a party-column, one indicator for each register, and means for shifting the plurality of indicators longitudinally of said rows to any desired party-column.

7. In a voting-machine arranged in office-rows, the combination of a series of registers corresponding to the candidates in said office-rows, a plurality of vote-indicators corresponding to the number of persons to be elected to such office each independently shiftable to different positions for different parties or candidates, spaced apart corresponding to the location of corresponding registers, a frame confining the shifting of said indicators except longitudinally of said rows to any desired selection of registers, and means for shifting said indicators simultaneously.

8. In a voting-machine, the combination with a ballot-frame suitably arranged as to offices, vote-indicators movable in said frame, a straight-ticket sweep provided with staggered fingers to engage certain of said indicators, and a staggered barrier coinciding with the sweep, to prevent the movement of any but the selected indicators.

9. In a voting-machine having vote-indicators grouped as to offices; the combination of a selective, adjustable straight-ticket sweep, and a coördinate stop or barrier to lock the indicators not so selective by the sweep.

10. In a voting-machine having vote-indicators grouped as to offices, the combination of a selective straight-ticket sweep, a coördinate stop or barrier to lock the indicators not so selected, and a connection between

said sweep and barrier whereby they may be moved concurrently into or out of alternative engagement with the indicators.

11. In a voting-machine, having a series of 5 vote-indicators, a series of counters coöperating therewith, and means for actuating them, the combination of a means of independent voting positively advancing one space at each registering operation, and having an ap- 10 erture for each independent vote to be cast, and a checking device coöperating with one or more indicators when placed in proper position and out of register with the counters.

12. In a voting-machine, the combination 15 with a series of counters for regular candidates, a series of checking devices for marking independent votes to be counted, and a

series of vote-indicators, each freely movable into and out of operative relation alternatively with respect to said counters and 20 checking devices, of a means for independent voting, advancing positively one space at each registering operation, covered by a casing having an aperture for receiving one name for each checking device, and marked 25 at each aperture by a corresponding checking device when in operative relation.

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

WILLIAM GLENN.

Witnesses:

F. J. RUBOCEK,
J. M. ST. JOHN.